



Staff Report

Operations – Water & Wastewater Services

Report To: COW-Operations_Planning_and_Development_Services
Meeting Date: July 2, 2024
Report Number: CSOPS.24.033
Title: Water Operations Update – January 1, 2024 to April 30, 2024
Prepared by: Meg Boyd, Water & Wastewater Compliance & Efficiency Coordinator

A. Recommendations

THAT Council receive Staff Report CSOPS.24.033, entitled “Water Operations Update – January 1, 2024 to April 30, 2024” for their information.

B. Overview

This report provides an overview of the Town’s drinking water system activities for the period of January 1, 2024, to April 30, 2024. The Town continues to provide quality drinking water to Town residents and visitors in compliance with regulatory requirements.

C. Background

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 January 1, 2024, to April 30, 2024.

This report addresses:

- System Information
- Raw, Treated and Distribution Water Quality Data
- Staff Training
- 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

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

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

Provision of Safe Drinking Water

G. Financial Impacts

None

H. In Consultation With

Allison Kershaw, Manager of Water & Wastewater Services

Rob Gilchrist, Water Supervisor

I. Public Engagement

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. However, any comments regarding this report should be submitted to Meg Boyd, Compliance & Efficiency Coordinator wwwinquiries@thebluemountains.ca .

J. Attached

1. Attachment 1 – Water Operations Update – January 1, 2024 to April 30, 2024

Respectfully submitted,

Meg Boyd
Water & Wastewater Compliance & Efficiency Coordinator

Allison Kershaw,
Manager of Water & Wastewater Services

Jeffery Fletcher
Acting Director Operations

For more information, please contact:
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Report Approval Details

Document Title:	CSOPS.24.033 Water Operations Updates January 1, 2024 to April 30, 2024.docx
Attachments:	- Attachment 1.pdf
Final Approval Date:	May 24, 2024

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

Allison Kershaw - May 22, 2024 - 11:03 AM

Jeff Fletcher - May 24, 2024 - 9:43 AM



Town of The Blue Mountains

Water Section Operations Update January 1, 2024 to April 30, 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 January 1, 2024, to April 30, 2024.

This report will address the following:

- System Information
- Raw, Treated and Distribution Water Quality Data
- Staff Training
- 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 January 1, 2024, to April 30, 2024 are presented in Tables 1 and 2 respectively.

Table 1 – Raw Water

Parameter	Result Range (Min-Max)	Parameter Limit
E. Coli	0 to 6	N/A
Total Coliform	0 to 161	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 January 1, 2024, to April 30, 2024 is presented in Table 3:

Table 3 – Distribution

Parameter	Number of Samples	Result Range (Min – Max)	Parameter Limit
E. Coli	181	0	0 cfu/100 mg/l
Total Coliform	181	0	0 cfu/100 mg/l
HPC	146	0 to 6	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 January 1, 2024, to April 30, 2024 by Operators is provided in Table 4:

Table 4 – Operator Training

Operator Name	Training Course Completed
Stephanie Cole	<ul style="list-style-type: none"> Georgian Bay Waterworks Spring Conference
Jason Hindle	<ul style="list-style-type: none"> Working at Heights

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 January 1, 2024, to April 30, 2024.

Thornbury Water Treatment Plant

- Temperature alarms with Air Compressor A
- Low UV transmittance alarms
- Historian/SCADA failure due to IT updating vnodes and IFIX historian not communicating
- Rack # 2 turbidity spike issues. Analyzer cleaned, calibrated and new check valve installed

- Installed air release on discharge main
- Third Party SCADA Contractor changed location to collect rack data flow and turbidity events. Reading is now collected on individual racks
- Packing on low lift pumps changed at the Water Treatment Plant
- Annual pump oil changes and greasing completed at the Water Treatment Plant and Booster Stations
- Third Party Contractor calibrated chlorine and turbidity analyzers at Water Treatment Plant and Booster Stations
- Third Party Contractor calibrated flow meters at Water Treatment Plant and Booster Stations
- Third Party Contractor completed annual inspection of ladders, lifting and confined space equipment
- Clean in Place (CIP) completed on (3) three racks
- CIP recirculation pump faulted. Third Party Contractor reset pump. Motor requires rewind
- Replaced and calibrated pH probe on neutralization tank
- Backwash nozzles removed and clean to address issues with Trident filter
- High turbidity spikes on Rack # 2
- Replaced and reordered (2) two valves on Rack # 2
- Third Party Contractor replaced Micro 2000 sensor
- Third Party Contractor completed bi-monthly calibration of gas monitors
- Lamp changed on UV # 3
- Third Party Contractor installed new light switches in office, washroom and boiler room
- Monthly maintenance

10th Line Booster Station

- Tubing to injector from chlorine board replaced
- Leak on chlorine pump # 1 repaired
- Chlorine tank cleaned and filled with sodium hypochlorite
- (3) Three pump discharge lines replaced
- New PVC board made and installed for chlorine pump discharge
- New 3" valve installed on truck fill station discharge
- Preventative maintenance kits changed on chlorine pumps # 2 and # 3 with tubing
- Third Party Contractor investigated roof leak and drainage issues
- Monthly maintenance

Thornbury Reservoir

- New emergency light at installed
- Repaired chlorine leak on Pump # 1 and Pump # 2
- Repaired chlorine leak on Pump # 1 and Pump # 2 fittings
- Generator failed on monthly maintenance. Third Party Contractor replaced fuse
- Preventative maintenance kits changed on chlorine pump

- Third Party Contractor checked cell milltronics and performed reset to clear level spiking issues
- Highlift Pump # 1 tripped on overload fault
- Third Party Contractor completed bi-annual maintenance on generator
- Chlorine injectors changed out
- Monthly maintenance

Camperdown Reservoir

- New injector and check valves installed
- Preventative maintenance kits changed on chlorine pump
- New tubing ran to chlorine pumps and analyzers
- Chlorine day tank cleaned and flushed
- Third Party Contractor completed bi-annual maintenance on generator
- Chlorine injectors changed out
- Monthly maintenance

Wards Road Booster Station

- Large pressure tank installed at Wards Road Booster Station
- Annual fire extinguisher and emergency lighting checks completed by Third Party Contractor
- New motor and VDF installed on Pump # 2
- Monthly Maintenance

Arrowhead Road Booster Station

- Repaired chlorine leak on Pump # 2 at Arrowhead Road Booster Station
- New sample line installed
- Water leak to suction pressure transmitter
- Third Party Contractor completed annual generator maintenance
- Preventative maintenance kits and injectors completed
- Repaired small chlorine leak on Pump # 1
- Full flow test with all (3) three pumps running through station
- Monthly maintenance

Happy Valley Booster Station

- New PRV installed to chlorine analyzer at Happy Valley Booster Station
- New circuit board to chlorine analyzer installed
- Sodium hypochlorite leak repaired
- Cellular communication tower installed for water meter project
- Monthly maintenance

Mountain Road Booster Station

- New tubing installed to chlorine analyzers and sample tap
- New sample tap installed
- New check valves and lances installed
- Chlorine analyzers taken offline and cleaned
- Power outage tripped Pump # 1 VFD – confined space entry to reset
- Preventative maintenance kits on chlorine pumps completed
- Monthly maintenance

Distribution System Summary

The following table provides a breakdown of the Water Meter Field Service calls for January 1, 2024, to April 30, 2024:

Table 6 – Water Meter Field Services Summary

Nature of Call	Number of Calls
Replace Old Meters (jammed, remote errors)	11
Replace frozen water meters	2
Repair Meter Other (leaks, reversed, etc.)	27
Water Meter Inspections (re-inspections, renovations, new construction)	58
Billing Verification, Hand Deliveries, Datalogs (notices, bills)	167
Install/Repair Radio Units	19
Customer Meetings (usage, pressure, complaints, etc.)	7
Closing Readings	65
Water Turn On	17
Plumbing Inspections	5
Meetings with Contractors, Business Owners, Site Management (Backflow requirements, unauthorized connections, losses etc.)	15

The following table provides a breakdown of the Water Distribution Work Orders completed for January 1, 2024, to April 30, 2024.

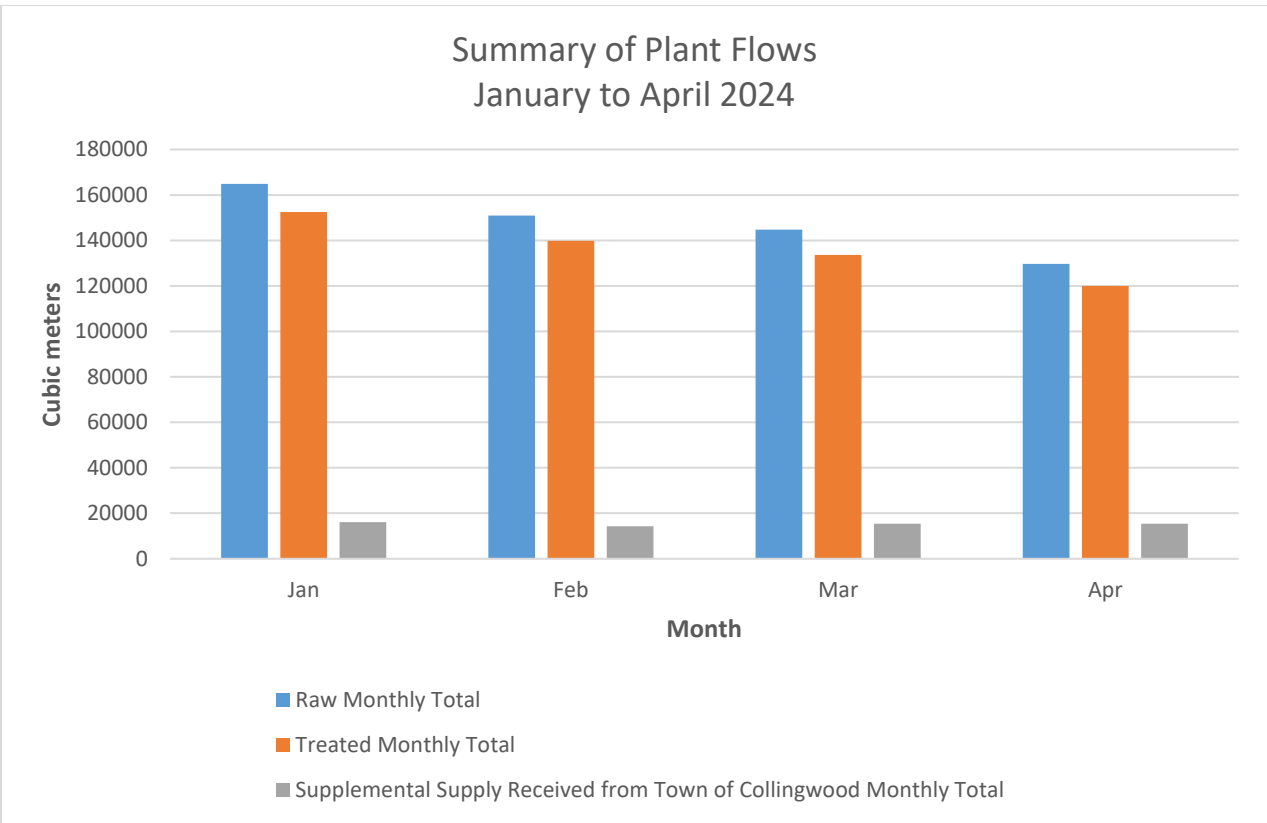
Table 7 – Distribution Work Orders

Work Order Description	Number Completed
Watermain Repair	3
Watermain Dig Site Clean up	11
Service Connection Repairs – Vac Unit	6
Service Connection Curb Stop Repairs – Dig	3
Service Connection Repairs	7
Service Connection New Installations	4
Valves operated (Curb Stop Valves, Main Valves and Hydrant Valves)	131
Valves Repaired	1
Annual Flushing Program	12
Dead End Flushing – Number of Hydrants Flushed	218
Automatic Flushing Stations – Winterizing or repairs	3
Fire Hydrant Repairs from Inspections	6
Fire Hydrants Painted or Winterized	11
Water and Sewer locates completed	459
GPS Unit	346
New Construction	8
Chamber Inspections	117
Chamber Repairs	3
Confined Space Entries	12
Leak Detection	1

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 January 1, 2024, to April 30, 2024, there was (1) one watermain break. On January 16, 2024 a watermain break was repaired on Kandahar Lane. A hole was discovered in the 200mm PVC watermain. The watermain repair was completed same day with minimal disruption 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 January 1, 2024, to April 30, 2024.

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 January 1, 2024, to April 30, 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	January 8, 2024 January 23, 2024 March 19, 2024	3	<ul style="list-style-type: none"> • Pressure reading taken and found within acceptable range • Internal plumbing, pressure restored • Pressure reading taken and found within acceptable range
High Water Pressure	February 16, 2024	1	<ul style="list-style-type: none"> • Pressure reading taken and found to be within acceptable range
Discoloured Water	January 15, 2024	1	<ul style="list-style-type: none"> • Bacteriological results collected and returned with 0 EC/TC. Issue determined to be internal plumbing
Overall Water Quality	January 8, 2024	1	<ul style="list-style-type: none"> • Bacteriological samples collected and results returned with 0 EC/TC