

**STAFF REPORT:      ENGINEERING AND PUBLIC WORKS DEPARTMENT**

**REPORT TO:**                    Infrastructure and Recreation  
   Committee  
**MEETING DATE:**            June 12, 2012  
**REPORT NO.:**                EPW.12.041  
**SUBJECT:**                    Water Section Operations  
   Update – January to April 2012  
**PREPARED BY:**            Meg Boyd, Compliance & Efficiency  
   Coordinator

**A.      Recommendations**

THAT Council receive Staff Report EPW.12.041 entitled “Water Section Operations Update – January to April 2012” for their information.

**B.      Background**

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.

As mentioned in previous Reports, the purpose of Attachment # 1 – Water Operations Update is to provide 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 2012.

Topics such as an 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 and Treated Water Quality Data
- Staff Training
- Distribution System Summary
- Summary of Plant Flows
- Watermain Break Summary
- Incidents of Adverse Water Quality
- Water Quality Concerns / Resident Complaints

The Thornbury WTP and associated distribution system continue to operate within Ministry of the Environment Guidelines and Provincial Legislation.

**C. The Blue Mountains' Strategic Plan**

The acceptance of this Report by Council furthers the Town Strategic Plan Goal # 6 "Providing a Strong, Well-Managed Municipal Government."

**D. Environmental Impacts**

None

**E. Financial Impact**

None

**F. In Consultation With**

None

**G. Attached**

1. Water Section Operations Update – January to April 2012

Respectfully submitted,

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**Reg Russwurm**  
Reg Russwurm  
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# Water Section Operations Update

January to April 2012



## 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 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 to April 2012.

This report will address the following:

- Raw, Treated and Distribution Water Quality Data
- Staff Training
- Distribution System Summary
- Summary of Plant Flows
- Watermain Break Summary
- Incidents of Adverse Water Quality
- Water Quality Concerns / Resident Complaints

## System Information

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

## 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.

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

An overview of the raw water sampling data for the period of January to April 2012 is presented in Table 1:

**Table 1 – Raw Water**

Parameter	Result Range (Min – Max)
<b>E.Coli</b>	<b>0 to 21</b>
<b>Total Coliform</b>	<b>0 to 157</b>

An overview of the treated water sampling data for the period of January to April 2012 is presented in Table 2:

**Table 2 – Treated Water**

Parameter	Result Range (Min – Max)
<b>E.Coli</b>	<b>0</b>
<b>Total Coliform</b>	<b>0</b>
<b>HPC<sup>1</sup></b>	<b>0 to 2</b>

<sup>1</sup> Schedule 10 of Ontario Regulation 170/03 requires testing for general bacteria population expressed as colony counts on a heterotrophic plate count (HPC). There are no reporting or corrective action requirements specified in O. Reg 170/03 following HPC test results. HPC's are a good indicator of overall drinking water quality but not water safety.

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 2012 is presented in Table 3:

**Table 3 – Distribution**

Parameter	Number of Samples	Result Range (Min – Max)	Parameter Limit
<b>E.Coli</b>	<b>190</b>	<b>0</b>	<b>0</b>
<b>Total Coliform</b>	<b>190</b>	<b>0</b>	<b>0</b>
<b>HPC</b>	<b>145</b>	<b>0 to 155</b>	<b>N/A</b>

## Staff Training

In accordance with Ontario Regulation 128/04, all Water Treatment and Distribution Operators possess operating licences appropriate to the class of facility where they are employed. As the Town's distribution system is a Class 3 subsystem, Operators are required to complete, at a minimum, 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 2012 by Operators is provided in Table 4:

**Table 4 – Training Overview**

<b>Operator Name</b>	<b>Training Course Attended</b>
Darren Shilvock	Water Treatment Plant Operation, Volume I – correspondence course through California State University Treating and Distributing Safe Drinking Water (Mandatory Renewal Course) Quality Management System Provincial Workshop Georgian Bay Waterworks Spring Conference Clean Water Act – Risk Management Webinar
Rob Gilchrist	Water Treatment Plant Operation, Volume I – correspondence course through California State University Watermain Couplings and Clamps
Kevin McGuire	Treating and Distributing Safe Drinking Water (Mandatory Renewal Course) Watermain Information Seminar
Stephanie Cole	Treating and Distributing Safe Drinking Water (Mandatory Renewal Course) Water Treatment Plant Operation, Volume II – correspondence course through California State University Watermain Couplings and Clamps
Scott Hill	Georgian Bay Waterworks Spring Conference
Don McArthur	Water Treatment Plant Operation, Volume I – correspondence course through California State University Watermain Couplings and Clamps
Scott Marritt	Treating and Distributing Safe Drinking Water (Mandatory Renewal Course) Waterworks Information Seminar Watermain Couplings and Clamps
Meg Boyd	Water Efficiency Committee Webinar Clean Water Act – Risk Management Webinar Quality Management System Provincial Workshop

## Distribution System Summary

The following table provides a breakdown of the Water Meter Field Service calls for January to April 2012:

**Table 5 – Water Meter Field Services Summary**

Nature of Call	No. of Calls
Frozen meters	5
Replace/Repair jammed meter	10
Replace/Repair remote touchpads	65
Repair meter other (leaks, reversed, etc.)	10
Meter Inspections	42
Billing verification, hand deliveries (notices, bills)	377
Install radio	3
Backflow inspections	4
Thermal Expansion calls	3
Customer meetings (usage, complaints, etc.)	25
Closing readings	70
Commercial meter change outs	3

The following table provides a breakdown of the Water Distribution Work Orders completed for January to April 2012:

**Table 6 – Distribution Work Orders**

Work Order Description	No. Completed
Watermain Repairs	3
Valves Operated	517
Valves Replaced / New	1
Outstanding Deficiencies arising from fire hydrant inspections	
Service Connection Repairs Complete	60
Service Connection Repairs Outstanding	62
Service Connection Installations	4
Pressure Reducing Valve Inspections	13
Air Relief Valve Inspections	57
Spring and private hydrant flushing program	517 hydrants flushed and inspected

Dead End Flushing program (to maintain residuals in the distribution system)	469 hydrants flushed
Water and Sewer Locates	260 locates completed
Automatic flushing stations – weekly check of chlorine residuals	14 flushing stations which operate on average 30 minutes per 24 hours



## Summary of Plant Flows

A summary of the WTP Raw, Treated and supplemental flow supply received from the Town of Collingwood is presented in Table 4:

**Table 4:**

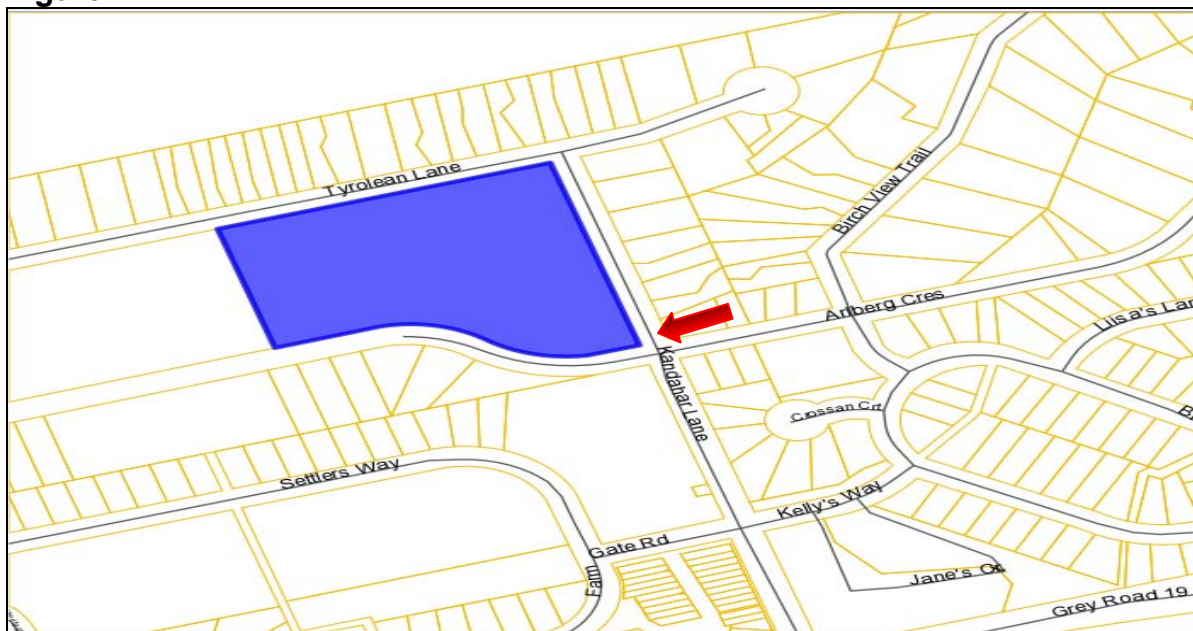
Month	Town of The Blue Mountains' Raw Water Flows				Town of The Blue Mountains' Treated Water Flows				Supplemental Flows Received from the Town of Collingwood			
	Monthly Total (m <sup>3</sup> )	Daily Average (m <sup>3</sup> )	Maximum Day (m <sup>3</sup> )	Minimum Day (m <sup>3</sup> )	Monthly Total (m <sup>3</sup> )	Daily Average (m <sup>3</sup> )	Maximum Day (m <sup>3</sup> )	Minimum Day (m <sup>3</sup> )	Monthly Total (m <sup>3</sup> )	Daily Average (m <sup>3</sup> )	Maximum Day (m <sup>3</sup> )	Minimum Day (m <sup>3</sup> )
January	77,044	2,485	7,667	1,078	67,379	2,174	6,732	863	95,155	3,070	3,957	0
February	82,663	2,850	5,045	1,721	72,377	2,496	4,448	1,453	88,779	3,061	4,027	1,714
March	60,847	2,028	3,246	43	54,443	1,756	2,868	0	84,408	2,723	3,834	1,193
April	46,829	1,561	2,414	1,105	41,051	1,368	2,030	975	50,369	1,679	2,310	1,097
<b>Total</b>	<b>267,383</b>				<b>235,250</b>				<b>318,711</b>			
<b>Max</b>	<b>82,663</b>		<b>7,667</b>				<b>6,732</b>		<b>95,155</b>		<b>4,027</b>	
<b>Min</b>	<b>46,829</b>			<b>43</b>				<b>0</b>	<b>50,369</b>			<b>0</b>

## Watermain Break Summary

Watermain breaks are typically reported by homeowners 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.

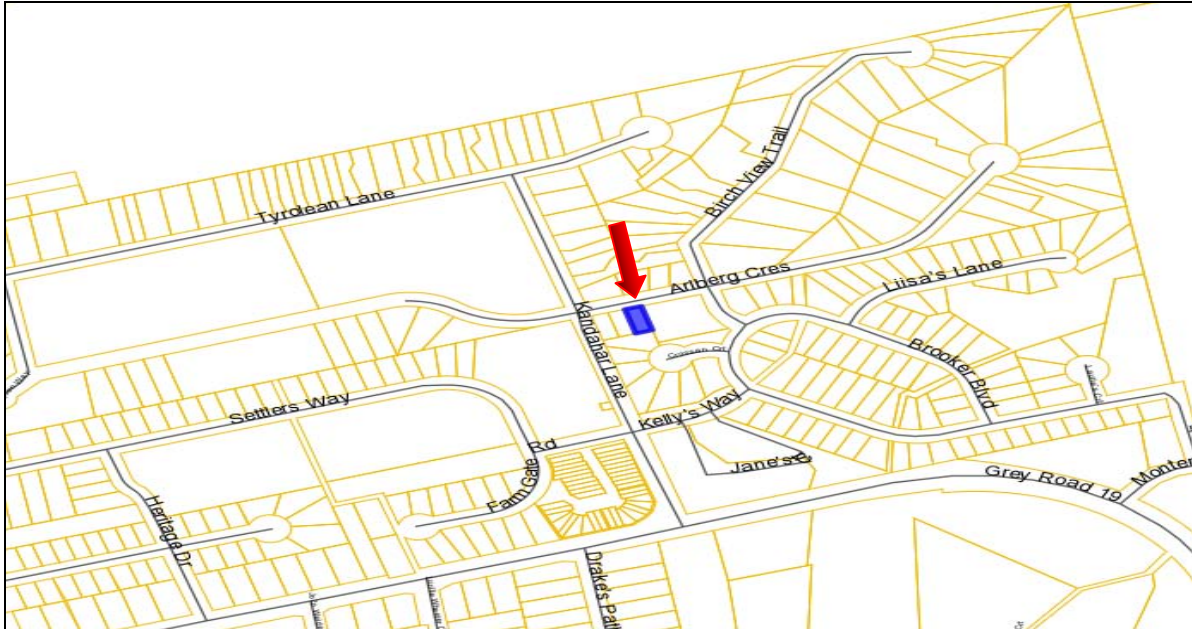
From the period of January 1 to April 30<sup>th</sup>, 2012, there were three watermain breaks as summarized below:

**Figure 1**



On February 10, 2012 a resident reported a watermain break on Kandahar Lane. The watermain was installed in the early 1960's and based on the Tangible Capital Asset Plan, this watermain is scheduled to be replaced in 2016. Twelve feet of new watermain was installed during this recent repair.

**Figure 2**



On March 21, 2012 a resident reported a watermain break on Arlberg Crescent. This watermain was also installed in the 1960's and is also scheduled for replacement in 2016. Ten feet of new watermain was installed and services were fully restored the following day.

**Figure 3**



On March 21, 2012, a watermain break was discovered by Water Operations Staff in the Little Beaver River beside the Thornbury Water Treatment Plant. Staff contacted the Ministry of Natural Resources (MNR), Ministry of the Environment (MOE) and the Spills Action Centre (SAC). The MNR granted permission to dig in the creek, however, the water level at the time was too high to repair. Water Operators have installed a valve and temporarily isolated the water main until a plan of action can be finalized.

### **Incidents of Adverse Water Quality**

This section describes all Adverse Water Quality Incidents (AWQI). This term refers to any unusual test result from treated water that does not meet a provincial water quality standard or situation where disinfection of the water may be compromised. A single adverse water quality incident does not necessarily mean that drinking water from the system 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 have been no incidents of adverse water quality in 2012.

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

Staff record information relating to water quality issues on the Resident Water Quality Concern Form and then forward data to the GIS Coordinator for tracking. If required, Operators attend the location of concern to collect samples or access 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 a particular area is deteriorating.

A map detailing the water quality concerns received from October 2004 to April 2012 is included on page 11.

# The Blue Mountains Engineering and Public Works Water Services Complaint Tracking

October 2004 - April 2012



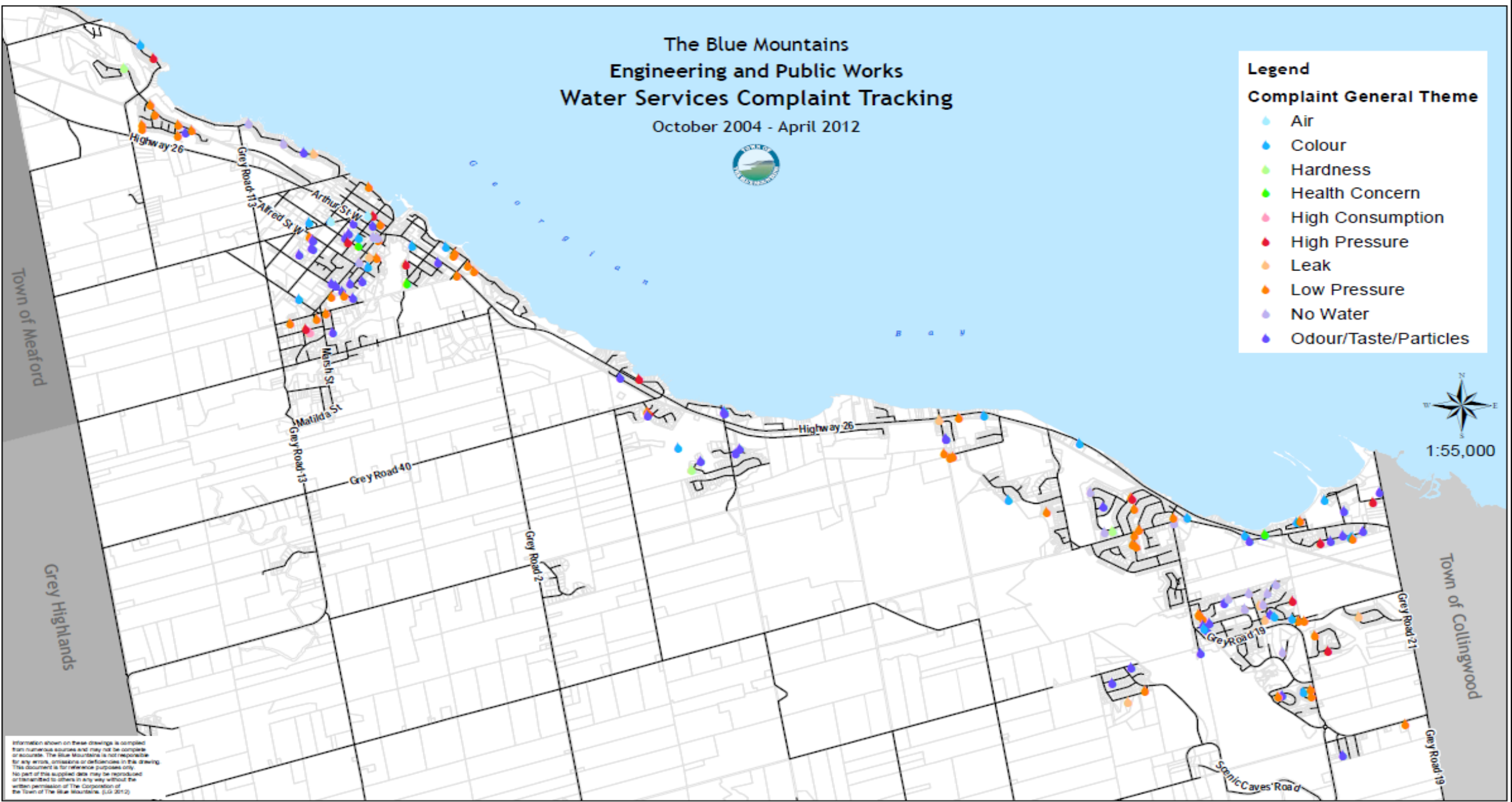
## Legend

### Complaint General Theme

- Air
- Colour
- Hardness
- Health Concern
- High Consumption
- High Pressure
- Leak
- Low Pressure
- No Water
- Odour/Taste/Particles



1:55,000



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