



Staff Report

Infrastructure and Public Works

Report To: Committee of the Whole
Meeting Date: June 25, 2018
Report Number: CSPW.18.050
Subject: Water Section Operations Update – January to April 2018
Prepared by: Meg Boyd, Compliance & Efficiency Coordinator

A. Recommendations

THAT Council receive Staff Report CSPW.18.050, entitled “Water Section Operations Update – January to April 2018” for their information.

B. Overview

This report provides an overview of the Town’s drinking water system activities for the period of January to April 2018. 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 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 Act does not require Municipal Officials and councilors to be an expert in the water field, but does require officials to be informed. Town Council has requested regular updates to ensure they are current in the operations of the system. This Report continues to provide the information requested.

As mentioned in previous Reports, the purpose of Attachment # 1 – Water Operations Update is to provide regular up-to-date information with regards to the status and operation of the Town’s drinking water system and to report on water quality issues for the period of January to April 2018.

Topics such as overview of the Town’s drinking water system were provided in the initial report, and as such will only be included intermittently to remind Council of the drinking water system components.

This report addresses:

- 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 to provide quality drinking water to users while ensuring long-term sustainability of the system through regular preventative maintenance programs.

E. The Blue Mountains Strategic Plan (Select Relevant Goals & Objectives)

Goal #5: Ensure Our Infrastructure is Sustainable

Objective #2 Avoid Unexpected Infrastructure Failure and Associated Costs and Liability

F. Environmental Impacts

None

G. Financial Impact

None

H. In Consultation With

None

I. Attached

1. Attachment 1 – Water Section Operations Update – January to April 2018

Respectfully Submitted,

Meg Boyd

Meg Boyd
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Reg Russwurm

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Town of The Blue Mountains

Water Section Operations Update January to April 2018

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 Act does not require Municipal Officials and councilors to be an expert in the water field, 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 to April 30, 2018.

This report will address the following:

- 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 Thornbury Water Treatment Plant (WTP) and analyzed by an accredited laboratory.

Overviews of the raw and treated sampling data for the period of January to April 30, 2018 are presented in Tables 1 and 2 respectively.

Table 1 – Raw Water

Parameter	Result Range (Min-Max)	Parameter Limit
E.Coli	0 to 44	N/A
Total Coliform	0 to 560	N/A

Table 2 – Treated Water

Parameter	Result Range (Min-Max)	Parameter Limit
E.Coli	0	0
Total Coliform	0	0
HPC	0 to 3	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 to April 30, 2018 is presented in Table 3:

Table 3 – Distribution

Parameter	Number of Samples	Result Range (Min – Max)	Parameter Limit
E.Coli	191	0	0
Total Coliform	191	0	0

Parameter	Number of Samples	Result Range (Min – Max)	Parameter Limit
HPC	146	0 to 29	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 to April 30, 2018 by Operators is provided in Table 4:

Table 4 – Training Overview

Operator Name	Training Course Attended
Stephanie Cole	Safe Drinking Water Operator Essentials
Scott Hill	Safe Drinking Water Operator Essentials Georgian Bay Spring Water Works Conference
Don McArthur	Safe Drinking Water Operator Essentials
Kevin McGuire	Safe Drinking Water Operator

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 January to April 30, 2018.

Table 5 – Water Treatment Plant and Booster Station Maintenance Summary

Maintenance Performed	Number Completed
Instrument Calibrations completed by Third Party	1
SCADA Integrator changed stop and start speed times on high lift pumps at the Thornbury Reservoir	1
Water Treatment Plant and Station Maintenance	4
Phone line monitor installed at Water Treatment Plant	1
Painting at Thornbury Reservoir	1

Maintenance Performed	Number Completed
Booster pump replacement at Wards Road Booster Station	1
New breaker/disconnect installed on High Lift Pump # 2 at Water Treatment Plant	1
Bi-annual UV Maintenance completed by Third Party	1
Phone line failure relay installed on Water Treatment Plant phone	1
Transfer switch replaced at 10 th Line Water Booster Station	1

Distribution System Summary

The following table provides a breakdown of the Water Meter Field Service calls for January to April 30, 2018:

Table 6 – Water Meter Field Services Summary

Nature of Call	Number of Calls
Frozen Meter Repairs	6
Replace/Repair Jammed Meter	5
Replace/Repair Remote Touchpads	10
Repair Meter Other (leaks, reversed, etc.)	11
Meter Inspections (re-inspections, renovations, new construction)	53
Billing Verification, Hand Deliveries (notices ,bills)	155
Install/Repair Radio Units	6
Customer Meetings (usage, pressure, complaints, etc.)	16
Closing Readings	145
Plumbing Inspections – not meter related	6
Water Turn On	3
Meetings with Contractors, Business Owners, Site Management (Backflow requirements, unauthorized connections, losses etc.)	18

The following table provides a breakdown of the Water Distribution Work Orders completed for January to April 30, 2018.

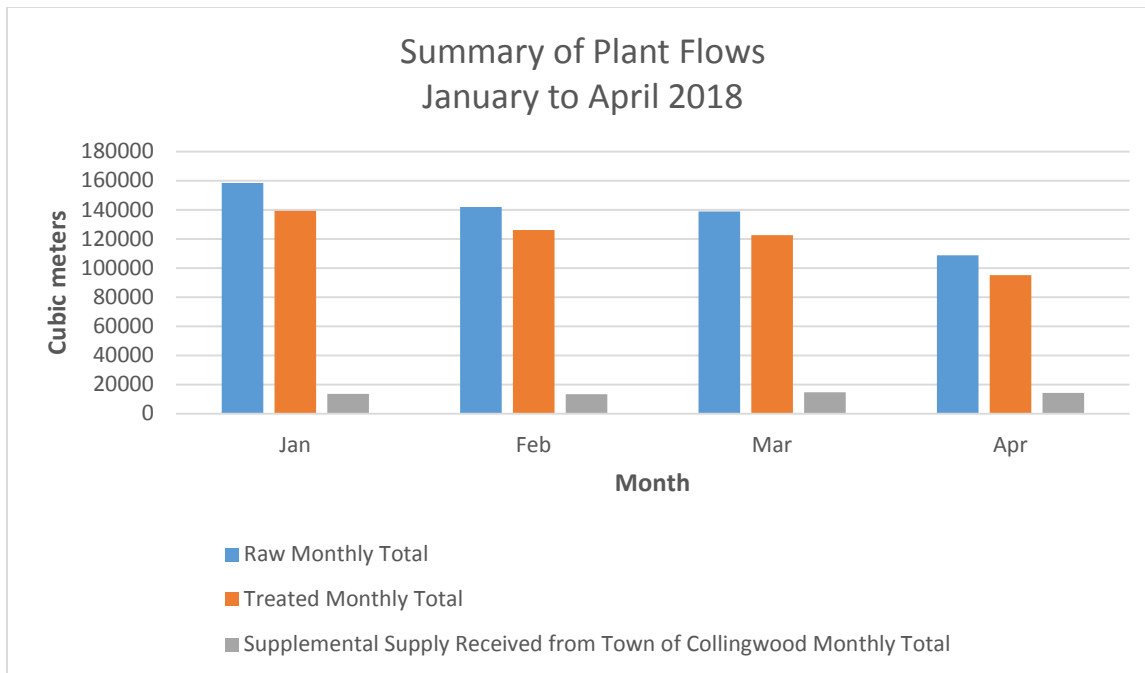
Table 7 – Distribution Work Orders

Work Order Description	Number Completed
Watermain Repairs	5
Watermain Dig Site Clean up	4
Service Connection Curb Stop Repairs – Vacuum Unit	6
Valves operated (Curb Stop Valves, Main Valves and Hydrant Valves)	145
Service Connection Curb Stop Repairs - Dig	1
Service Connection Repairs	4
Valves Repaired	2
Pressure Reducing Valve Inspections or Repairs	3
Dead End Flushing Program – Number of Fire Hydrants Flushed	201
Water and Sewer locates completed	184
Automatic Flushing Stations – Weekly check of chlorine residuals	412
Automatic Flushing Stations – Winterizing	3
Fire Hydrant Repairs from Inspections	3
Air Relief Inspections or Repairs	74
Meter and Valve Chamber Inspections or Repairs	30
GPS Unit – Curb Stops and Valves	½ day
Confined Space Entries / Climbing Tower	14

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 to April 30, 2018, there were five watermain breaks as summarized below:

On January 17, 2018, a Contractor for a Developer notified the Town that an eight (8) inch valve had blown off a watermain stub on Snowbridge Way. The watermain was repaired same day. Residents on Snowbridge Way experienced no water loss or lower than normal water pressure while the valve was being repaired.

On January 19, 2018, a Homeowner along Highway 26 reported a watermain break. The watermain fitting had failed. There was a minimal disruption of service and Town Staff repaired the break on January 23, 2018.

On February 17, 2018, a Homeowner reported a watermain break on Peel Street North and Bay Street West. The cause of the break was due to frost movement in the ground. The watermain was repaired with minimal disruption to residents.

On March 6, 2018, a Homeowner reported a watermain break on King Street West. The frost movement in the ground caused a circular break. The watermain was repaired the next day with minimal disruption to residents.

On March 11, 2018, a Homeowner reported a watermain break on Lakeshore Road in Thornbury. The frost movement in the ground created a circular break. The watermain was repaired the next 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 for the period of January to April 30, 2018. There was one precautionary boil water issued for this period as described below.

On February 26, 2018, Operators experienced a pump failure at one of the Water Booster Stations. The Wards Road Booster Station has two (2) three (3) horsepower pumps. The motor on one pump failed and the capacitor on the second pump had blown. The capacitor failure was likely due in part to the constant starts and stops caused by the first pump being blown.

The static water pressure in the upper area of Hidden Lake Road was less than 20 psi which resulted in Staff issuing a precautionary boil water advisory for this area. The Ministry of the Environment and Climate Change (MOECC) and the Grey Bruce Health Unit were advised on this incident. The precautionary boil water advisory was lifted on March 1, 2018 following two consecutive sets of microbiological tests with 0 E.Coli and 0 Total Coliform.

Water Quality Concerns / Resident Complaints

Staff record information relating to 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 odour complaints may indicate that the watermain in an area is deteriorating.

A summary of the water quality concerns received during the January to April 30, 2018 period is included in Table 8 below:

Table 8 – Water Quality Concerns

Water Quality Concern	Date(s)	Number of Occurrences
Low Water Pressure	January 2, 3, April 12	3
High Water Pressure	January 8, February 1, March 29	3