

Ministry of the Environment and
Climate Change

Ministère de l'Environnement et de
l'Action en matière de changement
climatique

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Mr. Shane Baker, Commissioner of Works
The Corporation of the Town of Richmond Hill
P.O. Box 300
Richmond Hill, ON
L4C 4Y5

RE: Richmond Hill Distribution System (260001968)
Drinking Water Inspection Report 1-F917X
File: SI YD RI EL 540

Please find attached the Ministry of the Environment's inspection report for the above facility. The report details the findings of the inspection that began on September 26, 2017.

In the inspection report, any "*Actions Required*" are linked to incidents of non-compliance with regulatory requirements contained within the Act, a regulation, or site-specific approvals, licenses, permits, orders or instructions. Such violations could result in the issuance of mandatory abatement instruments including Orders, tickets, penalties, or referrals to the ministry's Investigations and Enforcement Branch.

"*Recommended Actions*" convey information that the owner or operating authority should consider implementing in order to advance efforts already in place to address such issues as emergency preparedness, the availability of information to consumers, and conformance with existing and emerging industrial standards. Please note that items which appear as recommended actions do not, in themselves, constitute violations.

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 council*" found under "Resources" on the Drinking Water Ontario website at www.ontario.ca/drinkingwater.

I would like to thank the Town of Richmond Hill staff for the assistance afforded to me during this compliance assessment. If you have any questions or concerns please contact myself or Sheri Broeckel, Water Supervisor (A), Central Region at 705-739-6386.

Yours truly,

Shannon Boland

Water Inspector
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230 Westney Road S, 5th Floor
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cc:

Bernard Mayer, Manager of Environmental Health, York Region Health Department
Tanya Fishenden, Administrative Clerk, York Region Health Department
Steve Duthie, Water Quality Analyst, Richmond Hill
Diogo Oliveira, Manager Water and Wastewater, Richmond Hill
Barry Kyle, Supervisor Water and Wastewater, Richmond Hill
Sheri Broeckel, Water Compliance Supervisor (A), York Durham District Office,



Ontario

Ministry of the Environment and Climate Change

RICHMOND HILL DISTRIBUTION SYSTEM

Inspection Report

Site Number:	260001968
Inspection Number:	1-F917X
Date of Inspection:	Sep 26, 2017
Inspected By:	Shannon Boland

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OWNER INFORMATION:

Company Name:	RICHMOND HILL, THE CORPORATION OF THE TOWN OF		
Street Number:	225	Unit Identifier:	
Street Name:	EAST BEAVER CREEK Rd E		
City:	RICHMOND HILL		
Province:	ON	Postal Code:	L4P 3B4

CONTACT INFORMATION

Type:	Manager	Name:	Diogo Oliveira
Phone:	(905) 884-8013	Fax:	(905) 884-0395
Email:	diogo.oliveira@richmondhill.ca		
Title:	Manager of Water and Wastewater		
Type:	Supervisor	Name:	Barry Kyle
Phone:	(905) 780-2916	Fax:	(905) 884-0395
Email:	barry.kyle@richmondhill.ca		
Title:	Supervisor, Water and Wastewater		
Type:	Main Contact	Name:	Steve Duthie
Phone:	(905) 780-2956	Fax:	(905) 884-0395
Email:	steve.duthie@richmondhill.ca		
Title:	Water Quality Analyst, Water and Wastewater		

INSPECTION DETAILS:

Site Name:	RICHMOND HILL DISTRIBUTION SYSTEM
Site Address:	RICHMOND HILL
County/District:	Richmond Hill
MOECC District/Area Office:	York-Durham District
Health Unit:	YORK REGION HEALTH SERVICES DEPARTMENT
Conservation Authority:	
MNR Office:	
Category:	Large Municipal Residential
Site Number:	260001968
Inspection Type:	Unannounced
Inspection Number:	1-F917X
Date of Inspection:	Sep 26, 2017
Date of Previous Inspection:	Feb 06, 2017

COMPONENTS DESCRIPTION

Site (Name):	MOE DWS Mapping	Sub Type:	
Type:	DWS Mapping Point		
Site (Name):	Richmond Hill Operations Centre	Sub Type:	
Type:			

Comments:

The Town of Richmond Hill owns and operates the Richmond Hill Distribution system consisting of 606 km of watermain serving approximately 214,100 residents. The water source is surface water that is treated by the City of Toronto and the Regional Municipality of Peel. Drinking water is transmitted from these systems to the Regional Municipality of York which sells it to local municipalities including the Town of Richmond Hill. Chloramination is used by the Regional Municipality of York for the secondary disinfection. The transmission lines and storage facilities within the Richmond Hill distribution system are owned and operated by the Regional Municipality of York.

INSPECTION SUMMARY:

Introduction

- The primary focus of this inspection is to confirm compliance with Ministry of the Environment and Climate Change (MOECC) legislation as well as evaluating conformance with ministry drinking water policies and guidelines during the inspection 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 report is based on an inspection of a "stand alone connected distribution system". This type of system receives treated water from a separately owned "donor" system. This report contains the elements required to assess key compliance and conformance issues associated with a "receiver" system. This report does not contain items associated with the inspection of the donor system, such as source waters, intakes/wells and treatment facilities.

This report is based on a "focused" inspection of the system. Although the inspection involved fewer activities than those normally undertaken in a detailed inspection, it contained critical elements required to assess key compliance issues. This system was chosen for a focused inspection because the system's performance met the ministry's criteria, most importantly that there were no deficiencies as identified in O. Reg. 172/03 over the past 3 years. The undertaking of a focused inspection at this drinking water system does not ensure that a similar type of inspection will be conducted at any point in the future.

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.

An inspection was conducted at the Richmond Hill Distribution System on September 26, 2017, by Ministry of the Environment and Climate Change Provincial Officer, Shannon Boland. The inspection period for this inspection is from February 6, 2017 to September 26, 2017.

Richmond Hill Distribution System receives water from York Region. The inspection included a compliance assessment with all applicable legislation and legal documents.

Treatment Processes

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

A review of records provided for the purpose of the inspection, indicated the combined chlorine residual in the distribution was never less than 0.25 mg/L.

Treatment Process Monitoring

- The secondary disinfectant residual was measured as required for the distribution system.

Distribution System

- Existing parts of the distribution system that are taken out of service for inspection, repair or other activities that may lead to contamination, and all new parts of the distribution system that come in contact with drinking water, were disinfected in accordance with Schedule B, Condition 2.3 of the Drinking Water Works Permit, or an equivalent procedure (i.e. the Watermain Disinfection Procedure).

Operations Manuals

- 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 manuals met the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.

Logbooks

- Logbooks were not properly maintained and/or did not contain the required information.

A review of the log records provided to the Ministry indicated that some entries were incorrect and not reflective of the actual operation of the drinking water system.

Specifically:

- 1) Two operators were listed as ORO.
 - a. During the inspection, it was confirmed that only one (1) operator was acting as the Overall Responsible Operator.
- 2) September 5, 2017 -two (2) people designated as Operator-in-charge (OIC). Both operators absent from work on September 5, 2017.
 - a. No alternative OIC identified on log sheet.
 - b. Richmond Hill Drinking Water System provided work order for system, identifying that there was an OIC for the day.

The ministry also identified that some entries contained liquid paper.

As per section 27 (5) of O. Reg. 128/04, an operator-in-charge or a person authorized by an operator-in-charge shall record the following information in the logs or other record-keeping mechanisms in respect of each operating shift:

1. The date, the time of day the shift began and ended and the number or designation of the shift.
2. The names of all operators on duty during the shift.
3. Any departures from normal operating procedures that occurred during the shift and the time they occurred.
4. Any special instructions that were given during the shift to depart from normal operating procedures and the person who gave the instructions.
5. Any unusual or abnormal conditions that were observed in the subsystem during the shift, any action that was taken and any conclusions drawn from the observations.
6. Any equipment that was taken out of service or ceased to operate during the shift and any action taken to maintain or repair equipment during the shift.

- 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.

Security

Security

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

Certification and Training

- The overall responsible operator had been designated for each subsystem.
- Operators in charge had been designated for all subsystems which comprised the drinking-water system.

Water Quality Monitoring

- All microbiological water quality monitoring requirements for distribution samples were being met.
- All haloacetic acid water quality monitoring requirements prescribed by legislation are being conducted within the required frequency and at the required location.
Haloacetic acid (HAA) samples were collected on:
 - Feb 15, 2017 (3 locations)
 - May 17, 2017 (3 locations)
 - August 16, 2017 (3 locations)
- All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.
Trihalomethane (THM) samples were collected on:
 - Feb 15, 2017 (3 locations)
 - May 17, 2017 (3 locations)
 - August 16, 2017 (3 locations)
- Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.

Water Quality Assessment

- Records did not 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).
The inspection period is from February 6, 2017 to September 25, 2017. During the inspection period, fifty-one (51) adverse water quality incidents were reported for the presence of total coliforms (TC).

Corrective actions were performed and re-sampling confirmed TC was no longer present.

Reporting & Corrective Actions

- 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 system was flushed and re-sampling confirmed that TC was no longer present.
- All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

1 Logbooks were not properly maintained and/or did not contain the required information.

A review of the log records provided to the Ministry indicated that some entries were incorrect and not reflective of the actual operation of the drinking water system.

Specifically:

1) Two operators were listed as ORO.

a. During the inspection, it was confirmed that only one (1) operator was acting as the Overall Responsible Operator.

2) September 5, 2017 -two (2) people designated as Operator-in-charge (OIC). Both operators absent from work on September 5, 2017.

a. No alternative OIC identified on log sheet.

b. Richmond Hill Drinking Water System provided work order for system, identifying that there was an OIC for the day.

The ministry also identified that some entries contained liquid paper.

As per section 27 (5) of O. Reg. 128/04, an operator-in-charge or a person authorized by an operator-in-charge shall record the following information in the logs or other record-keeping mechanisms in respect of each operating shift:

1. The date, the time of day the shift began and ended and the number or designation of the shift.

2. The names of all operators on duty during the shift.

3. Any departures from normal operating procedures that occurred during the shift and the time they occurred.

4. Any special instructions that were given during the shift to depart from normal operating procedures and the person who gave the instructions.

5. Any unusual or abnormal conditions that were observed in the subsystem during the shift, any action that was taken and any conclusions drawn from the observations.

6. Any equipment that was taken out of service or ceased to operate during the shift and any action taken to maintain or repair equipment during the shift.

Action(s) Required:

The owner of the Richmond Hill Drinking Water System shall ensure that records are maintained in accordance with O. Reg. 128/04.

NO FURTHER ACTION REQUIRED

When the ministry identified the issue with log sheets, the Water Quality Analyst and the Supervisor of Richmond Hill DWS immediately updated the log sheets to ensure proper recording and forwarded a copy of the log sheet to the inspector to confirm a change in practice. The management team also sat down with operators to discuss proper log sheet recording procedures and prohibiting the use of "liquid paper".

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

Not Applicable

SIGNATURES

Inspected By:

Shannon Boland

Signature: (Provincial Officer)



Reviewed & Approved By:

Sheri Broeckel

Signature: (Supervisor)



Review & Approval Date:

Nov 20, 2017

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.

KEY REFERENCE AND GUIDANCE MATERIAL

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

INSPECTION REPORT RATING

Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2017-2018)

DWS Name: RICHMOND HILL DISTRIBUTION SYSTEM
DWS Number: 260001968
DWS Owner: Richmond Hill, The Corporation Of The Town Of
Municipal Location: Richmond Hill

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Adhoc
Inspection Date: September 26, 2017
Ministry Office: York-Durham District

Maximum Question Rating: 233

Inspection Module	Non-Compliance Rating
Treatment Processes	0 / 35
Distribution System	0 / 21
Operations Manuals	0 / 28
Logbooks	4 / 18
Certification and Training	0 / 14
Water Quality Monitoring	0 / 51
Reporting & Corrective Actions	0 / 45
Treatment Process Monitoring	0 / 21
TOTAL	4 / 233

Inspection Risk Rating 1.72%

FINAL INSPECTION RATING: 98.28%

Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2017-2018)

DWS Name: RICHMOND HILL DISTRIBUTION SYSTEM
DWS Number: 260001968
DWS Owner: Richmond Hill, The Corporation Of The Town Of
Municipal Location: Richmond Hill

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Adhoc
Inspection Date: September 26, 2017
Ministry Office: York-Durham District

Non-compliant Question(s)	Question Rating
Logbooks	
Are logbooks properly maintained and contain the required information?	4
TOTAL QUESTION RATING	4

Maximum Question Rating: 233

Inspection Risk Rating 1.72%

FINAL INSPECTION RATING: 98.28%