



# Staff Report

## Operations – Water & Wastewater Services

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**Report To:** Committee of the Whole Meeting  
**Meeting Date:** November 1, 2022  
**Report Number:** CSOPS.22.075  
**Title:** Water Operations Update - May to August 2022  
**Prepared by:** Meg Boyd, Water and Wastewater Compliance and Efficiency Coordinator

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### A. Recommendations

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THAT Council receive Staff Report CSOPS.22.075, entitled “Water Operations Update - May to August 2022” for their information.

### B. Overview

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This report provides an overview of the Town’s drinking water system activities for the period of May 1, 2022 to August 31, 2022. The Town continues to provide quality drinking water to Town residents and visitors in compliance with regulatory requirements.

### C. Background

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Ensuring the safety and quality of the Town’s drinking water is not only the responsibility of the Water Operators who operate and maintain the system but also the members of the 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 to be experts in drinking water but does require officials to be informed. This report provides regular updates to ensure Council are current in the operations of the system.

The purpose of Attachment # 1 – Water Operations Update is to provide regular up-to-date information with regards to the status of the operation of the Town’s drinking water system and to report on water quality issues for the period of May 1, 2022 to August 31, 2022.

This report addresses:

- 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

## **D. Analysis**

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Attachment #1 demonstrates that Water Operators continue to satisfy all regulatory requirements and provide quality drinking water to users while ensuring long-term sustainability of the system through preventative maintenance programs.

## **E. Strategic Priorities**

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### **1. Communication and Engagement**

We will enhance communications and engagement between Town Staff, Town residents and stakeholders

### **2. Organizational Excellence**

We will continually seek out ways to improve the internal organization of Town Staff and the management of Town assets.

### **3. Community**

We will protect and enhance the community feel and the character of the Town, while ensuring the responsible use of resources and restoration of nature.

### **4. Quality of Life**

We will foster a high quality of life for full-time and part-time residents of all ages and stages, while welcoming visitors.

## **F. Environmental Impacts**

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Provision of safe drinking water

## **G. Financial Impacts**

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None.

## **H. In Consultation With**

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Allison Kershaw, Manager of Water and Wastewater Services

Scott Hill, Water Supervisor

## **I. Public Engagement**

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The topic of this Staff Report has not been the subject of a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required.

Any comments regarding this report should be submitted to Meg Boyd, Water and Wastewater Compliance and Efficiency Coordinator, [wwwinquiries@thebluemountains.ca](mailto:wwwinquiries@thebluemountains.ca)

## **J. Attached**

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1. Water Operations Update – May to August 2022

Respectfully submitted,

Meg Boyd,  
Water and Wastewater Compliance and Efficiency Coordinator

Allison Kershaw,  
Manager of Water & Wastewater Services

Shawn Carey  
Director Operations

For more information, please contact:  
Meg Boyd  
[wwwinquiries@thebluemountains.ca](mailto:wwwinquiries@thebluemountains.ca)  
519-599-3131 extension 285

### Report Approval Details

Document Title:	CSOPS.22.075 Water Operations Update - May to August 2022.docx
Attachments:	- CSOPS.22.075 - Attachment 1.pdf
Final Approval Date:	Oct 15, 2022

This report and all of its attachments were approved and signed as outlined below:

**Allison Kershaw - Oct 14, 2022 - 9:29 AM**

**Shawn Carey - Oct 15, 2022 - 7:32 AM**



# Town of The Blue Mountains

Water Section Operations Update May 1, 2022 to August 31, 2022

## 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, 2022 to August 31, 2022.

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, 2022 to August 31, 2022 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 80	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, 2022 to August 31, 2022 is presented in Table 3:

Table 3 – Distribution

Parameter	Number of Samples	Result Range (Min – Max	Parameter Limit
E. Coli	180	0	0 cfu/100 mg/l
Total Coliform	180	0	0 cfu/100 mg/l
HPC	162	0 to 13	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, 2022 to August 31, 2022 by Operators is provided in Table 4:

Table 4 – Operator Training

Operator Name	Training Course Completed
Rob Gilchrist	<ul style="list-style-type: none"> <li>Ontario Water Conference &amp; Trade Show 2022</li> <li>Trenching Safety Hazard Awareness</li> <li>Continual Improvement for DWQMS</li> </ul>
Scott Hill	<ul style="list-style-type: none"> <li>Ontario Water Conference &amp; Trade Show 2022</li> <li>Standard First Aid &amp; CPR</li> <li>Trenching Safety Hazard Awareness</li> <li>Continual Improvement for DWQMS</li> </ul>
Kevin McGuire	<ul style="list-style-type: none"> <li>Trenching Safety Hazard Awareness</li> </ul>
Brian O'Reilly	<ul style="list-style-type: none"> <li>Water Treatment Plant Operations, Volume I</li> </ul>
Al Scott	<ul style="list-style-type: none"> <li>Trenching Safety Hazard Awareness</li> </ul>
Tyler Wilkinson	<ul style="list-style-type: none"> <li>Standard First Aid &amp; CPR</li> <li>Water Treatment Plant Operation, Volume I</li> </ul>

## Drinking Water Quality Management Standard Management Review

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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 July 7, 2022, 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 2022 Management Review Meeting are summarized below:

- Water Supervisor to contact Town's Fire Chief to request Water Staff be added to the Fire Dispatch email distribution list. **Complete**
- Water Supervisor to prepare an overview of Roles and Responsibilities for Private Condominium Owners in relation to the Town's Water Distribution System. Proposed completion date December 2022
- Manager of Water & Wastewater Services and Water Supervisor to prepare a mock emergency scenario that simulates a large scale water fire event. Proposed completion date November 2022
- Director of Operations to follow-up with By-Law Services regarding dedicated Water By-Law Officer shift schedule. **Complete**
- Director of Operations to explore lawn irrigation system registration opportunity with Finance and IT Department. Proposed completion date December 2022.
- Manager of Water & Wastewater Services, Water Supervisor and Compliance & Efficiency Coordinator to develop a Council orientation program, including Standard of Care Training, for the newly elected Council. Chief Administrative Officer to coordinate tour of the Town's Water Treatment Plant with the Clerk. Proposed completion date December 2022.

## Drinking Water Quality Management Standard Internal Audit

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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 July 7, 2022. 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 Thornbury Reservoir. Interviews were conducted with the Manager of Water and Wastewater Services, Water Supervisor, Compliance and Efficiency Coordinator and a Senior Water Operator.

Positive observations noted in the report relate to Essential Supplies and Services as well as Infrastructure, Maintenance, Rehabilitation and Renewal Programs. The Auditor noted that processes in place to verify the quality of goods received were valuable. Additionally, it was noted that programs in place to maintain the water treatment equipment were effective.

The audit concluded with (2) two minor non-conformances and (4) four opportunities for improvement.

The non-conformances identified related to document and record control as well as continual improvement. During a site visit to the WTP, the Auditor found hard copies of documents out of date. In terms of continual improvement, the Auditor found that a form developed to document corrective and preventative actions was not being fully utilized.

A summary of the (4) four opportunities for improvement is provided below:

1. Consider adding the MECP Recommended Critical Control Points defined as “...control points required by regulation to meet minimum treatment requirements for primary disinfection and secondary disinfection as outlined in O.Reg 170/03 and the Procedure for Disinfection of Drinking Water in Ontario.”
2. Consider documenting a frequency for the verification of handheld analyzers. O. Reg 170/03 only addresses the frequency of checks and calibration of devices for continuous monitoring.
3. Consider defining the frequency at which emergency response test exercises should be conducted.
4. Consider better describing the method of verifying the effectiveness of corrective/preventative actions.

Staff have addressed the minor non-conformances and considered the opportunities for improvement.

## **Water Treatment Plant and Water Booster Station Maintenance Summary**

The following table provides a breakdown of the maintenance performed at the Water Treatment Plant from May 1, 2022 to August 31, 2022.

Table 5 – Water Treatment Plant and Booster Station Maintenance Summary

<b>Maintenance Performed</b>	<b>Number Completed</b>
Third Party Electrician changed out receptacle and completed landing wires for Compressors	1
Annual inspection of intake completed by Third Party	1
Sleeve on UV # 2 and Sensor 1 and 4 replaced	1

<b>Maintenance Performed</b>	<b>Number Completed</b>
Wiring complete for intrusion alarm at Arrowhead Road Booster Station	1
Enhanced Flux Maintenance completed on (3) three racks	1
Third Party completed changeout of head on Compressor A	1
New chlorine scales installed and new brackets completed to hold chlorine tanks in place	1
Weather Station in PLC Cabinet installed by Third Party	1
Third Party completed change out of motor for heat exchanger above High Lift # 3	
New pressure transmitter installed at Arrowhead Road Booster Station	1
Third Party installed new smoke alarm and security alarm key pad at Arrowhead Road Booster Station	1
Third Party completed comparison test on inlet flow meter at Thornbury Reservoir	1
Third Party Electrician completed changeout of motor on heat exchanger above Highlift # 3 at WTP	1
New pressure transmitter installed at Arrowhead Road Booster Station	1
Third Party Electrician changed out receptacle and completed landing wires for compressors	1
Third Party Contractor completed testing of highlift pumps for pump curves	1
Monthly Maintenance	4

### **Distribution System Summary**

The following table provides a breakdown of the Water Meter Field Service calls for May 1, 2022 to August 31, 2022:

Table 6 – Water Meter Field Services Summary

<b>Nature of Call</b>	<b>Number of Calls</b>
Frozen Water Meter Repairs	4
Replace/Repair Jammed Meter	5
Replace/Repair Remote Touchpads	6
Repair Meter Other (leaks, reversed, etc.)	7
Water Meter Inspections (re-inspections, renovations, new construction)	170
Billing Verification, Hand Deliveries, Datalogs (notices, bills)	125
Install/Repair Radio Units	10
Customer Meetings (usage, pressure, complaints, etc.)	11
Closing Readings	140
Water Turn On	36
Plumbing Inspections	1
Meetings with Contractors, Business Owners, Site Management (Backflow requirements, unauthorized connections, losses etc.)	7

The following table provides a breakdown of the Water Distribution Work Orders completed for May 1, 2022 to August 31, 2022.

Table 7 – Distribution Work Orders

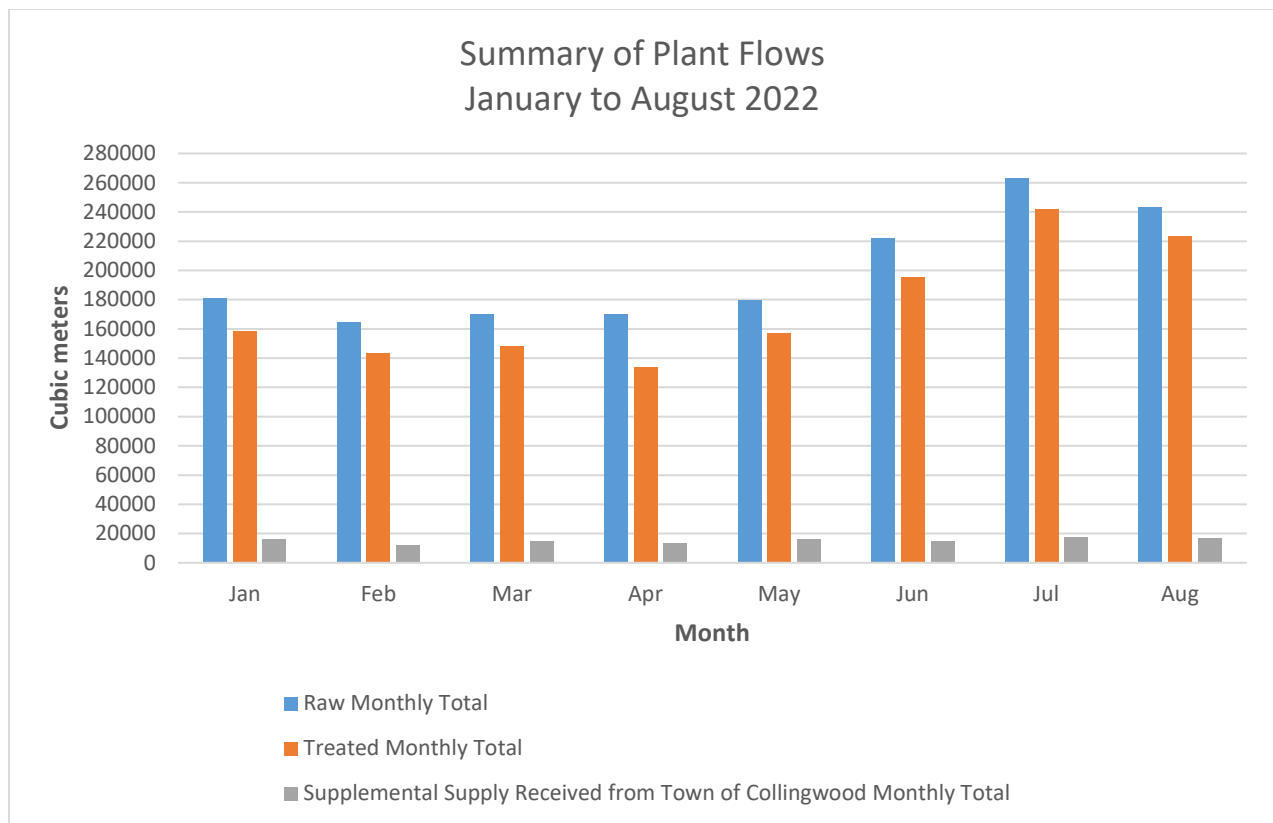
<b>Work Order Description</b>	<b>Number Completed</b>
Watermain Dig Site Clean up	7
Watermain / Service Connection Repairs	11
Service Connection Curb Stop Repairs – Dig	7
Service Connection Curb Stop Repairs – Vacuum Unit	10
Service Connection Repairs	7
Service Connection New Installations	19
Valves operated (Curb Stop Valves, Main Valves and Hydrant Valves)	544

<b>Work Order Description</b>	<b>Number Completed</b>
Valves Repaired	2
Dead End Flushing – Number of Hydrants Flushed	270
Annual Flushing Program	509
Automatic Flushing Stations – Winterizing or repairs	1
Fire Hydrant Repairs from Inspections	33
GPS Unit – Number of days to locate Curb Stops	3.5 days
Water and Sewer locates completed	815
Pressure Reducing Valve Inspections or Repairs	32
Air Relief Inspections or Repairs	67
Meter and Valve Chamber Inspections or Repairs	6
Confined Space Entries	9
Locating Curb Stops for Leak Detection Survey	7.5 days

### **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, 2022 to August 31, 2022, there was (1) one watermain break as summarized below:

A watermain break on Lakeshore Road West was repaired on May 5, 2022. The 200mm PVC watermain split due to pipe failure and age of watermain. Staff repaired the watermain with minimum interruption to residents.

## 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 were no incidents of adverse water quality incidents for the period of May 1, 2022 to August 31, 2022.

## **Water Quality Concerns / Resident Complaints**

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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, 2022 to August 31, 2022 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 4, 2022 May 5, 2022 May 10, 2022 June 3, 2022	4	<ul style="list-style-type: none"> <li>• Internal plumbing</li> <li>• Internal plumbing</li> <li>• Internal plumbing</li> <li>• Internal plumbing</li> </ul>
High Water Pressure	May 4, 2022	1	<ul style="list-style-type: none"> <li>• Pressure tested and found to be within acceptable range.</li> </ul>