

**Ministry of the Environment,
Conservation and Parks**
*Drinking Water and Environmental
Compliance Division*

**Ministère de l'Environnement de la
Protection de la nature et des Parcs**
*Division de la conformité en matière d'eau
potable et d'environnement*



Central Region

Région du Centre

Barrie District Office
1201-54 Cedar Pointe Drive
Barrie ON L4N 5R7
Tel: (705) 739-6441
Toll Free: 1-800-890-8511
Fax: (705) 739-6440

Bureau du district de Barrie
1201-54 chemin Cedar Pointe
Barrie ON L4N 5R7
Téléphone: (705) 739-6441
Sans frais: 1-800-890-8511
Télec: (705) 739-6440

January 20, 2022

Town of Bradford West Gwillimbury
3541 Line 11
P.O. Box 160, Bradford, Ontario
L3Z 2A8

Attention: Mr. Geoff McKnight - Chief Administrative Officer, CAO

**Re: Drinking Water System Inspection Report-Bradford-Bond Head Drinking Water System
(210000684)**

Please find enclosed the Ministry of the Environment, Conservation and Parks Inspection Report for the Bradford-Bond Head Drinking Water System (DWS # 210000684) inspection. The compliance assessment took place on September 21, 2021.

The primary focus of this inspection was to confirm compliance with Ministry of the Environment, Conservation and Parks legislation and control documents, as well as conformance with Ministry drinking water related policies for the inspection period. The Ministry is implementing a rigorous and comprehensive approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as water system management practices.

Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils" found under "Resources" on the Drinking Water Ontario website at www.ontario.ca/drinkingwater.

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation & Enforcement (II&E) Secretariat and advice of internal and risk experts. The Inspection Summary Rating Record (IRR), included as Appendix A of the inspection report, provides the Ministry, the system owner and the associated Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance. IRR ratings are published (for the previous inspection year) in the Ministry's Chief Drinking Water Inspector's Annual Report.

If you have any questions or concerns regarding the rating, please contact Sheri Broeckel, Drinking Water Program Supervisor, at 705-716-3712.

If you have any questions or concerns regarding this inspection report, please contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to be 'DH' followed by a long horizontal stroke.

Darren Haines
Provincial Officer
Ministry of the Environment, Conservation and Parks
Barrie District Office
(705) .733-4513 (Tel)
(705) 739-6350 (Fax)
darren.haines@ontario.ca

CC Simcoe Muskoka District Health Unit (water@smdhu.org)
Marianna Hayne, Simcoe Muskoka District Health Unit
Maggie Slingerland, Town of BWG, Manager of Compliance (Acting)
Joe Gratrix, Town of BWG, Manager of Water
Barrie District Office File, Ministry of the Environment, Conservation and Parks



BRADFORD/BONDHEAD DRINKING WATER SYSTEM
3541 LINE 11, BRADFORD WEST GWILLIMBURY, ON,

Inspection Report

System Number:	210000684
Inspection Start Date:	09/21/2021
Inspection End Date:	01/20/2022
Inspected By:	Darren Haines
Badge #:	759

(signature)

NON-COMPLIANCE/NON-CONFORMANCE ITEMS

This should not be construed as a confirmation of full compliance with all potential applicable legal requirement and BMPs. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

INSPECTION DETAILS

This section includes all questions that were assessed during the inspection.

Ministry Program: Regulated Activity: DRINKING WATER : DW Municipal Residential

Question ID	MRDW1001000	
Question	Question Type	Legislative Requirement
What was the scope of this inspection?	Information	Not Applicable
Observation		
<p>The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry drinking water policies and guidelines during the inspection period. The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as management practices.</p> <p>This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O.Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA.</p> <p>This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements. On September 21, 2021, the Ministry conducted an announced inspection of the Bradford/Bondhead drinking water system (DWS# 220000684). The Bradford/Bondhead DWS services the Town of Bradford and Bondhead and is classified as a Large Municipal Residential drinking water system.</p> <p>The municipal drinking water source is approximately 55 percent surface water received at the John Fennel Reservoir via a watermain connection from the adjacent Town of Innisfil Lakeshore (Alcona) Water Treatment Plant. The Alcona Water Treatment Plant is a surface water intake facility located on the eastern shore of the subwatershed at the inlet to Cook's Bay {Lake Simcoe). The two Church ground water wells, which are located within York Region, provide the remaining 45 percent. There are also monitoring stations, as well as three finished water storage standpipes, each with its own dedicated re-chlorination and booster pumping station.</p> <p>A site visit of the Reservoir site, Standpipe 1&2, the new Bond Head Standpipe and both of the Church wells was conducted by the Ministry as part of this inspection.</p> <p>The inspection review period for this report is from August 19, 2020 to September 21, 2021. During this review period, the Owner operated under Municipal Drinking Water License 116-101 and Drinking Water Works Permit 116-201, which were issued on June 13, 2021 and is also subject to the regulatory requirements of the Safe Drinking Water Act and the Drinking Water Systems Regulation 170/03.</p>		

Question ID	MRDW1000000	
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Question	Question Type	Legislative Requirement
Does this drinking water system provide primary disinfection?	Information	Not Applicable
Observation		
This Drinking Water System provides for both primary and secondary disinfection and distribution of water.		

Question ID	MRDW1007000		
Question	Question Type	Legislative Requirement	
Is the owner maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials?	Legislative	SDWA O. Reg. 170/03 1-2 (1)	
Observation			
The owner was maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials. As part of this inspection, both Church Well #1 and Church Well #2 pump houses were visited. Each of the Church wells, which are the two production wells for the Bradford/Bondhead DWS, associated piping, well pumps and sodium hypochlorite are housed within a pump house. It appeared as though the Owner was maintaining both pump houses and the equipment in a sufficient manner to prevent the entry of surface water and other foreign materials.			

Question ID	MRDW1009000		
Question	Question Type	Legislative Requirement	
Are measures in place to protect the groundwater and/or GUDI source in accordance with any MDWL and DWWP issued under Part V of the SDWA?	Legislative	SDWA 31 (1)	
Observation			
Measures were in place to protect the groundwater and/or GUDI source in accordance with any the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA. Church Street Wells No.1 and No.2, the two groundwater production wells serving the Bradford/Bondhead DWS, are physically located within the Township of King, Regional Municipality of York. The Owner stated previously that a Source Water Protection Plan was submitted to the Ministry which has addressed the Source Protection areas for both Church Street Wells. The Owner also previously entered into an Enforcement Agreement in June 2015 with the Regional Municipality of York which states that the Region of York will provide the oversight of activities within the Source Protection Zone and Well Head Protection Area's for both the Church wells because they are within their municipal boundary. Signs were posted on the exterior of each of the well pump houses as well as along the edge of the adjacent agricultural property, which state that no pesticides are to be spread in the area of the pump houses that it is a wellhead protection area.			

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Question ID	MRDW1014000	
Question	Question Type	Legislative Requirement
Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?	Legislative	SDWA 31 (1)
Observation		
<p>There was sufficient monitoring of flow as required by the Municipal Drinking Water Licence or Drinking Water Works Permit issued under Part V of the SDWA. Section 2 of Schedule C of Municipal Drinking Water License 116-101 states that continuous flow measurement and recording shall be undertaken for: flow rate and daily volume of treated water that flows from the treatment subsystem to the distribution system; and the flow rate and daily volume of water that flows into the treatment subsystem.</p> <p>To capture flow data, the Owner has installed mechanical flow measuring devices at the following locations: on both Church 1&2 well headers, standpipe 1&2 for flows into zone 1&2, Bondhead standpipe and the Fennell Reservoir site for treated water coming from the Town of Innisfil. Each of the flow meters interface with the Owner's SCADA system which makes record of flow rates as well as totalized volumes to satisfy record keeping requirements for both the License and PTTW.</p> <p>The Owner provided flow meter calibration records to the Ministry which showed that they were calibrated during the inspection review period (November 2021).</p>		

Question ID	MRDW1016000	
Question	Question Type	Legislative Requirement
Is the owner in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the MDWL issued under Part V of the SDWA?	Legislative	SDWA 31 (1)
Observation		
<p>The owner was in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Municipal Drinking Water Licence issued under Part V of the SDWA. Condition 1.1, Schedule C of Drinking Water Works License# 116-101, issued 8/23/2011 provides rated capacity limits for each treatment subsystem. Specifically;</p> <ul style="list-style-type: none"> • Church Well No. 1 Pumhouse rated capacity is listed at 1,637 m3/day • Church Well NO.2 Pumhouse rated capacity is listed at 4,912 m3/day <p>Based on flow records provided to the Ministry by the Owner, for the Bradford/Bondhead DWS, none of the above stated maximum flow rate parameters for the above noted authorizing document, were exceeded during the inspection review period.</p>		

Question ID	MRDW1030000	
Question	Question Type	Legislative Requirement
Is primary disinfection chlorine monitoring being conducted at a location approved by MDWL and/or DWWP issued	Legislative	SDWA O. Reg. 170/03 7-2 (1),

under Part V of the SDWA, or at/near a location where the intended CT has just been achieved?		SDWA O. Reg. 170/03 7-2 (2)
Observation		
<p>Primary disinfection chlorine monitoring was conducted at a location approved by Municipal Drinking Water Licence and/or Drinking Water Works Permit issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved. Primary disinfection chlorine residual monitoring is being effected at the Church Wells 1&2 pump houses via a continuous analyser connected to a sample line from a chlorine contact simulator. The chlorine sample point within the simulator represents the point at which the water enters the distribution system after the required contact time.</p> <p>The approved contact simulator consists of 2.1 meter length of 150 millimeter diameter piping which has been installed within each pump house to simulate the conditions of the in-ground chlorine contact chamber.</p> <p>Primary disinfection has already been achieved with the treated water that is received from the Alcona DWS at the Fennell reservoir. The Owner analyses the chlorine levels on the water coming into the Fennell reservoir as well as the water leaving the reservoir.</p>		

Question ID	MRDW1033000	
Question	Question Type	Legislative Requirement
Is the secondary disinfectant residual measured as required for the large municipal residential distribution system?	Legislative	SDWA O. Reg. 170/03 7-2 (3), SDWA O. Reg. 170/03 7-2 (4)
Observation		
<p>The secondary disinfectant residual was measured as required for the distribution system. The Owner has installed and maintains continuous chlorine residual analyzers to measure secondary chlorine residuals at the following locations: standpipe 1 and 2, the Fennell Reservoir and the Bondhead standpipe. Chlorine residual readings are also obtained by staff with portable hand-held devices on a regular basis at different locations and recorded on a daily check sheet to ensure adequate secondary disinfectant residual within the distribution system.</p>		

Question ID	MRDW1037000	
Question	Question Type	Legislative Requirement
Are all continuous monitoring equipment utilized for sampling and testing required by O. Reg.170/03, or MDWL or DWWP or order, equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6?	Legislative	SDWA O. Reg. 170/03 6-5 (1) 1-4,SDWA O. Reg. 170/03 6-5 (1)5-10,SDWA O. Reg. 170/03 6-5 (1.1)
Observation		
<p>All continuous monitoring equipment utilized for sampling and testing required by O. Reg.170/03, or Municipal Drinking Water Licence or Drinking Water Works Permit or order, were equipped</p>		

with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6. The Owner utilizes continuous analyzers to monitor various activities within the Bradford/Bondhead distribution system. These analyzers are linked to the Owner's SCADA system for monitoring and alarming purposes. Should continuous monitoring equipment generate a measurement of results above or below the prescribed set points (typically 0.3mg/L and 4.0mg/L free chlorine residual), the continuous monitoring equipment malfunctions, or if there is a loss of power to the continuous monitoring equipment, an alarm is sounded, the well pumps are locked out and the on-call Operator notified. Documents reviewed indicate that continuous monitoring equipment alarms are tested on a regular basis by system operators.

Question ID	MRDW1038000	
Question	Question Type	Legislative Requirement
Is continuous monitoring equipment that is being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format?	Legislative	SDWA O. Reg. 170/03 6-5 (1) 1-4
Observation		
Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format. A record of the date, time, location and result of every test made using continuous monitoring equipment for those parameters (chlorine) are being made by the Owner's operators with at least the minimum frequency specified in the Table in Schedule 6 when water is being directed to users.		

Question ID	MRDW1035000	
Question	Question Type	Legislative Requirement
Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?	Legislative	SDWA O. Reg. 170/03 6-5 (1) 1-4,SDWA O. Reg. 170/03 6-5 (1)5-10
Observation		
Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test. Operators review SCADA data logs each day or within 72 hours and make a note of this in a designated log book. Results are again examined to ensure continuous monitoring equipment has accurately recorded all information and that all results are within acceptable ranges.		

Question ID	MRDW1040000	
Question	Question	Legislative

	Type	Requirement
Are all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?	Legislative	SDWA O. Reg. 170/03 6-5 (1) 1-4,SDWA O. Reg. 170/03 6-5 (1)5-10
Observation		
<p>All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation. Documents provided by the Owner for the Bradford/Bondhead DWS indicated that the Owner effects weekly maintenance checks and calibrations on all continuous analysers with their handheld chlorine colourimeters. All calibrations on handheld chlorine colourimeters are done on an annual basis by an outside contractor. All maintenance and calibrations on continuous analysers are also performed by an outside contractor on an annual basis.</p> <p>All calibration and maintenance performed by the Owner is documented in the logbook for the individual site. Calibration records for all handheld devices and continuous analysers were provided to the Ministry by the Owner as part of this inspection.</p>		

Question ID	MRDW1108000	
Question	Question Type	Legislative Requirement
Where continuous monitoring equipment used for the monitoring of free chlorine residual, total chlorine residual, combined chlorine residual or turbidity, required by Regulation 170, an Order, MDWL, or DWWP issued under Part V, SDWA, has triggered an alarm or an automatic shut-off, did a qualified person respond in a timely manner and take appropriate actions?	Legislative	SDWA O. Reg. 170/03 6-5 (1) 1-4,SDWA O. Reg. 170/03 6-5 (1)5-10,SDWA O. Reg. 170/03 6-5 (1.1)
Observation		
<p>Where required continuous monitoring equipment used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person responded in a timely manner and took appropriate actions. Logbooks that were provided by the Owner for the Bradford/Bondhead DWS were reviewed where the Operator responded to alarm calls during the review period. In all cases, the Operator responded in a timely manner and took the appropriate actions. The Owner does have a written procedure for responding to alarms which is kept in their Emergency and Contingency plan. A separate spreadsheet is being maintained by the Owner in order to track all low chlorine incidents that occur in the BWG/Bondhead DWS.</p>		

Question ID	MRDW1018000	
Question	Question Type	Legislative Requirement
Has the owner ensured that all equipment is installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?	Legislative	SDWA 31 (1)

Observation
The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.

Question ID	MRDW1020000	
Question	Question Type	Legislative Requirement
Is the owner/operating authority able to demonstrate that, when required during the inspection period, Form 1 documents were prepared in accordance with their Drinking Water Works Permit?	Legislative	SDWA 31 (1)
Observation		
<p>The owner/operating authority was in compliance with the requirement to prepare Form 1 documents as required by their Drinking Water Works Permit during the inspection period. The Owner prepared four Form 1 documents for the Bradford/Bondhead DWS during the inspection review period.</p> <p>The four Form 1 submissions that the Owner submitted were primarily for various watermain installations in new development areas within the distribution system. The Owner provided to the Ministry copies of all Form 1 documents as part of this inspection.</p>		

Question ID	MRDW1021000	
Question	Question Type	Legislative Requirement
Is the owner/operating authority able to demonstrate that, when required during the inspection period, Form 2 documents were prepared in accordance with their Drinking Water Works Permit?	Legislative	SDWA 31 (1)
Observation		
<p>The owner/operating authority was in compliance with the requirement to prepare Form 2 documents as required by their Drinking Water Works Permit during the inspection period. The Owner submitted six Form 2 documents for the Bradford/Bondhead DWS during the inspection review period. The six Form 2 documents that the Owner submitted were for the installation/replacement of two chlorine analysers, a SCADA upgrade for the Bondhead standpipe, new chemical pumps, a new chlorine storage tank and some chlorine monitoring equipment at the Fennell reservoir.</p> <p>The Owner provided to the Ministry copies of all the Form 2 documents as part of this inspection.</p>		

Question ID	MRDW1022000	
Question	Question Type	Legislative Requirement
Is the owner/operating authority able to demonstrate that, when required during the inspection period, Form 3 and associated condition 5.7 requirements were prepared in accordance with their Drinking Water Works Permit?	Legislative	SDWA 31 (1)

Observation
The owner/operating authority was in compliance with the requirement to prepare Form 3 and associated documents as required by their Drinking Water Works Permit during the inspection period. The Owner prepared two Form 3 documents for the Bradford/Bondhead DWS during the inspection review period. The two Form 3 documents that the Owner submitted were for the installation of two new standby diesel generators (Bond Head Water Tower and Church Well 1). The Owner provided to the Ministry a copy of the Form 3 document as part of this inspection.

Question ID	MRDW1023000	
Question	Question Type	Legislative Requirement
Do records indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a DWWP and/or MDWL issued under Part V of the SDWA at all times that water was being supplied to consumers?	Legislative	SDWA O. Reg. 170/03 1-2 (2)
Observation		
<p>Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers. Section 1-3 of Schedule 1 Ontario Regulation (O.Reg.) 170/03 requires the Owner of a drinking water system that obtains water from a raw water supply that is ground water to ensure provision of water treatment equipment that is designed to be capable of achieving, at all times, primary disinfection in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario, including at least 99 per cent (2.0M log) removal or inactivation of viruses by the time water enters the distribution system. This is the case for the treatment train comprising the Bradford/Bondhead drinking water system.</p> <p>To satisfy these requirements, the Owner has installed free available chlorine residual chemical disinfection systems, and employs the CT disinfection concept to quantify the capability of the chemical disinfection system and ensure the provision of effective pathogen inactivation for primary disinfection purposes. Primary disinfection for the Church production wells is achieved by the addition of sodium hypochlorite. Contact time is provided by a 950 meter length of 300 millimeter diameter dedicated contact main installed prior to the first consumer.</p> <p>The water provided from the Town of Innisfil's Lakeshore Alcona drinking water treatment facility is from a surface water source, and has achieved primary disinfection upon transmission to the John Fennell reservoir.</p>		

Question ID	MRDW1024000	
Question	Question Type	Legislative Requirement
Do records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated so that at all times and all locations in the distribution system the chlorine residual	Legislative	SDWA O. Reg. 170/03 1-2 (2)

was never less than 0.05 mg/l free or 0.25 mg/l combined?		
Observation		
<p>Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated so that at all times and all locations in the distribution system the chlorine residual was never less than 0.05 mg/l free or 0.25 mg/l combined. During the review of records provided by the Owner, it was found that during the inspection review period, that all of the free chlorine residuals obtained by system operators within the Bradford/Bondhead distribution system, had residuals above 0.05 mg/L. Secondary disinfectant residuals are monitored by the Owner through the use of continuous chlorine analyzers, which are linked to the Owners SCADA system and through the collection of weekly distribution chlorine residuals obtained by system operators.</p>		

Question ID	MRDW1025000	
Question	Question Type	Legislative Requirement
Were all parts of the drinking water system that came in contact with drinking water (added, modified, replaced or extended) disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit?	Legislative	SDWA 31 (1)
Observation		
<p>All parts of the drinking water system were disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit. The Owner, who operates the distribution system for the Bradford/Bond Head DWS, provided documents (microbiological sample results and chlorine residuals) to the Ministry which showed that they followed all AWWA standards for new, repaired and replaced water-mains during the review period.</p>		

Question ID	MRDW1062000	
Question	Question Type	Legislative Requirement
Do records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment is being done by a certified operator, water quality analyst, or person who meets the requirements of O. Reg. 170/03 7-5?	Legislative	SDWA O. Reg. 170/03 7-5
Observation		
<p>Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5. Only adequately certified operators are employed by the Town of Bradford West Gwillimbury to operate their drinking water system. These operators conduct all of the operational tests, record all of the results obtained, make all of the log entries, and collect all of the required samples to be sent to the appropriate accredited laboratory.</p>		

Question ID	MRDW1060000	
Question	Question Type	Legislative Requirement
Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?	Legislative	SDWA 31 (1)
Observation		
The operations and maintenance manuals met the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA. The Owner's Operations and Maintenance Manual appears to meet the requirements as outlined in condition 16.2, Schedule' B of Municipal Drinking water License 116-101, issued to the Owner for the Bradford/Bondhead DWS.		

Question ID	MRDW1071000	
Question	Question Type	Legislative Requirement
Has the owner provided security measures to protect components of the drinking water system?	BMP	Not Applicable
Observation		
The owner had provided security measures to protect components of the drinking water system. The Fennell reservoir site, standpipe 1 and2 sites and the Bondhead standpipe are within a locked fenced compound and equipped with intrusion alarms and are generally visited on a daily basis by operational staff. Both Church well pump houses as well as monitoring stations within the Bradford/Bondhead distribution system, are locked to prevent unauthorized access. Access to all locked premises is restricted solely to the Owner's water system operators.		

Question ID	MRDW1073000	
Question	Question Type	Legislative Requirement
Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?	Legislative	SDWA O. Reg. 128/04 23 (1)
Observation		
The overall responsible operator has been designated for each subsystem. The Owner of the Bradford/Bondhead DWS has designated an Overall Responsible Operator (ORO) in accordance with 23(1) or O. Reg. 128/04. In the event the ORO is unable to act another certified operator has been designated to act for the ORO. The ORO for the BWG DWS holds an Operator certificate (class 4) appropriate to the class of the drinking water system.		

Question ID	MRDW1074000	
Question	Question Type	Legislative Requirement
Have operators in charge been designated for all subsystems for which comprise the drinking water system?	Legislative	SDWA O. Reg. 128/04 25 (1)
Observation		

Operators-in-charge had been designated for all subsystems which comprised the drinking water system.

Question ID	MRDW1075000	
Question	Question Type	Legislative Requirement
Do all operators possess the required certification?	Legislative	SDWA O. Reg. 128/04 22
Observation		
All operators possessed the required certification. All of the Owner's operators have valid and current operator certificates which were provided to the Ministry by the Owner as part of this inspection.		

Question ID	MRDW1076000	
Question	Question Type	Legislative Requirement
Do only certified operators make adjustments to the treatment equipment?	Legislative	SDWA O. Reg. 170/03 1-2 (2)
Observation		
Only certified operators made adjustments to the treatment equipment. All of the work that was undertaken on the treatment system for the Bradford/Bondhead drinking water system was either performed or supervised by certified operators who are employed by the Owner.		

Question ID	MRDW1099000	
Question	Question Type	Legislative Requirement
Do records show that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O. Reg.. 169/03)?	Information	Not Applicable
Observation		
Records showed that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O.Reg. 169/03).		

Question ID	MRDW1096000	
Question	Question Type	Legislative Requirement
Do records confirm that chlorine residual tests are being conducted at the same time and at the same location that microbiological samples are obtained?	Legislative	SDWA O. Reg. 170/03 6-3 (1)
Observation		
Records confirmed that chlorine residual tests were being conducted at the same time and at the		

same location that microbiological samples were obtained. A review of the Bradford/Bondhead DWS records provided by the Owner for the inspection period found that each time a microbiological sample was taken by one of the Owner's operators in the distribution system, a corresponding chlorine residual was also taken by the Owner. All of the in-house monitoring and sampling information (which includes chlorine residuals) that the Owner undertakes for the Bradford/Bondhead DWS is documented internally as well as on the sample submission sheet. Sample results and monthly data sheets were provided to the Ministry by the Owner for this inspection.

Question ID	MRDW1081000	
Question	Question Type	Legislative Requirement
Are all microbiological water quality monitoring requirements for distribution samples being met?	Legislative	SDWA O. Reg. 170/03 10-2 (1),SDWA O. Reg. 170/03 10-2 (2),SDWA O. Reg. 170/03 10-2 (3)
Observation		
<p>All microbiological water quality monitoring requirements for distribution samples were being met. Subsection 10-2 of Schedule 10 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system to collect at a minimum 8 microbiological samples within the distribution system on a monthly basis; with at least one distribution sample taken each week.</p> <p>Subsection 10- 2 further stipulates that each of the distribution samples collected are tested for Escherichia coli total coliforms and general bacteria population expressed as colony counts on a heterotrophic plate count, if subsection 2-5 (1) of Schedule 2 applies to the system, as is the case for the Bradford/Bondhead drinking water system.</p> <p>Records provided and reviewed in the course of this inspection indicate that the Owner has complied with these sampling requirements as stated above. Documents indicate that typically 12-14 distribution water samples from different points within the distribution system were obtained and tested once per week, of which at least four of these samples were tested for Heterotrophic Plate Count (HPC) in addition to Escherichia Coli and Total Coliform bacteria.</p>		

Question ID	MRDW1083000	
Question	Question Type	Legislative Requirement
Are all microbiological water quality monitoring requirements for treated samples being met?	Legislative	SDWA O. Reg. 170/03 10-3
Observation		
<p>All microbiological water quality monitoring requirements for treated samples were being met. Subsection 10-3 of schedule 10 of O.Reg. 170 requires that the Owner and the operating authority of a large municipal residential drinking water system, such as the Bradford/Bondhead drinking water system, ensure that a water sample is taken at least once every week from the point at which</p>		

treated water enters the distribution system.

The Owner and operating authority are required to ensure that each of these samples are tested for E.coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic plate count.

Treated water samples were obtained by the Owner from Church well 1 and 2, each week during the inspection review period, after CT was met and just before treated water entered the distribution system. Records provided by the Owner and reviewed during the course of this inspection indicate that the Owner has complied with these requirements of obtaining a weekly treated water sample.

Question ID	MRDW1084000	
Question	Question Type	Legislative Requirement
Are all inorganic water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA O. Reg. 170/03 13-2
Observation		
<p>All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-2 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system to ensure that at least one water sample is taken every 36 months if the system obtains water from a raw water supply that is ground water, such is the case for the Bradford/Bondhead drinking water system, and have those samples tested for every parameter set out in Schedule 23.</p> <p>The Owner provided sample results to the Ministry as part of this inspection which showed the Owner last performed Inorganic sample analysis from the treated water on Church wells 1&2 in August 2018. The Owner did not report any adverse sample results as a result of those samples and they are not required to obtain Inorganic samples again until 2021.</p> <p>Note: The Owner provided Inorganic sample results for the BWG DWS which were dated November 2021 which is outside the review period of this inspection. These results will be included in the next inspection report.</p>		

Question ID	MRDW1085000	
Question	Question Type	Legislative Requirement
Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA O. Reg. 170/03 13-4 (1),SDWA O. Reg. 170/03 13-4 (2),SDWA O. Reg. 170/03 13-4 (3)
Observation		
All organic water quality monitoring requirements prescribed by legislation were conducted		

within the required frequency. Section 13-4 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system to ensure that at least one water sample is taken every 36 months if the system obtains water from a raw water supply that is ground water, such is the case for the Bradford/Bondhead drinking water system, and have those samples tested for every parameter set out in Schedule 24.

The Owner provided sample results to the Ministry as part of this inspection which showed the Owner last performed Organic sample analysis from the treated water on Church wells 1&2 in August 2018. The Owner did not report any adverse sample results as a result of those samples and they are not required to obtain Organic samples again until 2021.

Note: The Owner provided Organic sample results for the BWG DWS which were dated November 2021 which is outside the review period of this inspection. These results will be included in the next inspection report.

Question ID	MRDW1086000	
Question	Question Type	Legislative Requirement
Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?	Legislative	SDWA O. Reg. 170/03 13-6.1 (1),SDWA O. Reg. 170/03 13-6.1 (2),SDWA O. Reg. 170/03 13-6.1 (3), SDWA O. Reg. 170/03 13-6.1 (4),SDWA O. Reg. 170/03 13-6.1 (5),SDWA O. Reg. 170/03 13-6.1 (6)
Observation		
<p>All haloacetic acid water quality monitoring requirements prescribed by legislation are being conducted within the required frequency and at the required location. Section 13-6.1 requires the owner of a drinking water system that provides chlorination or chloramination and the operating authority for the system to ensure that at least one distribution sample is taken in each calendar quarter, from a point in the drinking water systems distribution system, or plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of haloacetic acids. The owner of the drinking water system and the operating authority for the system shall also ensure that each of the samples taken under subsection (1) is tested for haloacetic acids.</p> <p>The Owner conducted this required Haloacetic acid monitoring during the review period on November 18, 2020, February 24, 2021, May 19, 2021 and August 26, 2021. The Owner is reporting that their rolling annual average for HAA's is currently 39.8 ug/L.</p>		

Question ID	MRDW1087000	
Question	Question Type	Legislative Requirement
Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?	Legislative	SDWA O. Reg. 170/03 13-6 (1)
Observation		
<p>All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location. Section 13-6 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system, such as the Bradford/Bondhead drinking water system, to ensure that at least one distribution sample is taken every 3 months from a point in the drinking-water system's distribution system, or in plumbing that is connected to the drinking water system that is likely to have an elevated potential for the formation of trihalomethanes, and tested for trihalomethanes.</p> <p>The Owner conducted this required THM monitoring during the review period on November 18, 2020, February 24, 2021, May 19, 2021 and August 26, 2021.</p> <p>The Owner is reporting that their rolling annual average for THM's is currently 68.1 ug/L.</p>		

Question ID	MRDW1088000	
Question	Question Type	Legislative Requirement
Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted within the required frequency for the DWS?	Legislative	SDWA O. Reg. 170/03 13-7
Observation		
<p>All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS. Section 13-7 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system, such as the Bradford/Bondhead drinking water system, to ensure that at least one distribution sample is taken every 3 months and no more than 120 days from the date of the last sample for Nitrates/Nitrites.</p> <p>The Owner conducted this required monitoring during the review period on November 18, 2020, February 24, 2021, May 19, 2021 and August 26, 2021.</p> <p>Results of the Nitrite/Nitrate sampling would indicate that the water met the prescribed standards set out for those parameters in the ODWQS.</p>		

Question ID	MRDW1089000	
Question	Question Type	Legislative Requirement
Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA O. Reg. 170/03 13-8
Observation		

All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Sections 13--8 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system, such as the Bradford/Bondhead drinking water system, to ensure that at least one water sample is taken every 60 months and tested for Sodium.
The Owner last conducted Sodium sampling for the Bradford/Bondhead DWS on May 20, 2020. The Owner is not required to conduct Sodium sampling again until 2025.

Question ID	MRDW1090000	
Question	Question Type	Legislative Requirement
Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA O. Reg. 170/03 13-9
Observation		
All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-9 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system, such as the Bradford/Bondhead drinking water system to ensure that at least one water sample is taken every 60 months and tested for Fluoride. The Owner last conducted Fluoride sampling for the Bradford/Bond Head DWS on May 23, 2018. Results of the Fluoride sampling would indicate that the water met the prescribed standards set out for those parameters in the ODWQS. The Owner isn't required to obtain a Fluoride sample again until May 2023.		

Question ID	MRDW1100000	
Question	Question Type	Legislative Requirement
Did any reportable adverse/exceedance conditions occur during the inspection period?	Information	Not Applicable
Observation		
There were reportable adverse/exceedances during the inspection period. The Owner reported one AWQI (153790) for the BWG DWS during the review period. The AWQI that was reported by the Owner was for improperly disinfected water which will be discussed in further detail in another section of this report.		

Question ID	MRDW1101000	
Question	Question Type	Legislative Requirement
Have corrective actions (as per Schedule 17) been taken to address adverse conditions, including any other steps as directed by the Medical Officer of Health?	Legislative	SDWA O. Reg. 170/03 17-1, SDWA O. Reg. 170/03 17-10 (1),SDWA O.

		Reg. 170/03 17-10 (2),SDWA O. Reg. 170/03 17-11,SDWA O. Reg. 170/03 17-12,SDWA O. Reg. 170/03 17-13,SDWA O. Reg. 170/03 17-14,SDWA O. Reg. 170/03 17-2,SDWA O. Reg. 170/03 17-3,SDWA O. Reg. 170/03 17-4,SDWA O. Reg. 170/03 17-5,SDWA O. Reg. 170/03 17-6,SDWA O. Reg. 170/03 17-9
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Observation

Corrective actions (as per Schedule 17) had been taken to address adverse conditions, including any other steps that were directed by the Medical Officer of Health. The Owner reported one AWQI (153790) for the BWG DWS during the review period. The AWQI that was reported by the Owner was for improperly disinfected water leaving Church Well 2 for approximately 3 minutes before the well pumps shut down. BWG Operators made some repairs, flushed the lines leaving Church well 2 to restore the residual back to 1.25mg/L free chlorine and made some adjustments to the alarm to prevent the event from happening in the future. The Owner made all of the appropriate notifications to the Ministry and the MOH and performed all corrective actions as required by O.Reg. 170/03. No other corrective actions were required by the SMDHU.

Question ID	MRDW1113000	
Question	Question Type	Legislative Requirement
Have all changes to the system registration information been provided to the Ministry within ten (10) days of the change?	Legislative	SDWA O. Reg. 170/03 10.1 (3)
Observation		
All changes to the system registration information were provided within ten (10) days of the change.		

Question ID	MRDW1104000	
Question	Question	Legislative

	Type	Requirement
Were all required verbal notifications of adverse water quality incidents immediately provided as per O. Reg. 170/03 16-6?	Legislative	SDWA O. Reg. 170/03 16-6 (1),SDWA O. Reg. 170/03 16-6 (2),SDWA O. Reg. 170/03 16-6 (3),SDWA O. Reg. 170/03 16-6 (3.1),SDWA O. Reg. 170/03 16-6 (3.2),SDWA O. Reg. 170/03 16-6 (4),SDWA O. Reg. 170/03 16-6 (5),SDWA O. Reg. 170/03 16-6 (6)
Observation		
All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6. The Owner reported one AWQI (153790) for the BWG DWS during the review period. The AWQI that was reported by the Owner was for improperly disinfected water. The Owner made all of the appropriate notifications to the Ministry and the MOH as required.		

Question ID	MRDW1059000	Question	Question Type	Legislative Requirement
		Do the operations and maintenance manuals contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system?	Legislative	SDWA O. Reg. 128/04 28
Observation				
The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system. The Operations and Maintenance Manual for the Bradford/Bondhead DWS was reviewed as part of this inspection. The O&M manual contained plans, drawings and process descriptions and appears to provide sufficient information/guidance for the safe and efficient operation of the Bradford/Bondhead drinking water system.				

Question ID	MRDW1061000	Question	Question Type	Legislative Requirement
		Are logbooks properly maintained and contain the required information?	Legislative	SDWA O. Reg. 128/04 27 (1), SDWA O. Reg.

		128/04 27 (2), SDWA O. Reg. 128/04 27 (3), SDWA O. Reg. 128/04 27 (4), SDWA O. Reg. 128/04 27 (5), SDWA O. Reg. 128/04 27 (6), SDWA O. Reg. 128/04 27 (7)
Observation		
Logbooks were properly maintained and contained the required information.		