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Staff Report

Infrastructure & Public Works

Report To: Committee of the Whole
Meeting Date: February 22, 2017
Report Number: CSPW.17.027
Subject: 2016 Water Summary Report
Prepared by: Meg Boyd, Compliance & Efficiency Coordinator

A. Recommendations

THAT Council receive Staff Report CSPW.17.027 entitled "2016 Water Summary Report" for their information.

B. Overview

This report provides an overview of the Town's drinking water system activities in 2016. The Town continues to operate its Water System in accordance with all Provincial Legislative requirements.

C. Background

The delivery of potable water in Ontario is regulated by the Ministry of the Environment and Climate Change (MOECC) under the *Safe Drinking Water Act*.

Ontario Regulation 170/03 Schedule 22 requires the Owner of a drinking water system to prepare a Summary Report no later than March 31st of each calendar year that summarizes the following:

a) list the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water license, and any orders applicable to the system that were not met at any time during the period covered by the report; and

b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure.

The report must also include a summary of the quantities and flow rates of the water supplied during the 2016 period, including monthly average and maximum daily flows as well as daily instantaneous peak flow rates. A comparison of the summary to the rated capacity and flow rates approved in the system's approval must also be documented.

D. Analysis

The Town of The Blue Mountains (TOBM) continues to successfully operate its Water System in accordance with all Provincial Legislative requirements.

A copy of the 2016 Water Summary Report (Attachment # 1) is required to be presented and accepted by Municipal Council no later than March 31st of each calendar year.

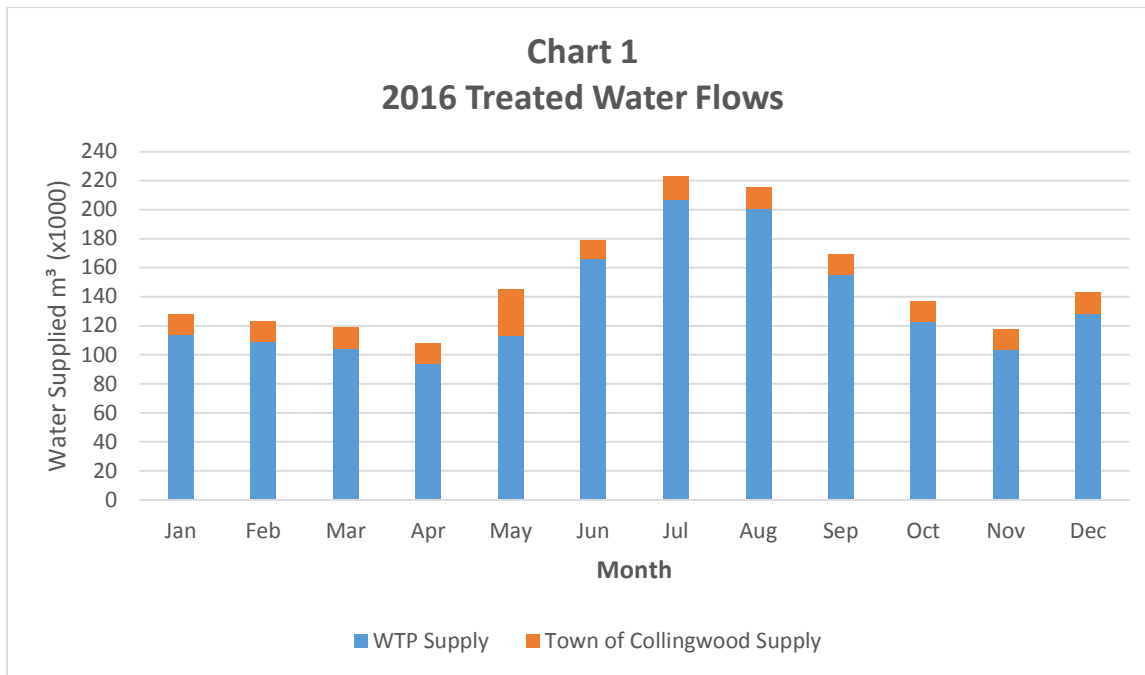
This Report is specific to the Thornbury Water Treatment Plant (WTP) located at 230 Peel Street, its associated distribution system in the Lora Bay, Clarksburg, Thornbury, Camperdown, Swiss Meadows and Craigleith Service Areas and the supplemental supply received from the Town of Collingwood.

Through the implementation of the Municipal Drinking Water Licensing Program, the authority to establish or alter a water system is provided through a Drinking Water Works Permit and the authority to use or operate the water system is provided through a Drinking Water License. On October 23, 2015 the Town was issued Permit Number 111-201, Issue Number 2 and License Number 111-101, Issue Number 2.

The TOBM also receives a supplemental supply of water from the Town of Collingwood to assist with meeting water demands and providing redundancy. The water purchase agreement signed by the TOBM and the Town of Collingwood states that Collingwood Public Utility Board (CPUB) agrees to supply quantities of water to TOBM equal to a firm capacity of 1,250 cubic meters per day at the Mountain Road Booster Pumping Station.

The following graph reflects the total treated water maximum daily demands (MDD) and average daily demands (ADD) flows from the Thornbury Water Treatment Plant. Presently, the TOBM has an adequate supply to meet maximum daily demands throughout the year.

Chart 1 below summarizes the monthly totals of Treated Water Flows for the Thornbury Water Plant as well as the additional supply received from the Town of Collingwood.



All of the requirements listed in Schedule 22 have been met and are detailed in the appending Summary Report.

E. The Blue Mountains Strategic Plan

Goal #5: Ensure Our Infrastructure is Sustainable

F. Environmental Impacts

None

G. Financial Impact

None

H. In consultation with

John Caswell, Manager of Water & Wastewater Services

I. Attached

1. 2016 Water Summary Report

Respectfully submitted,

Meg Boyd

Meg Boyd
Compliance & Efficiency Coordinator

Reg Russwurm

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2016 Water Summary Report

The Blue Mountains' Water Section

Waterworks Number: 220001762

Reporting Period: January 1, 2016 to December 31, 2016

Executive Summary

This report has been prepared as required by Ontario Regulation 170/03 – Schedule 22 of the Safe Drinking Water Act (SDWA) which states the report must,

- a) list the requirements of the Act, the regulations, the system’s approval, drinking water works permit, municipal drinking water license, and any orders applicable to the system that were not met at any time during the period covered by the report; and
- b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure.

The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

- 1) A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows;
- 2) A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system’s approval, drinking water works permit or municipal drinking water license, or if the system is receiving all of its water from another system under an agreement, to the flow rates specified in the written agreement.

All of the above requirements have been met and will be further explored throughout the report.

A copy of this report is required to be presented and accepted by Municipal Council no later than March 31 of each calendar year.

This report is specific to the Thornbury Water Treatment Plant (WTP) located at 230 Peel Street and its associated distribution system in the Lora Bay, Clarksburg, Thornbury, Camperdown, Craigleith and Swiss Meadows Service Areas. Through the implementation of the Municipal Drinking Water Licensing Program, the authority to establish or alter a system is provided through a Drinking Water Works Permit and the authority to use or operate the system is provided through a Municipal Drinking Water License. On October 20, 2015, the Town’s License Number 111-101 and Permit Number 111-201 was renewed for another five years.

Waterworks Description

The Water Treatment System is classified as a Large Municipal Residential System. The Water Treatment Plant Subclass System is Class 2 and the Water Distribution Subclass System is Class 3. The raw water source is surface water supplied by Georgian Bay.

The distribution system consists of approximately 120 kilometers of watermain owned and operated by the Town of The Blue Mountains (Town). Watermains range in size up to 400mm, consisting of PRV, ductile iron, cast iron, asbestos cement and high density polyethylene.

The Town also receives a supplemental supply from the Town of Collingwood to assist with meeting water demands and providing redundancy. The water purchase agreement signed by the Town and the Town of Collingwood states the Collingwood Public Utilities Board (CPUB) agrees to supply quantities of water to Town of The Blue Mountains (TOBM) equal to a firm capacity of 1,250 cubic meters per day at the Mountain Road Booster Station.

Compliance

Municipal Drinking Water Licensing Program

The Municipal Water Licensing Program was introduced in response to recommendations made by Justice O'Connor during the Walkerton inquiry. Under the Licensing Program, the Town was required to obtain a license to operate the drinking water system.

The License is comprised of five components; the Drinking Water Works Permit, Implementation of a Drinking Water Quality Management System, Accreditation of the Quality Management System, preparation of a Financial Plan and obtaining a Permit to Take Water.

1. Drinking Water Works Permit provides a description of the system, an authorization for alterations to the system and contains conditions relating to the physical works;
2. Drinking Water Quality Management System (DWQMS) is comprised of twenty-one elements that address all aspects of the water system. The overall goal of the DWQMS is continuous improvement with respect to planning, operating and reviewing the drinking water system;
3. Accreditation of the Operating Authority consisting of a third-party audit of the Operating Authorities compliance with the Quality Management System criteria. The accreditation of operating authorities is a mandatory requirement under the Safe Drinking Water Act, 2002 (SDWA). The accreditation body performing third-party audits for the Town is NSF International Strategic Registrations (NSF-ISR);
4. Ontario Regulation 453/07 requires that before a Municipality can renew its drinking water license, Staff must prepare and approve a financial plan. The plan must be approved by a resolution of Council and must apply for a six year period. The Plan must include details of the proposed or projected financial operations of the drinking-water system itemized by:
 - total revenues, water rates, user charges, and other revenues;
 - total expenses, amortization expenses, interest expenses, and other expenses;
 - annual surplus or deficit;
 - accumulated surplus or deficit;

5. Permit to Take Water is required for systems that take 50,000 litres or more of source water per day. These permits help to ensure the conservation, protection, management and sustainable use of Ontario's water.

The Town's updated Water Financial Plan was approved by Council on April 20, 2015 and a copy was submitted to the Ministry of Municipal Affairs and Housing as required by legislation. As the needs of the system change and evolve, so too, will the Financial Plan. The Plan will be updated at a minimum every five years.

On January 22, 2013, the Town received Full Scope – Entire DWQMS accreditation which is based on the documentation and implementation of all twenty-one elements of the DWQMS. The Town has received its renewed accreditation, expiring January 11, 2019.

On October 11, 2016 a systems surveillance audit was completed by NSF International Strategic Registrations (NSF-ISR), the third party Accreditation Body. Audits are essential tools for measuring the effectiveness of the QMS and audit findings indicate areas where the QMS met (conformance) or did not meet (non-conformance) the requirements of the QMS. The role of the Auditor is to assess whether the Town's documented QMS met the "DO" requirements of the DWQMS.

The final audit report identified one (1) Minor non-conformance. A non-conformance indicates that the QMS needs to be improved to meet an element of the DWQMS and the specific details are outlined by the Auditor in the form of a Corrective Action Request (CAR).

Staff prepared responses to the CAR identified and all documentation was filed with NSF-ISR by the deadline of December 10, 2016. The CAR response was accepted by NSF-ISR.

Compliance with Permit Number 111-201 and License Number 111-101 issued for the Town of The Blue Mountains Drinking Water System

The Thornbury Water Treatment Plant is owned by the Corporation of the Town of The Blue Mountains and is operated by employees of the Town's Water Section. Water Operators maintain the associated distribution system, reservoirs and booster pumping facilities. Staffing levels are maintained to ensure adequate numbers of trained and licensed personnel are available for proper operations during emergency or upset conditions or to deal with equipment breakdown. Operator meetings are conducted to allow Staff to review existing regulations and any associated amendments made. Staff training requirements are frequently reviewed to ensure all Operations Staff have met the training requirements set out in Ontario Regulation 128/04 of the Safe Drinking Water Act.

Contingency plans and operations manuals are established and located at the Thornbury Water Treatment Plant and Water Operations Centre. Operations manuals include information necessary for the day to day operations and maintenance of the Water Treatment Plant and Distribution System. Contingency plans include information that may be required for proper operation of the Water Treatment Plant and Distribution system. Contingency plans provide Operations Staff with procedures to ensure work is being performed in a consistent manner and contain such items as emergency plans and contacts, supplier contact lists, and a key list of equipment.

Schedule C: System-Specific Conditions

Section 1.0 – Rated Capacity – The maximum daily volume of treated water that flows from the treatment subsystem to the distribution system shall not exceed 15,140 m³

There were no instances during this reporting period where the flow rate exceeded the rated capacity.

Section 1.5 – Residue Management – The annual average concentration of Suspended Solids shall not exceed 25 mg/L.

Samples requiring analysis for suspended solids are typically collected during the first week of every month and analyzed by an accredited laboratory. Twelve samples were collected resulting in annual average of 5.6 mg/L. up from 2.3 mg/L in 2015.

Section 1.6 – UV Disinfection Equipment Performance

Ultra Violet (UV) disinfection is the method of disinfection in which ultraviolet irradiation is used to inactivate target organisms in the water source and is the primary disinfection used at the Thornbury WTP. Ultra violet disinfection equipment is installed and operated such that a UV dosage of at least 40 mJ/cm² is maintained. A dosage of less than 40 mJ/cm² triggers a shutdown of the UV and high lift pumps. A UV transmittance meter measures the waters ability to transmit light and is expressed as a percentage to show what measure of disinfection is achieved.

Section 2.1 – Flow Measurement and Recording Requirements

Flow measuring devices for measuring the amount of raw water taken from Georgian Bay and the amount of water supplied to the distribution system are calibrated annually as per manufacturer's instructions. The flow rate and daily volume of water conveyed from the treatment system to the distribution system is accomplished through the treated water flow meter and recorded on Supervisory Control And Data Acquisition (SCADA) trending printouts.

Section 4.0 – Additional Sampling, Testing and Monitoring

Water sampling is conducted as per the requirements outlined in Schedule 10 and 13 of Ontario Regulation 170/03. Water samples are collected throughout the distribution system at designated sampling stations as well as at Reservoirs and Booster Stations. Raw water sampling provides Operators with the necessary information to determine the appropriate level of treatment required to make the water potable while treated water and distribution samples are vital for ensuring the quality of water provided to residents is in accordance with Ministry of the Environment and Climate Change (MOECC) Standards.

A weekly sampling plan¹ dictates the weekly sampling locations and is reviewed and revised as necessary. During the winter months, a winter sampling plan² is used. Samples requiring annual analysis are typically collected during the first week of April and are analyzed by an accredited laboratory.

¹ Refer to Appendix A – Sampling Locations

² Refer to Appendix A-1 – Winter Sampling Locations

Trihalomethane sampling is conducted at the extremities in the distribution system. All sampling is conducted in accordance with MOECC Regulations and is monitored on a regular basis.

Chemicals used in the operation of the drinking-water system that are in contact with water within the system meet all applicable standards as established by AWWA, ANSI, NSF 60 and NSF 61 safety criteria standards. Material Safety Data Sheets are available for all chemicals and materials used.

Schedule D: Conditions for Relief from Regulatory Requirements

The Town is sampling for lead under the reduced sampling protocol. The testing frequency is reduced to two consecutive periods of semi-annual testing once every three years and the number of locations is also reduced. The Town collected samples for lead testing in 2014 and therefore is not required to conduct sampling again until 2017 in accordance with the Reduced Sampling Table outlined in O.Reg 170/03.

Non-Compliance with the Drinking Water Works Permit and Drinking Water License

There were no issues of non-compliance with the Permit and License.

Non-Compliance with Regulatory Requirements and Actions Required Resulting from MOECC Inspection

An inspection of the Blue Mountains' Drinking Water System was initiated on February 18, 2016 by the MOECC. The inspection found no issues of Non-Compliance with Regulatory Requirements and Actions Required and no Summary of Best Practices Issued and Recommendations.

The inspection report includes an Inspection Summary Rating Record which is designed to encourage drinking water systems to strive for continuous improvement. Based on the Ministry established rating methodology, The Blue Mountains' Drinking Water System received a 100 % rating for the 2015-2016 reporting period.

Notifications of Adverse Water Quality Events

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.

Ontario Regulation 170/03 outlines the instances in which notifications are required when a parameter used to measure water quality exceeds a Maximum Acceptable Concentration (MAC). Once notification is received from the laboratory or Operations staff, Operators are to follow the steps as outlined in the Adverse Sample result Received from Laboratory Procedure.

There were no incidents of adverse drinking water quality in 2016.

Summary of the Quality of Water Supplied During the Reporting Period

Appended to this report (Appendix B) are the treated water flows for the Thornbury Water Treatment Plant for the 2016 reporting period. The Thornbury Water Treatment Plant services

a population of approximately 17,826 residents, including commercial, industrial and resort facilities. As noted in Chart 1 below, there is a significant increase in water demand during the peak periods of July and August. The increase in water demands during the “peak” recreational periods is attributed to the seasonal tourist influx. Appended to this report (Appendix C) are the supplemental flows received from the Town of Collingwood for the 2016 reporting period.

Chart 1 below summarizes the monthly totals of Treated Water Flows for the Thornbury Water Treatment Plant as well as the additional supply received from the Town of Collingwood.

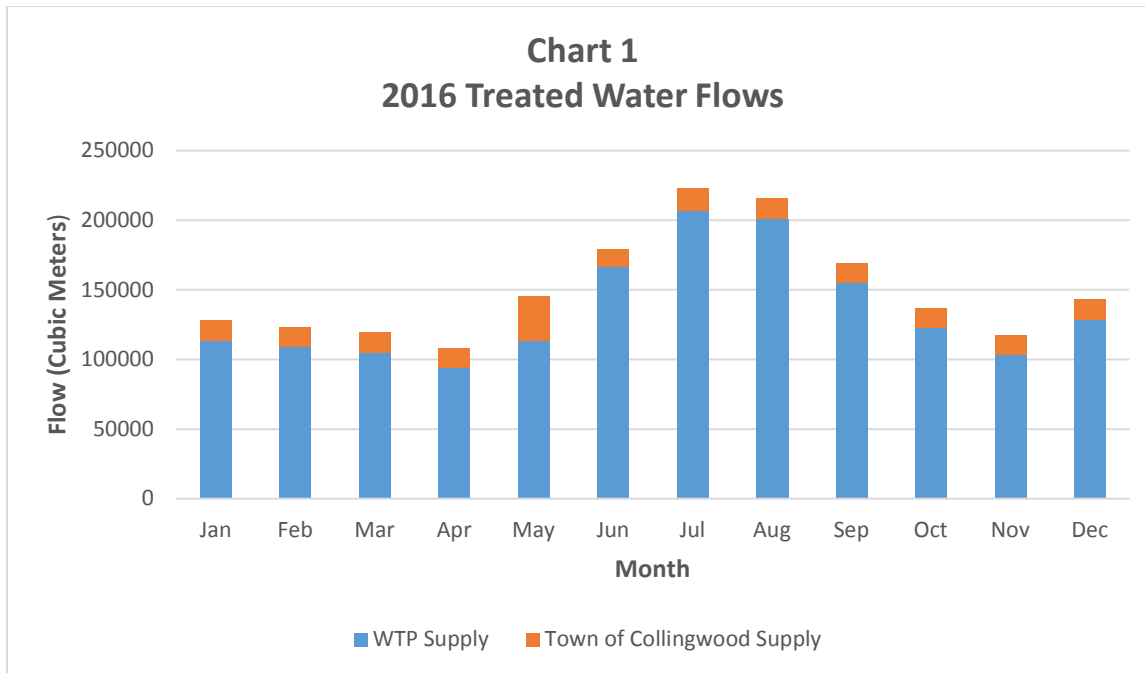
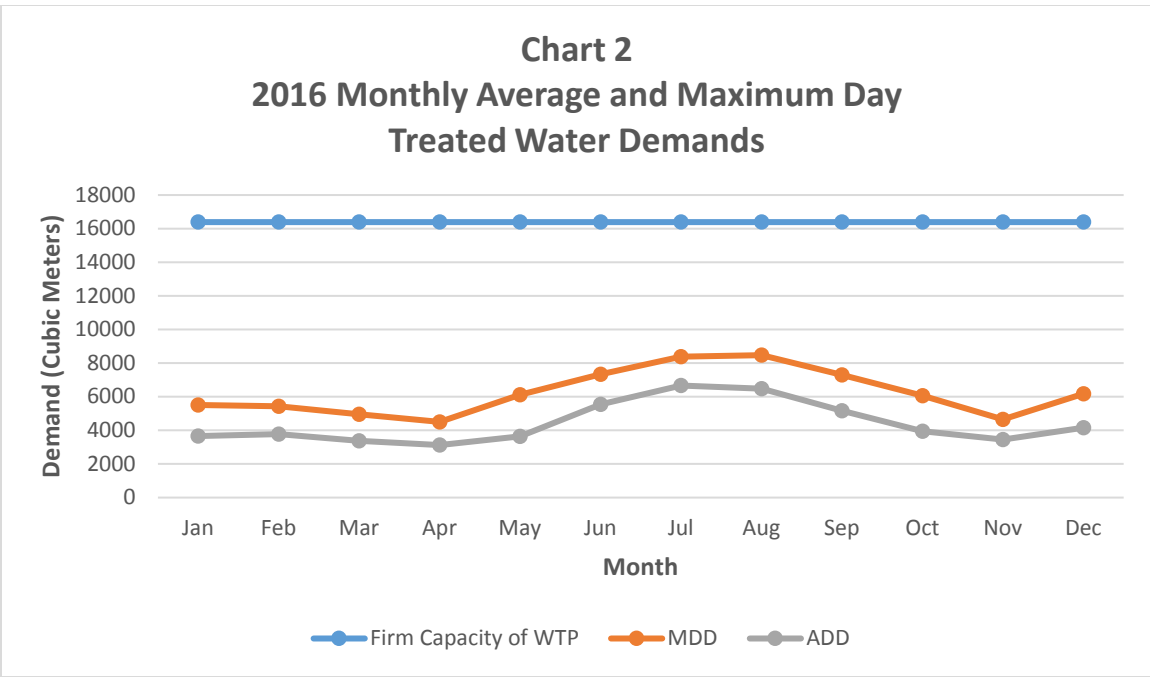


Chart 2 reflects the monthly average daily demands (ADD) and monthly maximum daily demands (MDD) for the treated water at the Thornbury Water Treatment as well as the supplemental supply received from the Town of Collingwood.

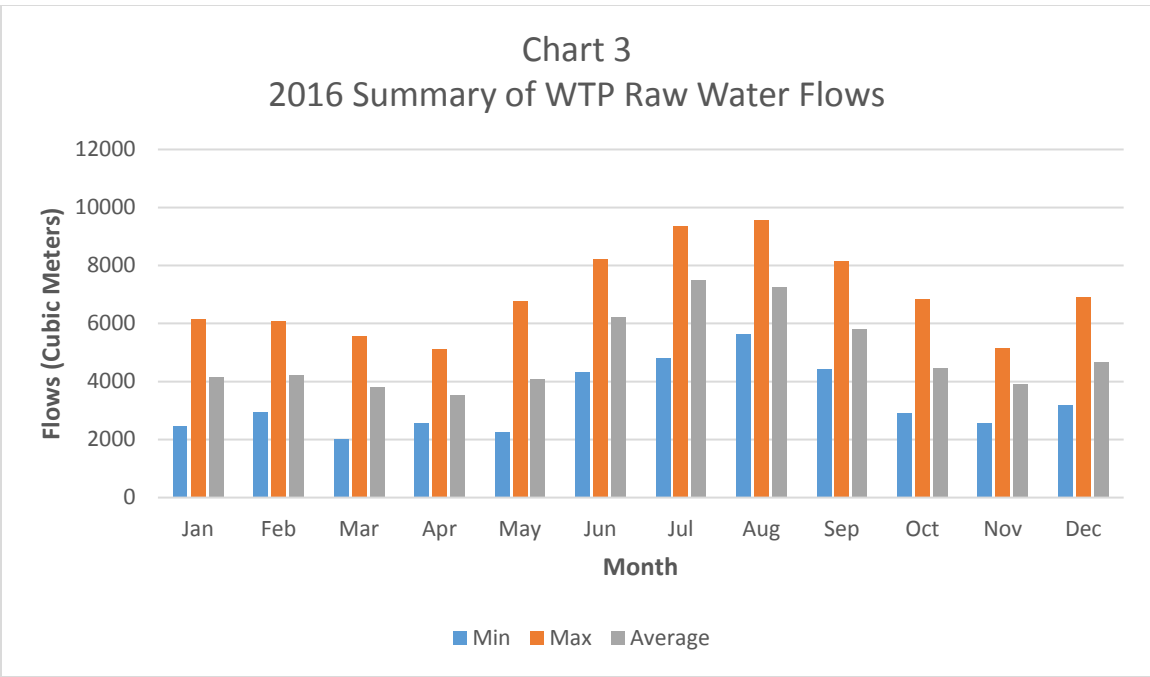


*Firm Capacity includes the supplemental Collingwood Supply of up to 1,250 m³/day

From June 1 through to and including September 1, the Town imposes restrictions on external water use. The restrictions are in force to encourage water conservation efforts as well as control maximum day demands. During 2016, the Town imposed Stage 1 water restrictions which restricts residents' external water use to between the hours of 7:00am and 9:00am and 7:00pm and 9:00pm on specified calendar days. Properties with odd numbered addresses can water on odd numbered calendar days. Properties with even numbered addresses can water on even numbered calendar days.

Raw Water Flows for the Thornbury Water Treatment Plant

Appended to this report (Appendix D) and included below in Chart 3 are the raw water flows into the Thornbury Water Treatment Plant for the 2016 reporting period. Minimum, maximum and average values are based on daily flows for the month.



Raw Water Flows Versus Capacity

A daily summary of the maximum daily flow rates expressed as a percentage of capacity is included in Appendix E.

Operational Overview

There were 5 watermain breaks in the 2016 reporting period. All breaks were repaired with minimal water service interruption to consumers.

Conclusion

The Blue Mountains Water Section continues to successfully operate its Water System in accordance with all Provincial Legislative requirements.



Sampling Locations

Week # 1	Week # 2	Week # 3	Week # 4	Week # 5
Sunset Blvd DE SS (030)	Lora Bay SS (031)	West Ridge DE Phase 1 SS (032)	Lora Bay East Ridge SS (002)	Lora Bay - John Watts & Rankins SS (001)
Carmichael Crescent SS (035)	Cameron Street SS (004)	Louisa Street East SS (008)	Sunset Blvd. DE SS (030)	Lora Bay Drive SS (031)
Duncan Street SS (005)	Far Hills Club - Alfred Street SS (024)	Geo. Ridge Estates - George McRae Road SS (033)	Edward Street SS (006)	Louisa / Hester SS (007)
Camperdown Court SS (012)	Geo. Bay Clubhouse PRV Chamber (009)	Aspen Way / Old Lakeshore SS (015)	Geo. Bay Clubhouse PRV Chamber (009)	Camperdown Court SS (012)
Blueski George Crescent SS (026)	Barclay Blvd SS (029)	Orchard - National Drive SS (025)	Camperdown - Stone Zack Lane SS (011)	Barclay Blvd. SS (029)
Drakes Path SS (018)	Oak Court SS (014)	Arlberg Crescent SS (017)	Teskey Drive SS (028)	Arlberg Crescent SS (017)
Patricia Drive SS (020)	Brophy's Lane SS (016)	Timmons Street SS (027)	Wards Road Booster Station	Monterra/Grand Cypress SS (019)
Mountain Road Booster Station	Monterra/ Grand Cypress SS (019)	Patricia Drive SS (020)	Mountain Road Booster Station	Mountain Road Booster Station
Swiss Meadows Standpipe	Mountain Road Booster Station	Mountain Road Booster Station	Mountain Road SS (021)	Patricia Drive SS (020)
Beaver Valley Community School	Swiss Meadows Scandia SS (022)	Swiss Meadows Maple SS (023)	Swiss Meadows Scandia SS (022)	Swiss Meadows Maple SS (023)

SS- Sample Station



Winter Sampling Locations

Week # 1	Week # 2	Week # 3	Week # 4	Week # 5
10th Line Booster Station	10th Line Booster Station	10th Line Booster Station	10th Line Booster Station	10th Line Booster Station
Water Operations Center	Water Operations Center	Water Operations Center	Water Operations Center	Water Operations Center
Beaver Valley Community School	Town Hall	Town Hall	Town Hall	Town Hall
Thornbury Reservoir	Thornbury Reservoir	Thornbury Reservoir	Thornbury Reservoir	Thornbury Reservoir
Camperdown Reservoir	Camperdown Reservoir	Camperdown Reservoir	Camperdown Reservoir	Camperdown Reservoir
Arrowhead Road Booster Station	Arrowhead Road Booster Station	Arrowhead Road Booster Station	Arrowhead Road Booster Station	Arrowhead Road Booster Station
Happy Valley Booster Station	Happy Valley Booster Station	Happy Valley Booster Station	Happy Valley Booster Station	Happy Valley Booster Station
Mountain Road Booster Station	Mountain Road Booster Station	Mountain Road Booster Station	Mountain Road Booster Station	Mountain Road Booster Station
Swiss Meadows Standpipe	Swiss Meadows Standpipe	Swiss Meadows Standpipe	Swiss Meadows Standpipe	Swiss Meadows Standpipe
Wards Road Booster Station	Wards Road Booster Station	Wards Road Booster Station	Wards Road Booster Station	Wards Road Booster Station

Compliance Report - 2016 Summary of Treated Water Flows

THORNBURY WATER TREATMENT PLANT

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1st	5500	3006.3	2539.5	2856.8	2956.3	4467.5	6019.8	6214.5	5507.3	3529.5	3583	3696.8
2nd	4615	3185	3381	3103.3	3885.5	5015.8	6643.3	6950.3	7299.5	4255	4109.8	3601
3rd	4329	3166	2528.5	3513	2722.8	6278.3	6744	7876.8	7050	3663.8	3392.3	3671.3
4th	2808	3090	4623	2526.8	3127.5	5710	6367	6982	6993.8	3955	3705.5	3074
5th	2734	4492.5	3427.5	2558.3	3828.8	3936.3	6646	8079.3	6618	3795.3	3341	3161.8
6th	3389	4211.8	3744.5	3493.3	2979.5	4812.8	6419.8	7447.8	5451.8	3709	4649.8	3161.8
7th	2713	4366.5	3012.8	2369.3	4551.5	5728	6195.8	7900.8	4505.8	6052.5	3716	2896.5
8th	4473	2960.5	3145.3	4196.5	3177.8	5129.3	6267.8	7175	4001.8	4913.5	3260	3332
9th	4050	2922.3	2387	3503.5	3275.3	5995.5	5093.5	6407.8	4956	5174.3	2652.8	3381.3
10th	4439	2936.3	2913.8	2947.8	4199.5	5360.5	5803.3	8473.5	5491.5	3845.8	3905.3	3071
11th	2786	3493.5	3874.8	2144.3	3922	4723.3	6625	7070.3	4798.3	5253.3	3659	4723.5
12th	3080	4132.5	3473	2676.3	3874.8	4968.5	6261.8	7201.3	5333	3931.5	4197.3	2901.5
13th	2595	5441.3	4879	2521	4030.8	5105	7170.3	6185	6352.8	4097	4372.8	3450.5
14th	2948	4625.3	4042	2800.5	3729.5	5211.5	6550.8	5079	4215	4038.8	2595	3884.8
15th	4251	4682	3213.5	4504	3794.5	4381	6249.5	5988	4987.3	4820.5	3372.5	3698.3
16th	4424	2647.3	4964.3	2860	5333	4840.5	5993	5618.5	5011.8	3714.5	2515	3746.5
17th	4231	4713	3255.3	2798.8	1935.5	6561.5	7471.3	5419.3	5151	3806.8	3897.8	4230.3
18th	3202	4101.5	4329.8	3696	2645.5	6934.8	5883.5	4982	3945.5	3718.8	3365	3182
19th	2269	4613.3	3476.8	2655.8	3593.3	6432.8	6603.5	7002	5134.3	2973.3	3585.3	3649.8
20th	3629	5227	4281.3	3280.3	2387.3	5296.5	6573.3	6054.5	4494	3110	2909.5	4639
21st	2626	4537	1835.8	2828.5	2940.8	6332	6658.3	5277.5	5112.3	4189	3238.5	4051.3
22nd	4989	3012	3345.5	3279.3	2231.8	5255.3	7834	7019	4231.5	3952	3150	4438.8
23rd	4594	2633	2390.5	3346	3044	6046.5	7998.8	5211.8	5264.5	3915.5	3580	4265.3
24th	3754	2937.3	2908	3230.8	2376	7108.3	6940.5	5609.8	4376.8	3285.5	3081	5162.5
25th	3823	3207.3	3064	3343	2892.5	7329.3	4250.5	5941.5	5086.5	3904.5	3451.5	5270.8
26th	2124	3790.3	4055.8	2330.8	3308.8	5976.5	7591.5	6790.5	4452	3281.5	3848.5	6179.8
27th	3524	4954.3	3887.3	3760.3	4679.5	4508.3	6223.5	6734.3	4113.5	3559.3	4035.5	6000
28th	2531	3465.8	2719.3	2933.8	6118	4520	8377	6182	4635.8	3566	3255.5	5043.3
29th	4790	2850	2848.8	3662.5	4388.3	6448.8	7970	6030.8	4706	3808.5	2909.5	6095.8
30th	3976		3498.3	4027.5	5834.5	6003.3	8044	5776.8	5829	4178.5	2312.3	5389.5
31st	4398		2450.5		5241.8		7163.3	6285		2550		5538.3
Total	113590	109401	104497	93748	113007	166418	206634	200967	155106	122549	103647	128589
Average	3664	3772	3371	3125	3645	5547	6666	6483	5170	3953	3455	4148
Max	5500	5441.3	4964.3	4504	6118	7329.3	8377	8473.5	7299.5	6052.5	4649.8	6179.8
Min	2124	2633	1835.8	2144.3	1935.5	3936.3	4250.5	4982	3945.5	2550	2312.3	2896.5

All flows are in cubic meters

Compliance Report - 2016 Summary of Supplemental Flows from Town of Collingwood

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1st	475	474	477	474	475	445	431	475	474	475	476	476
2nd	474	474	474	476	474	430	431	476	475	474	475	474
3rd	473	476	473	474	474	430	432	475	473	475	474	475
4th	474	475	475	473	476	431	431	474	475	473	477	476
5th	475	475	475	474	475	431	412	466	473	476	474	475
6th	475	475	472	462	476	431	432	475	475	474	473	475
7th	474	474	474	477	476	431	432	473	474	475	474	476
8th	475	477	477	474	473	431	431	474	474	474	474	473
9th	474	474	474	475	476	432	431	475	474	476	274	476
10th	475	476	474	474	475	431	430	476	411	462	299	473
11th	474	475	472	475	349	432	432	475	473	476	476	474
12th	473	476	474	475	249	431	431	476	470	475	475	476
13th	475	474	455	475	473	431	439	474	474	476	474	476
14th	473	474	475	475	474	431	439	475	475	474	470	474
15th	474	474	477	474	474	430	464	474	474	475	435	474
16th	473	474	473	474	476	431	474	474	474	475	476	474
17th	474	474	475	474	986	431	473	473	475	304	476	474
18th	475	475	476	475	1458	432	476	391	474	248	477	474
19th	475	470	475	474	2010	432	474	475	474	484	476	475
20th	476	473	474	478	2654	430	475	475	474	484	474	475
21st	475	474	474	475	2833	430	475	475	474	477	476	474
22nd	295	476	475	474	3015	431	475	474	475	474	476	477
23rd	325	475	476	474	3015	432	475	472	474	474	463	475
24th	474	476	475	475	1892	430	475	509	476	475	477	475
25th	478	474	476	474	1610	430	2061	474	454	474	476	475
26th	476	477	474	474	2013	430	1031	474	474	472	474	476
27th	476	475	475	477	1659	433	474	474	476	477	475	473
28th	475	474	474	474	431	431	473	475	474	475	475	476
29th	476	475	473	476	431	430	475	473	475	475	475	474
30th	474		474	474	431	431	473	474	472	474	476	473
31st	474		473		431		475	462		475		475
Total	14384	13765	14690	14229	32114	12942	16232	14637	14139	14327	13822	14718
Average	464	475	474	474	1036	431	524	472	471	462	461	475
Max	478	477	477	478	3015	445	2061	509	476	484	477	477
Min	295	470	455	462	249	430	412	391	411	248	274	473

All flows are in cubic meters

Compliance Report - 2016 Summary of Raw Water Flows

THORNBURY WATER TREATMENT PLANT

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1st	6152	3318	2798	3223	3286	5033	6657	6921.5	6133.2	3953.4	4094.8	4194.3
2nd	5127	3535	3767	3466	4294	5763	7391	7776.8	8146.5	4755.6	4687.5	4008.4
3rd	4816	3512	2831	3956	3008	7095	7576	8833.3	7984.9	4090.2	3966.4	4093.9
4th	3114	3412	5211	2788	3481	6338	7065	7766.9	7825.8	4397.4	4134	3398.5
5th	3311	5128	3980	2960	4348	4314	7471	9005.5	7401.6	4208.8	3759.8	3623.3
6th	3789	4713	4239	4144	3350	5234	7338	8309.3	6067.4	4275.3	5155.9	3658.4
7th	3004	4852	3388	2869	5081	6288	6962	8768.8	5284.9	6834.9	4141.6	3200.6
8th	4993	3274	3526	4949	3545	5722	7049	8236.3	4445.5	5484.1	3600.9	3791.9
9th	4525	3267	2709	4089	3634	6953	5726	7147.1	5511.1	5748	2928.6	3735.1
10th	4954	3267	3269	3277	4700	6009	6539	9575.5	6099.9	4283.6	4353.3	3434.8
11th	3191	3997	4438	2806	4342	5221	7464	7896.9	5332.1	5855.7	4055.8	5278.5
12th	3611	4623	3888	3246	4317	5559	7049	7996.3	5944.2	4458.3	4677	3195
13th	2881	6091	5463	2819	4478	5667	8019	7085.5	7078.6	4583.9	4946.5	3817.1
14th	3284	5179	4488	3102	4164	5794	7539	5738.9	4908.6	4540.7	2923.4	4339.4
15th	4764	5295	3639	5106	4249	5000	6960	6652.1	5554.3	5344.2	3759.6	4417.3
16th	4904	2971	5552	3203	6117	5406	6746	6240.7	5589.4	4163.5	2907.3	4194
17th	4699	5257	3637	3101	2264	7340	8318	6009.2	5745.1	4258.8	4307.1	4723.6
18th	3922	4598	5030	4103	2925	7822	6803	5646	4417.9	4156.4	3750.8	3562.9
19th	2753	5135	3888	2958	3964	7146	7616	7721.8	5757.1	3279.7	5010.3	4347.5
20th	4278	5836	4750	3674	2795	5917	7339	6745.9	4987.3	3557.8	3292.3	5303.9
21st	2908	5049	2005	3231	3249	7154	7547	5947.1	5699.1	4678.8	3592.5	4523.9
22nd	5558	3500	3710	3630	2493	5876	8692	7827.4	4715.9	4415.8	3660.5	5098.4
23rd	5138	2933	2694	3737	3385	6714	8989	5807.6	5867.4	4336.3	3984.9	4751.1
24th	4167	3363	3323	3610	2643	7849	7769	6251	4893.1	3668.5	3545.1	5791.5
25th	4284	3753	3388	3716	3204	8227	4802	6615.8	5692.2	4565.5	3814	5868.9
26th	2476	4233	4516	2570	3696	6764	8386	7691.5	4955.4	3879.8	4232.5	6904.8
27th	4017	5494	4420	4207	5353	5141	7032	7534.2	4613.6	4234.8	4496.5	6795.6
28th	2848	3850	3015	3257	6782	5023	9363.4	6909.3	5257.9	3988.5	3638.9	5599.8
29th	5333	3260	3234	4156	4886	7233	8954.3	6696.6	5279.3	4239.8	3215.9	6830.5
30th	4515		3946	4483	6462	6653	9001.3	6431.9	6536.1	4670	2559.6	6054.9
31st	4931		2950		5857		8009.4	7081.3		2918.5		6375.5
Total	128247	122695	117692	106436	126352	186255	232172.4	224868	173725.4	137826.6	117193.3	144913.3
Avg	4137	4231	3797	3548	4076	6209	7489	7254	5791	4446	3906	4675
High	6152	6091	5552	5106	6782	8227	9363.4	9575.5	8146.5	6834.9	5155.9	6904.8
Low	2476	2933	2005	2570	2264	4314	4802	5646	4417.9	2918.5	2559.6	3195

All flows are in cubic meters

2016 Maximum Raw Daily Flow Rates Expressed as a Percentage of Capacity (15,140 m³ per day)

	Jan	% of Flow	Feb	% of Flow	Mar	% of Flow	Apr	% of Flow	May	% of Flow	Jun	% of Flow	Jul	% of Flow	Aug	% of Flow	Sep	% of Flow	Oct	% of Flow	Nov	% of Flow	Dec	% of Flow
1st	6152	40.63	3318	21.92	2798	18.48	3223	21.29	3286	21.70	5033	33.24	6657	43.97	6922	45.72	6133	40.51	3953	26.11	4095	27.05	4194	27.70
2nd	5127	33.86	3535	23.35	3767	24.88	3466	22.89	4294	28.36	5763	38.06	7391	48.82	7777	51.37	8147	53.81	4756	31.41	4688	30.96	4008	26.48
3rd	4816	31.81	3512	23.20	2831	18.70	3956	26.13	3008	19.87	7095	46.86	7576	50.04	8833	58.34	7985	52.74	4090	27.02	3966	26.20	4094	27.04
4th	3114	20.57	3412	22.54	5211	34.42	2788	18.41	3481	22.99	6338	41.86	7065	46.66	7767	51.30	7826	51.69	4397	29.04	4134	27.31	3399	22.45
5th	3311	21.87	5128	33.87	3980	26.29	2960	19.55	4348	28.72	4314	28.49	7471	49.35	9006	59.48	7402	48.89	4209	27.80	3760	24.83	3623	23.93
6th	3789	25.03	4713	31.13	4239	28.00	4144	27.37	3350	22.13	5234	34.57	7338	48.47	8309	54.88	6067	40.07	4275	28.24	5156	34.05	3658	24.16
7th	3004	19.84	4852	32.05	3388	22.38	2869	18.95	5081	33.56	6288	41.53	6962	45.98	8769	57.92	5285	34.91	6835	45.14	4142	27.36	3201	21.14
8th	4993	32.98	3274	21.62	3526	23.29	4949	32.69	3545	23.41	5722	37.79	7049	46.56	8236	54.40	4446	29.37	5484	36.22	3601	23.78	3792	25.05
9th	4525	29.89	3267	21.58	2709	17.89	4089	27.01	3634	24.00	6953	45.92	5726	37.82	7147	47.21	5511	36.40	5748	37.97	2929	19.34	3735	24.67
10th	4954	32.72	3267	21.58	3269	21.59	3277	21.64	4700	31.04	6009	39.69	6539	43.19	9576	63.25	6100	40.29	4284	28.29	4353	28.75	3435	22.69
11th	3191	21.08	3997	26.40	4438	29.31	2806	18.53	4342	28.68	5221	34.48	7464	49.30	7897	52.16	5332	35.22	5856	38.68	4056	26.79	5279	34.86
12th	3611	23.85	4623	30.54	3888	25.68	3246	21.44	4317	28.51	5559	36.72	7049	46.56	7996	52.81	5944	39.26	4458	29.45	4677	30.89	3195	21.10
13th	2881	19.03	6091	40.23	5463	36.08	2819	18.62	4478	29.58	5667	37.43	8019	52.97	7086	46.80	7079	46.76	4584	30.28	4947	32.67	3817	25.21
14th	3284	21.69	5179	34.21	4488	29.64	3102	20.49	4164	27.50	5794	38.27	7539	49.80	5739	37.91	4909	32.42	4541	29.99	2923	19.31	4339	28.66
15th	4764	31.47	5295	34.97	3639	24.04	5106	33.73	4249	28.06	5000	33.03	6960	45.97	6652	43.94	5554	36.68	5344	35.30	3760	24.83	4417	29.18
16th	4904	32.39	2971	19.62	5552	36.67	3203	21.16	6117	40.40	5406	35.71	6746	44.56	6241	41.22	5589	36.92	4164	27.50	2907	19.20	4194	27.70
17th	4699	31.04	5257	34.72	3637	24.02	3101	20.48	2264	14.95	7340	48.48	8318	54.94	6009	39.69	5745	37.95	4259	28.13	4307	28.45	4724	31.20
18th	3922	25.90	4598	30.37	5030	33.22	4103	27.10	2925	19.32	7822	51.66	6803	44.93	5646	37.29	4418	29.18	4156	27.45	3751	24.77	3563	23.53
19th	2753	18.18	5135	33.92	3888	25.68	2958	19.54	3964	26.18	7146	47.20	7616	50.30	7722	51.00	5757	38.03	3280	21.66	5010	33.09	4348	28.72
20th	4278	28.26	5836	38.55	4750	31.37	3674	24.27	2795	18.46	5917	39.08	7339	48.47	6746	44.56	4987	32.94	3558	23.50	3292	21.75	5304	35.03
21st	2908	19.21	5049	33.35	2005	13.24	3231	21.34	3249	21.46	7154	47.25	7547	49.85	5947	39.28	5699	37.64	4679	30.90	3593	23.73	4524	29.88
22nd	5558	36.71	3500	23.12	3710	24.50	3630	23.98	2493	16.47	5876	38.81	8692	57.41	7827	51.70	4716	31.15	4416	29.17	3661	24.18	5098	33.68
23rd	5138	33.94	2933	19.37	2694	17.79	3737	24.68	3385	22.36	6714	44.35	8989	59.37	5808	38.36	5867	38.75	4336	28.64	3985	26.32	4751	31.38
24th	4167	27.52	3363	22.21	3323	21.95	3610	23.84	2643	17.46	7849	51.84	7769	51.31	6251	41.29	4893	32.32	3669	24.23	3545	23.42	5792	38.25
25th	4284	28.30	3753	24.79	3388	22.38	3716	24.54	3204	21.16	8227	54.34	4802	31.72	6616	43.70	5692	37.60	4566	30.16	3814	25.19	5869	38.76
26th	2476	16.35	4233	27.96	4516	29.83	2570	16.97	3696	24.41	6764	44.68	8386	55.39	7692	50.81	4955	32.73	3880	25.63	4233	27.96	6905	45.61
27th	4017	26.53	5494	36.29	4420	29.19	4207	27.79	5353	35.36	5141	33.96	7032	46.45	7534	49.76	4614	30.48	4235	27.97	4497	29.70	6796	44.89
28th	2848	18.81	3850	25.43	3015	19.91	3257	21.51	6782	44.80	5023	33.18	9363	61.84	6909	45.63	5258	34.73	3989	26.34	3639	24.04	5600	36.99
29th	5333	35.22	3260	21.53	3234	21.36	4156	27.45	4886	32.27	7233	47.77	8954	59.14	6697	44.23	5279	34.87	4240	28.00	3216	21.24	6831	45.12
30th	4515	29.82			3946	26.06	4483	29.61	6462	42.68	6653	43.94	9001	59.45	6462	42.68	6536	43.17	4670	30.85	2560	16.91	6055	39.99
31st	4931	32.57			2950	19.48			5857	38.69			8009	52.90	7081	46.77			2919	19.28			6376	42.11

Avg	4137		4231		3797		3548		4076		6209		7489		7255		5791		4446		3906		4675
High	6152		6091		5552		5106		6782		8227		9363		9576		8147		6835		5156		6905
Low	2476		2933		2005		2570		2264		4314		4802		5646		4418		2919		2560		3195

All flows are in cubic metres



ANNUAL REPORT TEMPLATE

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
Period being reported:	January 1, 2016 to December 31, 2016

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [X] No []</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Town of The Blue Mountains 32 Mill Street, Thornbury, ON</p> <p>Town Website: www.thebluemountains.ca</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input style="width: 50px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No [X]</p> <p>Number of Interested Authorities you report to: <input style="width: 50px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No [X]</p>
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List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [] No [X]



Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method _____

Describe your Drinking-Water System

The Thornbury Water Treatment Plant is located at 230 Peel Street. The water source is Georgian Bay, part of the Great Lakes Water System.

A 569m long, 600mm diameter raw water intake pipe extends approximately 569m into Georgian Bay. A 38mm diameter chlorine feed line and a chlorine solution diffuser provides pre-chlorination and also zebra mussel control. Raw water sampling is accomplished by utilizing a 25mm diameter sampling line which extends out from the intake bell.

After entering the intake, three (3) low lift vertical turbine pumps (2 duty, 1 standby) deliver the raw water to two (2) 0.30mm strainers before it is directed to the microfiltration units.

The microfiltration units consist of three (3) trains of 240 microfiltration modules (80 modules per train) complete with three (3) valve racks and controls. The microfiltration units filter the raw water by forcing it through 0.1 micron sized membranes.

Two (2) reverse filtration pumps (1 duty, 1 standby) are used to backwash the microfiltration units into Modified Reverse Filtration Filter (MRFF). The MRFF (modified original mixed media filter) is isolated from the potable water system and is used to filter the reverse filtration water from the microfiltration units and the backflush discharge from the strainers. This waste filtrate water is monitored for chlorine residual and chemically de-chlorinated before being discharged into the Little Beaver River.

After being filtered, the treated water is discharged into a common header where it is chlorinated (post-chlorination) prior to being drawn by three (3) high lift vertical turbine pumps (2 duty, 1 standby) and pumped through the ultraviolet disinfection system. The ultraviolet system consists of three (3) Trojan UV Reactors (2 duty, 1 standby) which provide 100% treatment capacity prior to delivery to the Town's distribution system. Ultraviolet is the method of disinfection in which ultraviolet irradiation is used to inactivate target organisms in the water source and is the primary disinfection used at the Thornbury WTP.

Control of the high lift pumps is via level in the 747 m³ elevated storage tank located on Victoria Street in Thornbury.



The distribution system consists of approximately 120 kilometers of watermain ranging in size from 50mm to 400mm. Distribution facilities consist of an elevated tank, 6 booster stations, 2 in-ground reservoirs complete with booster stations, 2 grade level reservoirs and 1 standpipe.

Thornbury Water Tower

An elevated storage tank is located on Victoria Street in Thornbury and is referred to as the Thornbury Water Tower. This Town has a capacity of 747 m³. The Tower level supplies water pressure to the 10th Line Booster Station, Thornbury Reservoir, Camperdown Court Booster Station and Arrowhead Road Booster Station.

10th Line Booster Station

A booster station and re-chlorination facility is located at the 10th Concession and Highway No. 26 and is referred to as the 10th Line Booster Station. The water pressure at this station is boosted for higher distribution pressures and volume to provide fire flows throughout the Lora Bay Service Area. 100% standby power is available at this station. The firm capacity at this station is 66.67 l/s.

Thornbury Reservoir

A treated water reservoir, booster station and re-chlorination facility is located at 1 Grey Street South, Unit 1 in Thornbury and is referred to as the Thornbury Reservoir. The Thornbury Reservoir is equipped with three centrifugal pumps, re-chlorination equipment and 100% standby power. The firm capacity at this station is 150 l/s.

Camperdown Reservoir

A treated water reservoir, pumphouse and re-chlorination facility is located at 109 Camperdown Road and is referred to as the Camperdown Reservoir. This in-ground reservoir and booster station is equipped with two centrifugal operating pumps, one centrifugal fire pump, re-chlorination equipment and 100% standby power. The firm capacity to the upper zone is 12.3 l/s.

Camperdown Court Booster Station

A booster pumping station is located at 103 Camperdown Court and is referred to as the Camperdown Court Booster Station. This booster station is equipped with two centrifugal pumps with standby power supplied by the Camperdown Reservoir. The firm capacity at this station is 85 l/s.

Wards Road Booster Station

A booster station is located at 153 Wards Road and is referred to as the Wards Road Booster Station. This booster station is equipped with two centrifugal pumps. This station is equipped with 100% standby power. The firm capacity at this station is 16 l/s.

Arrowhead Road Booster Station



A booster station is located at 122 Arrowhead Road and is referred to as the Arrowhead Road Booster Station. This station is equipped with three vertical turbine pumps, re-chlorination equipment and 40% standby power. Provisions were made through piping and valving to reverse the flow of water from the Craigeith Service Area to the Camperdown and Thornbury Service Areas. The firm capacity at this station is 40 l/s.

Happy Valley Reservoirs

Two reservoirs are located at 136 Happy Valley Road and are referred to as the Happy Valley Road Reservoirs. These reservoir shave a combined capacity of 5,000 m³.

Happy Valley Road Booster Station

A booster pumping station is also located at 136 Happy Valley Road and is referred to as the Happy Valley Road Booster Station. This station is equipped with two pumps and re-chlorination equipment. The firm capacity of this station is 5.35 l/s.

Swiss Meadows Standpipe

A 536 m³ standpipe is located at 154 Scandia Lane above the Swiss Meadows subdivision.

Mountain Road Booster Station

A booster pumping station is located at 795930 at the intersection of Grey Road 19 and Grey Road 21 and is referred to as the Mountain Road Booster. This station is equipped with two in-line water booster pumps and re-chlorination equipment. This station has a firm capacity of 46 l/s. The water supply for this station is received from the Town of Collingwood.

List all water treatment chemicals used over this reporting period

Chlorine (liquefied gas)
Sodium Hypochlorite (12%)
Citric Acid
Sodium Hydroxide
Calcium Thiosulphate

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment



Please provide a brief description and a breakdown of monetary expenses incurred

Chlorine Pumps & Analyzers Replacement

Replacement of chlorine pumps and chlorine analyzers

Expended this year: \$14,381

Infrastructure Locating Device

Replacement of acoustic listening device used to locate leaks which has reached the end of its useful life

Expended this year: \$13,880

Emergency Trailer

Replacement of emergency trailer that has reached the end of its useful life

Expended this year: \$10,577

Confined Space Equipment Replacement

Replacement of existing confined space equipment that has reached the end of its useful life

Expended this year: \$6,500

Pall Programmable Logic Control (PLC) Redundancy

Replacement of original Pall PLC with two new PLC's

Expended this year: \$11,228

High Lift Pump Upgrade

Replacement of two high lift pumps

Expended this year: \$107,674

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
There were no incidents of adverse drinking water during this reporting period					



Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	53	0 to 216	0 to 360		
Treated	53	0	0	53	0 to 4
Distribution	535	0	0	424	0 to 62

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)	Unit of Measure
Turbidity			
Treated	8760	0.015 to 0.737	NTU
Rack 1	8760	0.010 to 0.862	NTU
Rack 2	8760	0.015 to 0.800	NTU
Rack 3	8760	0.011 to 0.489	NTU
Chlorine			
Finish	8760	1.139 to 1.698	mg/L
Thornbury Reservoir	8760	0.721 to 1.926	mg/L
10th Line Booster Station	8760	1.263 to 2.774	mg/L
Arrowhead Road Booster Station	8760	0.789 to 2.369	mg/L
Arrowhead Road Booster Station By-pass	8760	0.699 to 1.950	mg/L
Happy Valley Booster Station	8760	0.851 to 2.511	mg/L
Camperdown Reservoir Upper Zone	8760	1.021 to 2.652	mg/L
Camperdown Influent / Effluent	8760	1.064 to 2.580	mg/L
Mountain Road Booster Station	8760	1.063 to 2.480	mg/L
Distribution	6439	0.23 to 2.050	mg/L
Fluoride (If the DWS provides fluoridation)			

NOTE: For continuous monitors use 8760 as the number of samples.



Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
Municipal Drinking Water License Number: 111-101 Issue Number: 2	Suspended Solids			

*** Please see attached additional sampling results for Trihalomethanes, Process Wastewater Suspended Solids, Nitrate, Nitrite and Microcystin**

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	March 21, 2016	0.10	ug/L	No
Arsenic	March 21, 2016	0.4	ug/L	No
Barium	March 21, 2016	13.5	ug/L	No
Boron	March 21, 2016	14	ug/L	No
Cadmium	March 21, 2016	0.003	ug/L	No
Chromium	March 21, 2016	0.08	ug/L	No
*Lead			ug/L	No
Mercury	March 21, 2016	0.01	ug/L	No
Sodium	March 21, 2016	5.10	mg/L	No
Uranium	March 21, 2016	0.158	ug/L	No
Fluoride	March 23, 2015	0.11	mg/L	No
Nitrite	December 5, 2016	0.003	mg/L	No
Nitrate	December 5, 2016	0.250	mg/L	No

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Plumbing	N/A			
Distribution	N/A			

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Mar 21, 2016	0.02	ug/L	No
Atrazine + N-dealkylated metabolites	Mar 21, 2016	0.02	ug/L	No
Benzene	Mar 21, 2016	0.32	ug/L	No
Benzo(a)pyrene	Mar 21, 2016	0.004	ug/L	No
Bromoxynil	Mar 21, 2016	0.33	ug/L	No
Carbaryl	Mar 21, 2016	0.05	ug/L	No
Carbofuran	Mar 21, 2016	0.01	ug/L	No
Carbon Tetrachloride	Mar 21, 2016	0.16	ug/L	No
Chlorpyrifos	Mar 21, 2016	0.02	ug/L	No
Diazinon	Mar 21, 2016	0.02	ug/L	No
Dicamba	Mar 21, 2016	0.20	ug/L	No
1,2-Dichlorobenzene	Mar 21, 2016	0.41	ug/L	No
1,4-Dichlorobenzene	Mar 21, 2016	0.36	ug/L	No
1,2-Dichloroethane	Mar 21, 2016	0.35	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Mar 21, 2016	0.33	ug/L	No
Dichloromethane	Mar 21, 2016	0.35	ug/L	No
2-4 Dichlorophenol	Mar 21, 2016	0.15	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Mar 21, 2016	0.19	ug/L	No
Diclofop-methyl	Mar 21, 2016	0.40	ug/L	No
Dimethoate	Mar 21, 2016	0.03	ug/L	No
Diquat	Mar 21, 2016	1	ug/L	No
Diuron	Mar 21, 2016	0.03	ug/L	No
Glyphosate	Mar 21, 2016	1	ug/L	No
Malathion	Mar 21, 2016	0.02	ug/L	No
Metolachlor	Mar 21, 2016	0.1	ug/L	No
Metribuzin	Mar 21, 2016	0.02	ug/L	No
Monochlorobenzene	Mar 21, 2016	0.3	ug/L	No
Paraquat	Mar 21, 2016	1	ug/L	No
Pentachlorophenol	Mar 21, 2016	0.15	ug/L	No
Phorate	Mar 21, 2016	0.01	ug/L	No
Picloram	Mar 21, 2016	1	ug/L	No
Polychlorinated Biphenyls(PCB)	Mar 21, 2016	0.04	ug/L	No
Prometryne	Mar 21, 2016	0.03	ug/L	No
Simazine	Mar 21, 2016	0.01	ug/L	No
THM (NOTE: show latest annual average)	Dec 5, 2016	43	ug/L	No
Terbufos	Mar 21, 2016	0.01	ug/L	No
Tetrachloroethylene	Mar 21, 2016	0.35	ug/L	No
2,3,4,6-Tetrachlorophenol	Mar 21, 2016	0.20	ug/L	No

Triallate	Mar 21, 2016	0.01	ug/L	No
Trichloroethylene	Mar 21, 2016	0.44	ug/L	No
2,4,6-Trichlorophenol	Mar 21, 2016	0.25	ug/L	No
Trifluralin	Mar 21, 2016	0.02	ug/L	No
Vinyl Chloride	Mar 21, 2016	0.17	ug/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Trihalomethanes	70	ug/L	September 6, 2016
Trihalomethanes	56	ug/L	December 5, 2016

Water Quality Report 2016

Sample for: Trihalomethanes - Treated (ug/L)

Date	# of Samples	Location	Results / Range
04-Jan-16	1	Camperdown Reservoir	28
4-Jan-16	1	Swiss Meadows Standpipe	44
07-Mar-16	1	Camperdown Reservoir	26
07-Mar-16	1	Swiss Meadows Standpipe	35
06-June-16	1	Blueski George Crescent SS (026)	25
06-June-16	1	Swiss Meadows Standpipe	49
6-Sep-16	1	Sunset Blvd. DE SS (030)	50
6-Sep-16	1	Swiss Meadows Standpipe	70
05-Dec-16	1	Camperdown Reservoir	43
05-Dec-16	1	Swiss Meadows Standpipe	56
		Annual Average	43

Sample for: Process Wastewater Total Suspended Solids (mg/L)

Date	# of Samples	Location	Results / Range
04-Jan-16	1	Thornbury WTP	26
01-Feb-16	1	Thornbury WTP	4
07-Mar-16	1	Thornbury WTP	2
18-Apr-16	1	Thornbury WTP	9
2-May-16	1	Thornbury WTP	2
6-Jun-16	1	Thornbury WTP	2
4-Jul-16	1	Thornbury WTP	3
2-Aug-16	1	Thornbury WTP	2
3-Sep-16	1	Thornbury WTP	3
7-Nov-16	1	Thornbury WTP	3
5-Dec-16	1	Thornbury WTP	8
		Annual Average	5.6

Water Quality Report 2016

Sample for: Nitrate - Raw & Treated (mg/L)

Date	# of Samples	Location	Results / Range
04-Jan-16	1	Thornbury WTP - Raw Water	0.261
04-Jan-16	1	Little Beaver River Source Protection	1.42
04-Jan-16	1	Beaver River Source Protection	0.727
04-Jan-16	1	Indian Brook	2.42
04-Jan-16	1	Thornbury WTP - Treated Water	0.268
01-Feb-16	1	Thornbury WTP - Treated Water	0.339
01-Feb-16	1	Thornbury WTP - Raw Water	0.263
07-Mar-16	1	Thornbury WTP - Raw Water	0.288
07-Mar-16	1	Thornbury WTP - Treated Water	0.299
07-Mar-16	1	Indian Brook	2.11
07-Mar-16	1	Little Beaver River Source Protection	1.450
07-Mar-16	1	Beaver River Source Protection	1.11
04-Apr-16	1	Thornbury WTP - Treated Water	0.274
04-Apr-16	1	Thornbury WTP - Raw Water	0.334
04-Apr-16	1	Little Beaver River Source Protection	1.22
04-Apr-16	1	Big Head River Source Protection	0.946
04-Apr-16	1	Beaver River Source Protection	0.752
04-Apr-16	1	Indian Brook	1.71
02-May-16	1	Thornbury WTP - Treated Water	0.288
02-May-16	1	Thornbury WTP - Raw Water	0.301
06-June-16	1	Thornbury WTP - Raw Water	0.245
06-June-16	1	Thornbury WTP - Treated Water	0.247
04-Jul-16	1	Thornbury WTP - Treated Water	0.246
04-Jul-16	1	Thornbury WTP - Raw Water	0.241
04-Jul-16	1	Little Beaver River Source Protection	0.244
04-Jul-16	1	Big Head River Source Protection	0.539
04-Jul-16	1	Beaver River Source Protection	0.417
04-Jul-16	1	Indian Brook	0.187
02-Aug-16	1	Thornbury WTP - Treated Water	0.228
02-Aug-16	1	Thornbury WTP - Raw Water	0.219
06-Sep-16	1	Thornbury WTP - Raw Water	0.204
06-Sep-16	1	Thornbury WTP - Treated Water	0.211
3-Oct-16	1	Thornbury WTP - Raw Water	0.260
3-Oct-16	1	Little Beaver River Source Protection	0.440
3-Oct-16	1	Big Head River Source Protection	0.277
3-Oct-16	1	Beaver River Source Protection	0.288
3-Oct-16	1	Indian Brook	0.240
7-Nov-16	1	Thornbury WTP - Raw Water	0.223
7-Nov-16	1	Thornbury WTP - Treated Water	0.223

5-Dec-16	1	Thornbury WTP - Raw Water	0.257
5-Dec-16	1	Little Beaver River Source Protection	1.690
5-Dec-16	1	Big Head River Source Protection	1.350
5-Dec-16	1	Beaver River Source Protection	0.667
5-Dec-16	1	Indian Brook	1.950
5-Dec-16	1	Thornbury WTP - Treated Water	0.250

Water Quality Report 2016

Sample for: Nitrite - Raw & Treated (mg/L)

Date	# of Samples	Location	Results / Range
04-Jan-16	1	Thornbury WTP - Raw Water	0.003
04-Jan-16	1	Little Beaver River Source Protection	0.003
04-Jan-16	1	Beaver River Source Protection	0.003
04-Jan-16	1	Indian Brook	0.003
04-Jan-16	1	Thornbury WTP - Treated Water	0.003
01-Feb-16	1	Thornbury WTP - Treated Water	0.003
01-Feb-16	1	Thornbury WTP - Raw Water	0.004
07-Mar-16	1	Thornbury WTP - Raw Water	0.005
07-Mar-16	1	Thornbury WTP - Treated Water	0.003
07-Mar-16	1	Indian Brook	0.003
07-Mar-16	1	Little Beaver River Source Protection	0.004
07-Mar-16	1	Beaver River Source Protection	0.003
04-Apr-16	1	Thornbury WTP - Treated Water	0.003
04-Apr-16	1	Thornbury WTP - Raw Water	0.004
04-Apr-16	1	Little Beaver River Source Protection	0.003
04-Apr-16	1	Big Head River Source Protection	0.003
04-Apr-16	1	Beaver River Source Protection	0.003
04-Apr-16	1	Indian Brook	0.003
02-May-16	1	Thornbury WTP - Treated Water	0.003
02-May-16	1	Thornbury WTP - Raw Water	0.003
06-June-16	1	Thornbury WTP - Treated Water	0.003
06-June-16	1	Thornbury WTP - Raw Water	0.005
04-Jul-16	1	Thornbury WTP - Raw Water	0.003
04-Jul-16	1	Little Beaver River Source Protection	0.003
04-Jul-16	1	Big Head River Source Protection	0.003
04-Jul-16	1	Beaver River Source Protection	0.006
04-Jul-16	1	Indian Brook	0.003
04-Jul-16	1	Thornbury WTP - Treated Water	0.003
02-Aug-16	1	Thornbury WTP - Treated Water	0.003
02-Aug-16	1	Thornbury WTP - Raw Water	0.003
06-Sep-16	1	Thornbury WTP - Treated Water	0.003
06-Sep-16	1	Thornbury WTP - Raw Water	0.003
03-Oct-16	1	Thornbury WTP - Raw Water	0.003
03-Oct-16	1	Little Beaver River Source Protection	0.044
3-Oct-16	1	Big Head River Source Protection	0.003
3-Oct-16	1	Beaver River Source Protection	0.003
3-Oct-16	1	Indian Brook	0.003
7-Nov-16	1	Thornbury WTP - Raw Water	<0.003
7-Nov-16	1	Thornbury WTP - Treated Water	0.003
5-Dec-16	1	Thornbury WTP - Raw Water	0.003

5-Dec-16	1	Little Beaver River Source Protection	0.003
5-Dec-16	1	Big Head River Source Protection	0.003
5-Dec-16	1	Beaver River Source Protection	0.005
5-Dec-16	1	Indian Brook	0.003
5-Dec-16	1	Thornbury WTP - Treated Water	0.003

Water Quality Report 2016

Sample for: Microcystin Analysis (ug/L)

Date	# of Samples	Location	Results/Range
06-Jun-16	1	Thornbury WTP - Raw	0.05
06-June-16	1	Thornbury WTP - Treated	0.05
06-June-16	1	Swiss Meadows Standpipe	0.05
13-June-16	1	Thornbury WTP - Raw	0.05
13-June-16	1	Thornbury WTP - Treated	0.05
13-June-16	1	Swiss Meadows Standpipe	0.05
20-June-16	1	Thornbury WTP - Raw	0.05
20-June-16	1	Thornbury WTP - Treated	0.05
20-Jun-16	1	Swiss Meadows Standpipe	0.05
27-Jun-16	1	Thornbury WTP - Raw	0.05
27-Jun-16	1	Thornbury WTP - Treated	0.05
27-Jun-16	1	Thornbury WTP - Raw	0.05
27-Jun-16	1	Thornbury WTP - Treated	0.05
27-Jun-16	1	Swiss Meadows Standpipe	0.05
04-Jul-16	1	Thornbury WTP - Raw	0.05
04-Jul-16	1	Thornbury WTP - Treated	0.05
04-Jul-16	1	Swiss Meadows Standpipe	0.05
11-Jul-16	1	Thornbury WTP - Raw	0.10
11-Jul-16	1	Thornbury WTP - Treated	0.10
11-Jul-16	1	Swiss Meadows Standpipe	0.10
18-Jul-18	1	Thornbury WTP - Raw	0.10
18-Jul-18	1	Thornbury WTP - Treated	0.10
18-Jul-18	1	Swiss Meadows Standpipe	0.10
25-Jul-18	1	Thornbury WTP - Raw	0.10
25-Jul-18	1	Thornbury WTP - Treated	0.10
25-Jul-18	1	Swiss Meadows Standpipe	0.10
02-Aug-16	1	Thornbury WTP - Raw	0.10
02-Aug-16	1	Thornbury WTP - Treated	0.10
02-Aug-16	1	Swiss Meadows Standpipe	0.10
08-Aug-16	1	Thornbury WTP - Raw	0.10
08-Aug-16	1	Thornbury WTP - Treated	0.10
08-Aug-16	1	Swiss Meadows Standpipe	0.10
15-Aug-16	1	Thornbury WTP - Raw	0.10
15-Aug-16	1	Thornbury WTP - Treated	0.10
15-Aug-16	1	Swiss Meadows Standpipe	0.10
22-Aug-16	1	Thornbury WTP - Raw	0.10
22-Aug-16	1	Thornbury WTP - Treated	0.10
22-Aug-16	1	Swiss Meadows Standpipe	0.10
29-Aug-16	1	Thornbury WTP - Raw	0.10

29-Aug-16	1	Thornbury WTP - Treated	0.10
29-Aug-16	1	Swiss Meadows Standpipe	0.10
12-Sep-16	1	Thornbury WTP - Raw	0.10
12-Sep-16	1	Thornbury WTP - Treated	0.10
12-Sep-16	1	Swiss Meadows Standpipe	0.10
19-Sep-16	1	Thornbury WTP - Raw	0.10
19-Sep-16	1	Thornbury WTP - Treated	0.10
19-Sep-16	1	Swiss Meadows Standpipe	0.10
26-Sep-16	1	Thornbury WTP - Raw	0.10
26-Sep-16	1	Thornbury WTP - Treated	0.10
26-Sep-16	1	Swiss Meadows Standpipe	0.10

Ministry of the Environment

Southwestern Region
 Technical Support Section
 Water Resources
 733 Exeter Rd
 London ON N6E 1L3
 Fax: (519)873-5020
 Tel: (519) 873-5000

Ministère de l'Environnement

Direction régionale du Sud-Ouest
 Bureau du Directeur Adjoint
 733 Exeter Rd
 London ON N6E 1L3
 Télécopieur: (519)873-5020
 Tél:(519) 873-5000



July 31, 2012

John Casivell

The Corporation of the Town of The Blue Mountains
 32 Mill St P.O. Box 310, Thornbury
 The Blue Mountains, ON N0H 2P0

Dear Mr. Casivell,

RE: Permit to Take Water 2144-8WJJ5X
 230 Peel St N, Thornbury
 The Blue Mountains, County of Grey
 Reference Number 8461-8TWNPS

RECEIVED

AUG 09 2012

ENGINEERING & PUBLIC WORKS
 TOWN OF THE BLUE MOUNTAINS

Please find attached a Permit to Take Water which authorizes the withdrawal of water in accordance with the application for this Permit to Take Water, dated April 12, 2012 and signed by John Casivell.

This Permit to Take Water expires on August 31, 2022. Authorized rates and volumes of water taking are given in Table A.

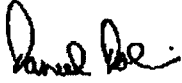
Ontario Regulation 387/04 (Water Taking) requires all water takers to report daily water taking amounts to the Water Taking Reporting System (WTRS) electronic database:

<http://www.ene.gov.on.ca/envision/water/pttw.htm>. Daily water taking must be reported on a calendar year basis. If no water is taken, then a "no taking" report must be entered. Please consult the Regulation and Section 4 of this Permit for monitoring requirements.

If you have questions about reporting requirements, please call the WTRS Help Desk at 416-235-6322 (toll free: 1-877-344-2011) or by email, WTRSHelpdesk@ontario.ca. It is preferred that you submit your data directly and electronically to the WTRS. Where this is impracticable, please use the Water Taking Submission Form (included as Appendix C of the *Technical Bulletin: Permit To Take Water (PTTW) - Monitoring and Reporting of Water Takings*), which can be downloaded from the above web site, and fax your completed forms to 416-235-6549 or mail them to: Water User Reporting Section, 125 Resources Rd. Toronto, ON M9P 3V6.

Take notice that in issuing this Permit, terms and conditions pertaining to the taking of water and to the results of the taking have been imposed. The terms and conditions have been designed to allow for the development of water resources, while providing reasonable protection to existing water uses and users.

Yours truly,



Dan Dobrin
Supervisor, Water Resources
Southwestern Region

File Storage Number: SIGRBMC10.220

PERMIT TO TAKE WATER
Surface Water
NUMBER 2144-8WJJ5X

Pursuant to Section 34 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

The Corporation of the Town of The Blue Mountains
32 Mill St P.O. Box 310, Thornbury
The Blue Mountains, Ontario, N0H 2P0
Canada

For the water
taking from: Georgian Bay

Located at: 230 Peel St N Thornbury
The Blue Mountains, County of Grey

For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:

DEFINITIONS

- (a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34, OWRA.
- (b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.
- (c) "Ministry" means Ontario Ministry of the Environment.
- (d) "District Office" means the Owen Sound District Office.
- (e) "Permit" means this Permit to Take Water No. 2144-8WJJ5X including its Schedules, if any, issued in accordance with Section 34 of the OWRA.
- (f) "Permit Holder" means The Corporation of the Town of The Blue Mountains.
- (g) "OWRA " means the *Ontario Water Resources Act*, R.S.O. 1990, c. O. 40, as amended.

You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. Compliance with Permit

- 1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated April 12, 2012 and signed by John Casivell, and all Schedules included in this Permit.
- 1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.
- 1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.
- 1.4 This Permit is not transferable to another person.
- 1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.
- 1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.
- 1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

2. General Conditions and Interpretation

2.1 Inspections

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the *Environmental Protection Act*, R.S.O. 1990, the *Pesticides Act*, R.S.O. 1990, or the *Safe Drinking Water Act*, S. O. 2002.

2.2 Other Approvals

The issuance of, and compliance with this Permit, does not:

- (a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirements, including the provisions of the *Ontario Water Resources Act*, and

the *Environmental Protection Act* , and any regulations made thereunder; or

(b) limit in any way any authority of the Ministry, a Director, or a Provincial Officer, including the authority to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

2.3 Information

The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take any action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information, shall not be construed as:

(a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or other legal requirement; or

(b) acceptance by the Ministry of the information's completeness or accuracy.

2.4 Rights of Action

The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

2.5 Severability

The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances and the remainder of this Permit shall not be affected thereby.

2.6 Conflicts

Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, and the conditions of this Permit, the conditions in this Permit shall take precedence.

3. Water Takings Authorized by This Permit

3.1 Expiry

This Permit expires on **August 31, 2022**. No water shall be taken under authority of this Permit after the expiry date.

3.2 Amounts of Taking Permitted

The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

Table A

	Source Name / Description:	Source: Type:	Taking Specific Purpose:	Taking Major Category:	Max. Taken per Minute (litres):	Max. Num. of Hrs Taken per Day:	Max. Taken per Day (litres):	Max. Num. of Days Taken per Year:	Zone/ Easting/ Northing:
1	Georgian Bay	Lake	Municipal	Water Supply	14,400	24	18,662,400	365	17 543003 4935254
						Total Taking:	18,662,400		

4. Monitoring

4.1 The Permit Holder shall maintain a record of all water takings. This record shall include the dates and times of water takings, and the total measured amounts of water pumped per day for each day that water is taken under the authorization of this Permit. The Permit Holder shall keep all required records up to date and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The total amounts of water pumped shall be measured using a flow measuring device.

5. Impacts of the Water Taking

5.1 Notification

The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry's Spills Action Centre at 1-800-268-6060.

5.2 For Surface-Water Takings

The taking of water (including the taking of water into storage and the subsequent or simultaneous withdrawal from storage) shall be carried out in such a manner that streamflow is not stopped and is not reduced to a rate that will cause interference with downstream uses of water or with the natural functions of the stream.

6. Director May Amend Permit

The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director in the letter. The suspension or reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or reduction in taking to the Environmental Review Tribunal under the *Ontario Water*

Resources Act , Section 100 (4).

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.
2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.
3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, as amended, provides that the Notice requiring the hearing shall state:

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

This notice must be served upon:

*The Secretary
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto ON
M5G 1E5
Fax: (416) 314-4506
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AND

*The Director, Section 34
Ministry of the Environment
733 Exeter Rd
London ON N6E 1L3
Fax: (519)873-5020*

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

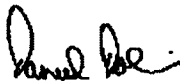
by telephone at (416) 314-4600

by fax at (416) 314-4506

by e-mail at www.ert.gov.on.ca

This Permit cancels and replaces Permit Number 4176-7DJJZG, issued on 2008/04/28 12:00:00 AM.

Dated at London this 31st day of July, 2012.



Dan Dobrin
Director, Section 34
Ontario Water Resources Act, R.S.O. 1990

Schedule A

This Schedule "A" forms part of Permit To Take Water 2144-8WJJ5X, dated July 31, 2012.