Ministère de l'Environnement, de la Protection de la nature et des Parcs





MARSVILLE SUBDIVISION DRINKING WATER SYSTEM Physical Address: LOT:5, CONCESSION:13, GEOTOWNSHIP:GARAFRAXA, , EAST GARAFRAXA, ON

INSPECTION REPORT

System Number: 210002183 Entity: DUFFERIN WATER CO LTD TOWNSHIP OF EAST GARAFRAXA Inspection Start Date: February 22, 2024 Site Inspection Date: February 22, 2024 Inspection End Date: March 25, 2024 Inspected By: Carola Serwotka Badge #: 808

(signature)

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INTRODUCTION

Purpose

This announced, focused inspection was conducted to confirm compliance with Ministry of the Environment, Conservation and Parks' (MECP) legislation and conformance with ministry drinking water policies and guidelines.

Scope

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 and the operation of the system.

The inspection of the drinking water system included both the physical inspection of the component parts of the system listed in section 4 "Systems Components" of the report and the review of data and documents associated with the operation of the drinking water system during the review period.

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.

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.

Facility Contacts and Dates

The Marsville Drinking Water System (DWS #220002183) is a small drinking water system and is owned by the Township of Amaranth and operated by Dufferin Water Co. Ltd.

The Marsville Drinking Water System is a Class 2 Water Distribution and Supply Subsystem (WDSS) with certificate #25, and was issued on May 13, 1992. Marsville is located 10 km north of Hillsburgh, Ontario.

The announced, focussed inspection began on February 22, 2024 at the Marsville Water Treatment Plant with the attendance of the ORO. The inspection period for this inspection was October 19, 2022 to February 22, 2024.

Systems/Components



All locations associated with primary disinfection were visited as part of this inspection. The following sites were visited as part of the inspection of the drinking water system:

- The Marsville Treatment plant building
- Wells #1 and #2

Permissions/Approvals

This drinking water system was subject to specific conditions contained within the following permissions and/or approvals (please note this list is not exhaustive) at the time of the inspection in addition to the requirements of the SDWA and its regulations:

Municipal Drinking Water Licence Number 243-101 (Issue Number 4) and Drinking Water Works Permit Number 243-201 (Issue Number 5) were both issued on December 1, 2020.

Permit To Take Water (PTTW) 8328-BQNRXE was issued on July 3, 2020 with an expiry of May 31, 2030.



NON-COMPLIANCE

This should not be construed as a confirmation of full compliance with all potential applicable legal requirements. 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.

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RECOMMENDATIONS

This should not be construed as a confirmation of full conformance with all potential applicable 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.

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INSPECTION DETAILS

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

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

Question ID	DWMR1000000	Question Type	Information		
Legislative Requirement(s): Not Applicable					
Question: Does this drin	Question: Does this drinking water system provide primary disinfection?				
Compliance Response(s)/Corrective Action(s)/Observation(s): This drinking water system provides for both primary and secondary disinfection and distribution of water.					
The Marsville	Drinking Water System uses chlorir	nation for primary a	nd secondary		

Question ID	DWMR1007000	Question Type	Legislative
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Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 1-2 | (1);

Question:

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?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

The wells are inspected bi-annually where the cap, vents and grading around the well are checked.

Question ID	DWMR1009000	Question Type	Legislative	
Legislative Requirement(s): SDWA 31 (1);				
Question:				

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?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Measures were in place to protect the groundwater and/or GUDI source in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.



	Question ID	DWMR1014000	Question Type	Legislative
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Legislative Requirement(s):

SDWA | 31 | (1);

Question:

Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

Question ID	DWMR1016000	Question Type	Legislative		
Legislative R SDWA 31 (*	equirement(s): 1);				
Question: Is the owner in rated capacity	Question: 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?				
Compliance Response(s)/Corrective Action(s)/Observation(s): 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.					
According to flow data provided from 2023, the summary of average and maximum daily flow data below shows that compliance conditions were met: Well 1: Average - 20 m3/d or 11% of the capacity limit, Maximum - 60 m3/d or 33% of the capacity limit Well 2: Not used					

Question ID	DWMR1018000	Question Type	Legislative		
Legislative Requirement(s): SDWA 31 (1);					
Question: Has the owner ensured that all equipment is installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?					
Compliance F The owner had Schedule C of	Response(s)/Corrective Action(s) d ensured that all equipment was in the Drinking Water Works Permit.	Observation(s): stalled in accordan	ce with Schedule A and		



Question ID	DWMR1114000	Question Type	Legislative

Legislative Requirement(s):

SDWA | 31 | (1);

Question:

Does the owner have evidence that, when required, all legal owners associated with the DWS were notified of the requirements of the Licence & Permit?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The owner had evidence that required notifications to all legal owners associated with the Drinking Water System had been made during the inspection period.

Question ID	DWMR1025000	Question Type	Legislative	
Legislative R SDWA 31 (*	equirement(s): 1);			
Question: Were all parts of the drinking water system that came in contact with drinking water (added,				
B of the Drinki	ng Water Works Permit?	bruance with a pro	icedure listed in Schedule	

Compliance Response(s)/Corrective Action(s)/Observation(s):

All parts of the drinking water system were disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit.

Question ID	DWMR1023000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Re	eg. 170/03 1-2 (2);		

Question:

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?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under O. Reg. 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.

At the time of the inspection, free chlorine residual was measured in the treatment building was 1.56 mg/L and in the distribution system it was 1.46 mg/L.

The lowest free chlorine residual measured in the water treatment building was 0.92 mg/L



Question ID	DWMR1024000	Question Type	Legislative

Legislative Requirement(s): SDWA | O. Reg. 170/03 | 1-2 | (2);

Question:

Do records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated as required?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

The lowest free chlorine residual measured in the distribution system was 0.70 mg/L

Question ID	DWMR1034000	Question Type	Legislative		
Legislative R SDWA O. Re	Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (5); SDWA O. Reg. 170/03 7-2 (6);				
Question: Is the secondary disinfectant residual measured as required for the small municipal residential distribution system?					
Compliance I The secondar residential dis	Response(s)/Corrective Action(s)/ y disinfectant residual was measure tribution system.	/Observation(s): d as required for th	ne small municipal		

Question ID	DWMR1030000	Question Type	Legislative
Lagislativa Baguiramont(a)			

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 7-2 | (1); SDWA | O. Reg. 170/03 | 7-2 | (2);

Question:

Is primary disinfection chlorine monitoring being conducted at a location approved by MDWL and/or DWWP issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

The minimum free chlorine residual required according to the MDWL for 2-log removal was 0.162 mg/L. At the time of the inspection, free chlorine residual was measured in the treatment building was 1.56 mg/L.



Question ID	DWMR1035000	Question Type	Legislative

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 6-5 | (1)1-4; SDWA | O. Reg. 170/03 | 6-5 | (1)5-10;

Question:

Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.

Operators review and download continuous data every Monday, Wednesday and Friday.

Question ID	DWMR1038000	Question Type	Legislative			
Legislative R SDWA O. Re	Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4;					
Question:						
Is continuous performing tes Table in Sche	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?					
Compliance Response(s)/Corrective Action(s)/Observation(s): 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.						
Records revie	wed showed that continuous data w	as recorded every	4 minutes.			

Question ID	DWMR1037000	Question Type	Legislative
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Legislative Requirement(s):

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);

Question:

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?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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 with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.

On the day of the inspection, several simulated alarm situations were tested and the



equipment shut-down as required.

Question ID	DWMR1040000	Question Type	Legislative	
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10;				
Question: Are all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?				
Compliance Response(s)/Corrective Action(s)/Observation(s): All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.				

Question ID	DWMR1108000	Question Type	Legislative	
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10; SDWA O.				
Question:	Reg. 170/03 6-5 (1.1); Question:			
Where continut total chlorine r Order, MDWL automatic shu actions?	Question: Where continuous monitoring equipment used for the monitoring of free chlorine residual, total chlorine residual, combined chlorine residual or turbidity, required by O. Reg. 170/03, 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			

Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

Question ID	DWMR1109000	Question Type	Legislative
Legislative R SDWA O. Re	equirement(s): eg. 170/03 1-6 (1);		

Question:

If the system uses equipment for primary disinfection other than chlorination or chloramination and the equipment has malfunctioned, lost power or ceased to provide the appropriate level of disinfection, causing an alarm or an automatic shut-off, did a qualified person respond in a timely manner and take appropriate actions?

Compliance Response(s)/Corrective Action(s)/Observation(s):

When failure(s) of primary disinfection equipment, other than that used for chlorination or chloramination, caused an alarm to sound or an automatic shut-off to occur, a certified



operator responded in a timely manner and took appropriate actions.

Question ID	DWMR1099000	Question Type	Information		
Legislative Requirement(s): Not Applicable					
Question:					
Do records sh not exceed the (O. Reg. 169/	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)?				
Compliance Response(s)/Corrective Action(s)/Observation(s): 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	DWMR1082000	Question Type	Legislative		
Legislative Requirement(s): SDWA O. Reg. 170/03 11-2 (1); SDWA O. Reg. 170/03 11-2 (2); SDWA O. Reg. 170/03 11-2 (6);					
Question: For SMR systems, are all microbiological water quality monitoring requirements for distribution samples prescribed by legislation being met?					
Compliance Response(s)/Corrective Action(s)/Observation(s):					

All microbiological water quality monitoring requirements prescribed by legislation for distribution samples in a small municipal residential system were being met.

Microbiological samples are sampled and tested weekly.

Question ID	DWMR1096000	Question Type	Legislative	
Legislative R SDWA O. Re	equirement(s): eg. 170/03 6-3 (1);			
Question: Do records confirm that chlorine residual tests are being conducted at the same time and at the same location that microbiological samples are obtained?				
Compliance I Records confi	Response(s)/Corrective Action(s) rmed that chlorine residual tests we	/Observation(s): re being conducted	d at the same time and at	

Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.



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Question ID	DWMR1084000	Question Type	Legislative	
Legislative R SDWA O. Re	equirement(s): eg. 170/03 13-2;			
Question: Are all inorgan within the requ	nic water quality monitoring requiren	nents prescribed by	y legislation conducted	
Compliance F All inorganic w within the requ	Response(s)/Corrective Action(s) vater quality monitoring requirement uired frequency.	/Observation(s): ts prescribed by leg	gislation were conducted	
The last set of	inorganic sampling and testing occ	curred on October 2	22, 2022.	
			-	
Question ID	DWMR1085000	Question Type	Legislative	
Legislative Requirement(s): SDWA O. Reg. 170/03 13-4 (1); SDWA O. Reg. 170/03 13-4 (2); SDWA O. Reg. 170/03 13-4 (3):				
Question:				
Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?				
Compliance Response(s)/Corrective Action(s)/Observation(s): All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.				
The last set of organic sampling and testing occurred on October 22, 2022.				
Question ID	DWMR1086000	Question Type	Legislative	
Legislative Requirement(s): SDWA O. Reg. 170/03 13-6.1 (1); SDWA O. Reg. 170/03 13-6.1 (2); SDWA O. Reg.				

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);

Question:

Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?

Compliance Response(s)/Corrective Action(s)/Observation(s):

All haloacetic acid water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.

HAAs are sampled and tested quarterly and results were below the limit of 80 ug/L.



	Question ID	DWMR1087000	Question Type	Legislative
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Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 13-6 | (1); SDWA | O. Reg. 170/03 | 13-6 | (2); SDWA | O. Reg. 170/03 | 13-6 | (3); SDWA | O. Reg. 170/03 | 13-6 | (4); SDWA | O. Reg. 170/03 | 13-6 | (5); SDWA | O. Reg. 170/03 | 13-6 | (6);

Question:

Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?

Compliance Response(s)/Corrective Action(s)/Observation(s):

All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.

THMs are sampled and tested quarterly and results were below the limit of 100 ug/L.

Question ID	DWMR1088000	Question Type	Legislative		
Legislative Requirement(s): SDWA O. Reg. 170/03 13-7;					
Question: Are all nitrate/ within the requ	Question: Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted within the required frequency for the DWS?				
Compliance Response(s)/Corrective Action(s)/Observation(s): All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency.					
Nitrates and n	itrites are sampled and tested quart	erly and results we	ere below the limit of		

10mg/L.

Question ID	DWMR1089000	Question Type	Legislative
Legislative R	equirement(s):		

SDWA | O. Reg. 170/03 | 13-8;

Question:

Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?

Compliance Response(s)/Corrective Action(s)/Observation(s):

All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.

Sodium is sampled and tested every 5 years and the last sample was taken October13, 2022.

Question ID	DWMR1090000	Question Type	Legislative
Legislative R SDWA O. Re	e quirement(s): eg. 170/03 13-9;		



Question:

Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?

Compliance Response(s)/Corrective Action(s)/Observation(s):

All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency.

Fluoride is sampled and tested every 5 years and the last sample was taken October13, 2022.

Question ID	DWMR1102000	Question Type	Legislative
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Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 18-10 | (1); SDWA | O. Reg. 170/03 | 18-11; SDWA | O. Reg. 170/03 | 18-12; SDWA | O. Reg. 170/03 | 18-13; SDWA | O. Reg. 170/03 | 18-14; SDWA | O. Reg. 170/03 | 18-2; SDWA | O. Reg. 170/03 | 18-3; SDWA | O. Reg. 170/03 | 18-4; SDWA | O. Reg. 170/03 | 18-5; SDWA | O. Reg. 170/03 | 18-6; SDWA | O. Reg. 170/03 | 18-9;

Question:

For SMR Systems, have corrective actions (as per Schedule 18 of O. Reg. 170/03) been taken to address adverse conditions, including any other steps as directed by the Medical Officer of Health?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Corrective actions (as per Schedule 18), including any other steps that were directed by the Medical Officer of Health, had been taken to address adverse conditions.

Question ID	DWMR1113000	Question Type	Legislative	
Legislative Requirement(s):				

SDWA | O. Reg. 170/03 | 10.1 | (3);

Question:

Have all changes to the system registration information been provided to the Ministry within ten (10) days of the change?

Compliance Response(s)/Corrective Action(s)/Observation(s):

All changes to the system registration information were provided within ten (10) days of the change.

Question ID	DWMR1059000	Question Type	Legislative
Legislative Requirement(s):			

SDWA | O. Reg. 128/04 | 28;



Question:

Do the operations and maintenance manuals contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.

Question ID DWMR1060000	Question Type	Legislative
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Legislative Requirement(s):

SDWA | 31 | (1);

Question:

Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

Question ID	DWMR1061000	Question Type	Legislative	
Legislative R	equirement(s):			
SDWA O. Re	eg. 128/04 27 (1); SDWA O. Reg	g. 128/04 27 (2);	SDWA O. Reg. 128/04	
27 (3); SDW/	A 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));		
Question:				
Are logbooks	properly maintained and contain the	e required informati	on?	
Compliance Response(s)/Corrective Action(s)/Observation(s):				
Logbooks wer	e properly maintained and containe	d the required infor	mation.	

Question ID	DWMR1062000	Question Type	Legislative	
Legislative Requirement(s): SDWA O. Reg. 170/03 7-5;				
Question: 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 Q. Reg. 170/03 7-52				

Question Type

BMP



Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

Question ID DWMR1071000

Legislative Requirement(s): Not Applicable

Question:

Has the owner provided security measures to protect components of the drinking water system?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The owner had provided security measures to protect components of the drinking water system.

	Question ID DWMR1073000 Question Type Legislative
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Legislative Requirement(s):

SDWA | O. Reg. 128/04 | 23 | (1);

Question:

Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The overall responsible operator had been designated for each subsystem.

Question ID	DWMR1074000	Question Type	Legislative		
Legislative R SDWA O. Re	Legislative Requirement(s): SDWA O. Reg. 128/04 25 (1);				
Question: Have operators-in-charge been designated for all subsystems which comprise the drinking water system?					
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators-in-charge had been designated for all subsystems which comprise the drinking water system.					



Question ID	DWMR1075000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 22;			
Question: Do all operators possess the required certification?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All operators possessed the required certification.			

Question ID	DWMR1076000	Question Type	Legislative	
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);				
Question: Do only certified operators make adjustments to the treatment equipment?				
Compliance Response(s)/Corrective Action(s)/Observation(s): Only certified operators made adjustments to the treatment equipment.				



<u>Appendix A</u>

Stakeholder Appendix

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

Many useful materials are available to help you operate your drinking water system. Below is a list of key materials owners and operators of municipal residential drinking water systems frequently use.

To access these materials online click on their titles in the table below or use your web browser to search for their titles. Contact the Public Information Centre if you need assistance or have questions at 1-800-565-4923/416-325-4000 or **picemail.moe@ontario.ca**.

For more information on Ontario's drinking water visit **www.ontario.ca/drinkingwater** and email **drinking.water@ontario.ca** to subscribe to drinking water news.



PUBLICATION TITLE	PUBLICATION NUMBER
Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils	7889e01
FORMS: Drinking Water System Profile Information, Laboratory Services Notification, Adverse Test Result Notification Form	7419e, 5387e, 4444e
Procedure for Disinfection of Drinking Water in Ontario	4448e01
Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids	7152e
Total Trihalomethane (TTHM) Reporting Requirements Technical Bulletin (February 2011)	8215e
Filtration Processes Technical Bulletin	7467
Ultraviolet Disinfection Technical Bulletin	7685
Guide for Applying for Drinking Water Works Permit Amendments, Licence Amendments, Licence Renewals and New System Applications	7014e01
Certification Guide for Operators and Water Quality Analysts	
Guide to Drinking Water Operator Training Requirements	9802e
Taking Samples for the Community Lead Testing Program	6560e01
Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption	7423e
Guide: Requesting Regulatory Relief from Lead Sampling Requirements	6610
Drinking Water System Contact List	7128e
Technical Support Document for Ontario Drinking Water Quality Standards	4449e01

ontario.ca/drinkingwater



Principaux guides et documents de référence sur les réseaux résidentiels municipaux d'eau potable

De nombreux documents utiles peuvent vous aider à exploiter votre réseau d'eau potable. Vous trouverez ci-après une liste de documents que les propriétaires et exploitants de réseaux résidentiels municipaux d'eau potable utilisent fréquemment.

Pour accéder à ces documents en ligne, cliquez sur leur titre dans le tableau ci-dessous ou faites une recherche à l'aide de votre navigateur Web. Communiquez avec le Centre d'information au public au 1 800 565-4923 ou au 416 325-4000, ou encore à **picemail.moe@ontario.ca** si vous avez des questions ou besoin d'aide.



Pour plus de renseignements sur l'eau potable en Ontario, consultez le site **www.ontario.ca/** eaupotable ou envoyez un courriel à drinking.water@ontario.ca pour suivre l'information sur l'eau potable.

TITRE DE LA PUBLICATION	NUMÉRO DE PUBLICATION
Prendre soin de votre eau potable – Un guide destiné aux membres des conseils municipaux	7889f01
Renseignements sur le profil du réseau d'eau potable, Avis de demande de services de laboratoire, Formulaire de communication de résultats d'analyse insatisfaisants et du règlement des problèmes	7419f, 5387f, 4444f
Marche à suivre pour désinfecter l'eau potable en Ontario	4448f01
Strategies for Minimizing the Disinfection Products Thrihalomethanes and Haloacetic Acids (en anglais seulement)	7152e
Total Trihalomethane (TTHM) Reporting Requirements: Technical Bulletin (février 2011) (en anglais seulement)	8215e
Filtration Processes Technical Bulletin (en anglais seulement)	7467
Ultraviolet Disinfection Technical Bulletin (en anglais seulement)	7685
Guide de présentation d'une demande de modification du permis d'aménagement de station de production d'eau potable, de modification du permis de réseau municipal d'eau potable, de renouvellement du permis de réseau municipal d'eau potable et de permis pour un nouveau réseau	7014f01
Guide sur l'accréditation des exploitants de réseaux d'eau potable et des analystes de la qualité de l'eau de réseaux d'eau potable	
Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable	9802f
Prélèvement d'échantillons dans le cadre du programme d'analyse de la teneur en plomb de l'eau dans les collectivités	6560f01
Échantillonnage et analyse du plomb dans les collectivités : échantillonnage normalisé ou réduit et admissibilité à l'exemption	7423f
Guide: Requesting Regulatory Relief from Lead Sampling Requirements (en anglais seulement)	6610
Liste des personnes-ressources du réseau d'eau potable	7128f
Document d'aide technique pour les normes, directives et objectifs associés à la qualité de l'eau potable en Ontario	4449f01

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<u>Appendix B</u>

Inspection Rating Record (IRR)

APPLICATION OF THE **RISK METHODOLOGY** USED FOR MEASURING MUNICIPAL RESIDENTIAL DRINKING WATER SYSTEM INSPECTION RESULTS



The Ministry of the Environment (MOE) has a rigorous and comprehensive inspection program for municipal residential drinking water systems (MRDWS). Its objective is to determine the compliance of MRDWS with requirements under the Safe Drinking Water Act and associated regulations. It is the responsibility of the municipal residential drinking water system owner to ensure their drinking water systems are in compliance with all applicable legal requirements.

This document describes the risk rating methodology, which has been applied to the findings of the Ministry's MRDWS inspection results since fiscal year 2008-09. The primary goals of this assessment are to encourage ongoing improvement of these systems and to establish a way to measure this progress.

MOE reviews the risk rating methodology every three years.

The Ministry's Municipal Residential Drinking Water Inspection Protocol contains 15 inspection modules consisting of approximately 100 regulatory questions. Those protocol questions are also linked to definitive guidance that ministry inspectors use when conducting MRDWS inspections.



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The questions address a wide range of regulatory issues, from administrative procedures to drinking water quality monitoring. The inspection protocol also contains a number of non-regulatory questions.

A team of drinking water specialists in the ministry assessed each of the inspection protocol regulatory questions to determine the risk (not complying with the regulation) to the delivery of safe drinking water. This assessment was based on established provincial risk assessment principles, with each question receiving a risk rating referred to as the Question Risk Rating. Based on the number of areas where a system is deemed to be non-compliant during the inspection, and the significance of these areas to administrative, environmental, and health consequences, a riskbased inspection rating is calculated by the ministry for each drinking water system.

It is important to be aware that an inspection rating less than 100 per cent does not mean the drinking water from the system is unsafe. It shows areas where a system's operation can improve. The ministry works with owners and operators of systems to make sure they know what they need to do to achieve full compliance.

The inspection rating reflects the inspection results of the specific drinking water system for the reporting year. Since the methodology is applied consistently over a period of years, it serves as a comparative measure both provincially and in relation to the individual system. Both the drinking water system and the public are able to track the performance over time, which encourages continuous improvement and allows systems to identify specific areas requiring attention.

The ministry's annual inspection program is an important aspect of our drinking water safety net. The ministry and its partners share a common commitment to excellence and we continue to work toward the goal of 100 per cent regulatory compliance.

Determining Potential to Compromise the Delivery of Safe Water

The risk management approach used for MRDWS is aligned with the Government of Ontario's Risk Management Framework. Risk management is a systematic approach to identifying potential hazards, understanding the likelihood and consequences of the hazards, and taking steps to reduce their risk if necessary and as appropriate.

The Risk Management Framework provides a formula to be used in the determination of risk:

RISK = LIKELIHOOD × CONSEQUENCE (of the consequence)

Every regulatory question in the inspection protocol possesses a likelihood value (L) for an assigned consequence value (C) as described in **Table 1** and **Table 2**.

TABLE 1:	
Likelihood of Consequence Occurring	Likelihood Value
0% - 0.99% (Possible but Highly Unlikely)	L = 0
1 – 10% (Unlikely)	L = 1
11 – 49% (Possible)	L = 2
50 – 89% (Likely)	L = 3
90 – 100% (Almost Certain)	L = 4

TABLE 2:	
Consequence	Consequence Value
Medium Administrative Consequence	C = 1
Major Administrative Consequence	C = 2
Minor Environmental Consequence	C = 3
Minor Health Consequence	C = 4
Medium Environmental Consequence	C = 5
Major Environmental Consequence	C = 6
Medium Health Consequence	C = 7
Major Health Consequence	C = 8

The consequence values (0 through 8) are selected to align with other risk-based programs and projects currently under development or in use within the ministry as outlined in **Table 2**.

The Question Risk Rating for each regulatory inspection question is derived from an evaluation of every identified consequence and its corresponding likelihood of occurrence:

• All levels of consequence are evaluated for their potential to occur

• Greatest of all the combinations is selected.

The Question Risk Rating quantifies the risk of non-compliance of each question relative to the others. Questions with higher values are those with a potentially more significant impact on drinking water safety and a higher likelihood of occurrence. The highest possible value would be $32 (4 \times 8)$ and the lowest would be $0 (0 \times 1)$.

Table 3 presents a sample question showing the risk rating determination process.

TABLE 3:

Does the Operator in Charge ensure that the equipment and processes are monitored, inspected and evaluated?

Risk = Likelihood × Consequence							
C=1	C=2	C=3	C=4	C=5	C=6	C=7	C=8
Medium Administrative Consequence	Major Administrative Consequence	Minor Environmental Consequence	Minor Health Consequence	Medium Environmental Consequence	Major Environmental Consequence	Medium Health Consequence	Major Health Consequence
L=4 (Almost Certain)	L=1 (Unlikely	L=2 (Possible)	L=3 (Likely)	L=3 (Likely)	L=1 (Unlikely	L=3 (Likely)	L=2 (Possible)
R=4	R=2	R=6	R=12	R=15	R=6	R=21	R=16

Application of the Methodology to Inspection Results

Based on the results of a MRDWS inspection, an overall inspection risk rating is calculated. During an inspection, inspectors answer the questions related to regulatory compliance and input their "yes", "no" or "not applicable" responses into the Ministry's Laboratory and Waterworks Inspection System (LWIS) database. A "no" response indicates noncompliance. The maximum number of regulatory questions asked by an inspector varies by: system (i.e., distribution, stand-alone); type of inspection (i.e., focused, detailed); and source type (i.e., groundwater, surface water). The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

Application of the Methodology for Public Reporting

The individual MRDWS Total Inspection Ratings are published with the ministry's Chief Drinking Water Inspector's Annual Report. **Figure 1** presents the distribution of MRDWS ratings for a sample of annual inspections. Individual drinking water systems can compare against all the other inspected facilities over a period of inspection years.



Figure 1: Year Over Year Distribution of MRDWS Ratings

Reporting Results to MRDWS Owners/Operators

A summary of inspection findings for each system is generated in the form of an Inspection Rating Record (IRR). The findings are grouped into the 15 possible modules of the inspection protocol,

- 1. Source
- 2. Permit to Take Water
- 3. Capacity Assessment
- 4. Treatment Processes
- 5. Treatment Process Monitoring
- 6. Process Wastewater
- 7. Distribution System
 8. Operations Manuals
- which would provide the system owner/operator with information on the areas where they need to improve. The 15 modules are:
- 9. Logbooks
- 10. Contingency and Emergency Planning
- 11. Consumer Relations
- 12. Certification and Training
- 13. Water Quality Monitoring
- 14. Reporting, Notification and Corrective Actions
- 15. Other Inspection Findings
- For further information, please visit www.ontario.ca/drinkingwater

DWS Name:	MARSVILLE SUBDIVISION DRINKING WATER SYSTEM
DWS Number:	210002183
DWS Owner:	TOWNSHIP OF EAST GARAFRAXA
Municipal Location:	EAST GARAFRAXA
Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Inspection Date:	Feb-22-2024
Ministry Office:	Guelph District Office

Maximum Risk Rating: 486

Inspection Module	Non Compliance Risk (X out of Y)
Capacity Assessment	0/30
Certification and Training	0/42
Logbooks	0/18
Operations Manuals	0/28
Reporting & Corrective Actions	0/74
Source	0/14
Treatment Processes	0/189
Water Quality Monitoring	0/91
Overall - Calculated	0/486

Inspection Risk Rating: 0.00%

Final Inspection Rating: 100.00%

DWS Name:	MARSVILLE SUBDIVISION DRINKING WATER SYSTEM
DWS Number:	210002183
DWS Owner Name:	TOWNSHIP OF EAST GARAFRAXA
Municipal Location:	EAST GARAFRAXA
Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Inspection Date:	Feb-22-2024
Ministry Office:	Guelph District Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 486

Inspection Risk Rating: 0.00%

FINAL INSPECTION RATING: 100.00%