The Corporation of the Town of LaSalle

Date	October 3, 2018	**Report No:**	PW-WWC-07-18
Directed To:	Water/Wastewater Committee	**Attachments:**	~ MOE Water Distribution Inspection Report 2018
Department:	Public Works	**Policy References:**	
Prepared By:	Lena Petros, CET. Manager of Water and Wastewater		
Subject:	MOE Inspection Report 2018		

RECOMMENDATION:

That the committee receives the information on the enclosed MOE inspection report dated July 18, 2018.

REPORT:

The Ministry of the Environment (MOE) periodically conducts inspections on licensed drinking water systems. The MOE conducted an inspection of LaSalle's system on July 18, 2018 and the attached provides a summary of their findings, recommendations and our rating.

These findings and recommendations have been implemented.

Respectfully Submitted

Lena Petros, CET.
Manager of Water and Wastewater

Reviewed by:							
CAO	Treasury	Clerks	Public Works	Planning	Cult. & Rec.	Building	Fire

Ontario

Ministry of the Environment, Conservation and Parks

TOWN OF LASALLE DISTRIBUTION SYSTEM

Inspection Report

Site Number:	220004402
Inspection Number:	1-ICTQR
Date of Inspection:	Jul 18, 2018
Inspected By:	Paul Tersteege

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OWNER INFORMATION:

Company Name:	LASALLE,THE CORPORATION OF THE TOWN OF		
Street Number:	5950		
Street Name:	MALDEN Rd		
City:	LASALLE		
Province:	ON	**Postal Code:**	N9H 1S4

CONTACT INFORMATION

INSPECTION DETAILS:

Site Name:	TOWN OF LASALLE DISTRIBUTION SYSTEM
Site Address:	2170 JUDY RECKER CRT LASALLE N9J 0C3
County/District:	Lasalle
MECP District/Area Office:	Windsor Area Office
Health Unit:	WINDSOR-ESSEX COUNTY HEALTH UNIT
Category:	Large Municipal Residential
Site Number:	220004402
Inspection Type:	Announced
Inspection Number:	1-ICTQR
Date of Inspection:	Jul 18, 2018
Date of Previous Inspection:	Aug 30, 2017

COMPONENTS DESCRIPTION

Site (Name): DISTRIBUTION (WATER INSPECTION)
Type: Other

The Town is the owner and operating authority of a Class 1 water distribution system serving approximately 30,200 residents. The system, which consists of over 200 km of watermains, operates as a single pressure zone.

The Town's system is supplied by the City of Windsor Drinking Water System (DWS No. 220003421) via seven metered and valved interconnections along their northern boundary. Windsor's water treatment plant, which draws its water from the Detroit River, provides primary disinfection using conventional filtration and ozonation. Windsor also uses chlorination to provide secondary disinfection at both their plant and at their J.F. Cook Reservoir and Booster Station.

The Town's system does not include any chlorination facilities. Rather, the Town uses a combination of manual and automated flushing to ensure adequate secondary disinfection is maintained within their distribution system.

Lastly, there are three valved interconnections along their southern boundary with the Town of Amherstburg

Distribution System (DWS No. 210000149). These connections are normally closed. As there has been no occasion to use or test these connections in recent years, the Town wishes to examine them in 2018 to assess their capacity to supply water in an emergency.

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.

  The Officer met with both the Town's Manager and Superintendent of Water on July 18, 2010, to inspect the drinking water system. The inspection had regard for events since the date of the last inspection; however, within that review period, the scope and depth of the Officer's review varied based upon subject matter, and upon whether he identified indicators suggesting a need for a more detailed review.

Treatment Processes

- **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.**

  While not specific to treatment processes, the Ministry directs Officers to use this opportunity to discuss any alterations to the distribution system. Section 3.0 in Schedule B of Drinking Water Works Permits allows for watermain additions, modifications, replacements and extensions providing owners retain a completed "Form 1 – Record of Watermains Authorized as a Future Alteration" verifying each project has met the requirements listed in Conditions 3.1.1 through 3.1.6.

  The Town provided forms documents identifying work completed in the following subdivisions:
  - Seven Lakes Estates (Phase 3C)
  - Oakdale Trails
  - 6th Street
  - Donato (Phase 1 & 2)
  - Forest Trail Estates (Phase 3)

Treatment Processes

The work included new services, valves and fire hydrants, as described in the forms, and as depicted in the drawings that accompanied them. Each of the forms, signed off between October 4, 2017 and March 15, 2018, included the requisite verifications by both a Professional Engineer and a representative of the Town.

- **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.**

  Regardless of whether owners provide secondary disinfection themselves, Section 1-5 in O. Reg. 170/03 requires them to ensure the provision of treatment capable of providing a free chlorine residual of 0.2 mg/L at all locations within the distribution system. Further, Section 1-2 requires the free chlorine residual to be maintained at or above 0.05 mg/L. Results below 0.05mg/L must be reported per Subsection 16-3 (1) of O. Reg. 170/03.

  The Town provided copies of "Form 3s", the documents operators use to record daily checks from one of a number of extremities in their distribution system. The results indicated the residuals are lowest in the least populated areas in the southwestern and southeastern extremities of the system. However, no results were low enough to be of concern.

  The Town also provided copies of "Form 4s", the documents operators use to record pre and post checks when performing hydrant flushing. The results indicated a lone adverse result was detected on March 28, 2018 in a sample collected near the intersection of Bouffard Road and Meloche Street. The starting residual at 8:45am was 0.02 mg/L. After flushing, the residual rose to 1.07 mg/L.

  Given the isolated natured of the lone adverse result, the Officer is inclined to believe no further action is required at this time. The Town appears to have an effective flushing program in place. Between the replacement of mains and the existing flushing program, the Town appears to be able to maintain a residual above 0.20 mg/L throughout its distribution system. Further, the Town appears to have successfully identified points requiring additional flushing (e.g., 169 Victory Street) despite the fact that such points would not be intuitively obvious from a casual survey of the distribution system.

Treatment Process Monitoring

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

  To satisfy Section 7-2(3) of O. Reg. 170/03, which requirements regular monitoring of the disinfectant residual in the distribution system, the Town relies upon daily testing of grab samples.

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).**

  Condition 2.3 in Schedule B of the Municipality's Drinking Water Works Permit requires all new and/or altered equipment to be disinfected using an approved procedure before being put into service. Consequently, the Overall Responsible Operator should ensure records prepared by operators and contractors are detailed enough to allow them to confirm compliance.

  With respect to work on distribution systems, Sections 3.0 and 4.0 of the Ministry's Watermain Disinfection Procedure outline the minimum notification and record keeping requirements. The Officer noted most of these requirements were satisfied by the Town's "Watermain Break Repair" form. (All of the breaks he randomly selected for review were Category 1 breaks.)

Distribution System

Note: Additional information is required for Category 2 breaks, e.g., details regarding any additional disinfection and flushing procedures that were used, etc. That is not to say, all of the additional details need to be documented on one form. E.g., the forms the Ministry requires owners and operators to use for documenting "adverse water quality incidents" should suffice for documenting most notifications. Similarly, sample submission sheets prepared by operators should suffice for documenting the date, time and location of sampling activities.

One possible omission noted by the Officer was related to the requirement to document whether an air gap was maintained until repairs were completed. In contrast, the Town's form asks operators to document whether flow was maintained until an air gap was created. (The requirement for operators to maintain an air gap appears to be understood.)

In addition to documenting the creation of an air gap, the Town's form asks operators to include additional details regarding whether the repair was completed under full, reduced or no water pressure.

The Town indicated it would review its form to determine whether any minor refinements were required to satisfy the Disinfection Procedure and/or their own requirements.

Operations Manuals

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

  Section 28 of O. Reg. 128/04 requires that the operations and maintenance manuals available to operators include plans, drawings and process descriptions sufficient for the safe and efficient operation of the drinking water system. As this drinking water system lacks any treatment facilities, this requirement is limited to the distribution system.

  The Town provided a hard copy of their Standard Operating Procedures (SOPs) and Contingency Plans. (Additional print material was also available at the Town's offices.)

  The Town advised that copies of their SOPs, etc. are stored on Google Drive, and are available to operators via their tablets. Similarly, "infoLaSalle", the Town's online geographical information system (GIS) is accessible to operators. In addition to the information available to the public via the Internet, additional layers of information are available to operators. This includes a map of the entire distribution system depicting the location and sizes of their watermains, the location of valves (including interconnections with neighbouring drinking water systems), and the locations of their hydrants (colour coded to indicate flow capacity).

  The Town indicated a number of as-built drawings have recently been added for their operators' reference. Further, they noted that additional details (e.g., watermain materials) have been loaded on to the Town's GIS, but are not current available to operators.

- **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.**

  O. Reg. 128/04 focuses on the provision of plans, drawings and process descriptions whereas Municipal Drinking Water Licences impose requirements related to the provision of procedures. As a number of the required elements are addressed within other sections of this report, the Officer's scope was limited to ensuring the availability of procedures prescribing sampling, flushing, valve exercising, hydrant maintenance and responses to complaint and emergencies. The Town's various procedures and contingencies encompassed all of these elements.

Logbooks

- **Logbooks were properly maintained and contained the required information.**

Logbooks

Section 27 of O. Reg. 128/04 requires the provision of logs and/or other record-keeping mechanisms to permit operators to document the operation of drinking water systems. In addition to requiring these records to be retained for a minimum of 5 years, Section 27 addresses content requirements.

The Town advised they and their operators do not maintain a traditional logbook for their distribution system. Rather, they indicated that operators are assigned activities via work orders, and they typically document their activities and observations in forms corresponding to the types of work identified within the orders.

The available documents indicated that the required content is being recorded.

- **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.**

  Pursuant to Section 7-5 in Schedule 7 of O. Reg. 170/03, only qualified personnel appear to be performing operational tests.

Certification and Training

- **The overall responsible operator had been designated for each subsystem.**

  O. Reg. 128/04 prescribes a means for classifying municipal residential drinking water subsystems, and for certifying operators who work at them. Further, Subsection 23 (1) requires owners or operating authorities to designate an operator as the "overall responsible operator" (ORO). To be an ORO, the operator must hold a certificate equal to or higher than the class of the drinking water system for which they are responsible.

  During the inspection, the Town noted they had recently hired a new Superintendent. To allow an opportunity to familiarize him with the system, the Town's Manager assumed primary responsibility serving as the ORO. However, the Town noted that this responsibility would revert to the Superintendent's position – except when circumstances required another person to be designated to serve in this capacity. E.g., the Town produced four memos that they had circulated to personnel in the department to advise when a different person was serving as the designated ORO.

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

  Subsection 25 (1) of O. Reg. 128/04 requires the appointment of one or more operators-in-charge ("OIC") for each subsystem.

  The Town advised they have a number of personnel who are qualified to serve in this capacity. While the person(s) serving as OIC is not recorded on every form in which the Town documents its observations (i.e., Forms 3 and 4 – the forms used to documenting chlorine residual and flushing activities), explicit reference is made to the OIC in Form 9 – the form used to document repairs to watermains.

Water Quality Monitoring

- **All microbiological water quality monitoring requirements for distribution samples were being met.**

  The Summary of Reported Laboratory Results appended to this inspection report is based upon information reported by the laboratories used to test samples collected from this drinking water system. The report is grouped into several summaries reflective of parameter groups considered by Ministry inspections.

  While the Officer reviewed several years of data, date filters were used to limit the length of some of the summaries (as indicated on the top right of the header for each). Reported microbiological results indicate operators usually

Water Quality Monitoring

collect 10 samples each week. Usually all are tested for E. coli and total coliforms, and 3 are tested for general bacteria (i.e., heterotrophic plate count). Further, they indicate the number of samples collected each month satisfies the minimum requirements prescribed by Section 10-2 in Schedule 10 of O. Reg. 170/03. I.e., for a service population <=100,000, 8 samples + 1 sample per 1,000 people are required monthly (with the collection of at least 1 sample each week).

- **All haloacetic acid water quality monitoring requirements prescribed by legislation are being conducted within the required frequency and at the required location.**

  Effective January 1, 2017, Subsections 13-6.1 (1) and (2) in Schedule 13 of O. Reg. 170/03 require the collection of one set of samples every calendar quarter from a point in distribution system that is likely to have an elevated potential for the formation of haloacetic acids, i.e., usually at a point shortly after disinfection.

  Per the attached summary, operators have been collecting the samples at the requisite interval. During the inspection, the Officer indicated that it was his understanding that HAAs peaked in the distribution system closer to the chlorine addition point, and decreased in the extremities of the system. As such, it was his belief that the point used to collect samples for testing HAAs should not necessarily be the same point as that used to collect samples for THMs.

  Subsequent to the inspection, the Officer was made aware of the attached email distributed to owners and operators of municipal systems that provides official guidance from the Ministry on this subject.

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

  Subsections 13-6 (1) and (2) in Schedule 13 of O. Reg. 170/03 require the collection of one set of samples every calendar quarter from a point in the distribution system that is likely to have an elevated potential for the formation of trihalomethanes. (Before January 1, 2016, O. Reg. 170/03 required the collection of samples at three-month intervals - with no more than 120 days, and no less than 60 days, between samples.)

  Several years of reported results for trihalomethanes are included in the attached summary. These results indicate operators have been collecting the samples at the requisite interval from extremities in the distribution system.

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

  Sampling records indicate operators test the chlorine residual at the same time and location they are collecting microbiological samples, as prescribed by Subsection 6-3 (1) in O. Reg. 170/03.

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).**

  One sample collected on September 11, 2017, and two samples collected on January 15, 2018, tested positive for low levels of Total Coliform, i.e., 1, 5 and 8 cfu/100mL. Note: Over 600 sets of samples have been collected from these three locations since 2008, of which only two others have tested positive to total coliforms. Isolated adverse microbiological results can be indicative of sampling error, and in the absence of other indicators of a problem, should not prompt undue concern regarding the operation of the drinking water system.

  One sample collected on February 28, 2018 was mistakenly reported as a "distribution sample". The Officer understands this sample was collected outside of the Town's regular lead testing program. The sample was collected from the plumbing in a private residence following the discovery and replacement of a lead service line. Operators noted that while part of the owner's plumbing had been replaced by copper pipe, part of the plumbing still

Water Quality Assessment

consisted of an older style of pipe alloyed with lead.

The result of a "standing sample" was 10.2 ug/L, which is marginally above the limit of 10.0 ug/L. A second sample collected after flushing the fixture had a result of 1.34 ug/L.

In contrast, operators collected four actual distribution samples from sample stations on March 20, 2018. The highest result was 0.09 ug/L, and the average result was 0.06 ug/L. As such, the result for this misidentified sample should not prompt undue concern.

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.**

  Schedule 17 of O. Reg. 170/03 prescribes generic corrective actions in response to adverse test results and/or indicators of improper disinfection – including consulting with, and taking any additional measures prescribed by the Medical Officer of Health (Health Unit). (If/when applicable, the subject of adverse results identified during community lead testing programs, is addressed within separate bullets within the Reporting and Corrective Actions section of the inspection report.)

  The Officer noted initial notifications regarding the detection of total coliforms in samples collected September 11, 2017 and January 15, 2018, were subsequently followed by a Notice of Resolution confirming the corrective action taken by operators.

- **Corrective actions as directed by the Medical Officer of Health had been taken by the owner and operating authority to address exceedances of the lead standard.**

  As stated in the Water Quality Assessment section of this report, a sample collected on February 28, 2018 was mistakenly reported as a "distribution sample". The sample was collected from the plumbing in a private residence following the discovery and replacement of a lead service line. Operators noted that while part of the owner's plumbing had been replaced by copper pipe, part of the plumbing still consisted of an older style of pipe alloyed with lead.

  The result of a "standing sample" was 10.2 ug/L, which is marginally above the limit of 10.0 ug/L. A second sample collected after flushing the fixture had a result of 1.34 ug/L.

  A "Lead in Drinking Water" fact sheet from the local Health Unit was hand delivered to the resident along with the Certificate of Analysis. With respect to the owner's portion of the service line (i.e., between the curb stop and the house), the Town provided a brief explanation to the resident regarding their responsibility for the plumbing on their property.

- **All required notifications of adverse water quality incidents were not immediately provided as per O. Reg. 170/03 16-6.**

  Schedule 16 of O. Reg. 170/03 requires an immediate verbal report of adverse water quality incidents to the local Health Unit/Medical Officer of Health and to the Ministry's Spills Action Centre. As discussed within the Treatment Processes section of this report, during the review of the Town's flushing records, the Officer noted that operators documented and took corrective action in response to the lone low chlorine residual encountered on March 28, 2018; however, they failed to notify the Ministry and local Health Unit of the same. Upon review, the Town acknowledged the oversight, and pursued this matter with its operators.

  Had the event been reported, in light of the corrective action taken, the Officer has no reason to believe the Ministry or Health Unit would have required additional corrective action. Aside from this unfortunate oversight, the Town

Reporting & Corrective Actions

appears to have a highly effective flushing program.

As the Town has already reviewed this matter with its operators, no further action is required at this time. The only additional recommendation of the Officer would make is that if they have not already done so, the Town could consider amending the header on their forms to include a reminder regarding reporting low chlorine events.

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

  After drinking water systems were registered, Section 10.1 of O. Reg. 170/03 required owners to notify the Director of any changes to the profile information within 10 days. The Officer provided the attached Drinking Water System Dossier, and asked about any recent changes.

  The Town confirmed there were no changes to their contact information. They acknowledge the service population appeared to reflect that identified during the previous census. With respect to growing municipalities, the Officer's expectation is that municipalities update their service population every five years as new census information becomes available.

  The primary reason for asking municipalities to do this is to ensure they also update their microbiological sampling program to reflect their growing population. Based on the 2011 census, the Ministry would expect a minimum of 37 samples to be collected each month for E. coli and total coliforms testing. Based on the 2016 census (30,200), the Ministry would expect a minimum of 39 samples.

  Note: As the Officer asked the Ministry's registration team to update the population information, no action is required. Further, given the Town typically collects 10 or more samples per week, the growth in population did not result in a compliance concern.

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. **All required notifications of adverse water quality incidents were not immediately provided as per O. Reg. 170/03 16-6.**

   Action(s) Required:

   As the Town has already reviewed this matter with its operators, no further action is required at this time. The only additional recommendation of the Officer would make is that if they have not already done so, the Town could consider amending the header on their forms to include a reminder regarding reporting low chlorine events.

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:

Paul Tersteege

Signature: (Provincial Officer)



Reviewed & Approved By:

Marc Bechard

Signature: (Supervisor)



2018.09.14 15:24:36 -04'00'

Review & Approval Date:

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.

Appendix 1 - Inspection Summary Rating Record

Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2018-2019)

DWS Name:	TOWN OF LASALLE DISTRIBUTION SYSTEM
DWS Number:	220004402
DWS Owner:	Lasalle,The Corporation Of The Town Of
Municipal Location:	Lasalle
Regulation:	O.REG 170/03
Category:	Large Municipal Residential System
Type Of Inspection:	Adhoc
Inspection Date:	July 18, 2018
Ministry Office:	Windsor Area Office

Maximum Question Rating: 241

Inspection Module	Non-Compliance Rating
Treatment Processes	0 / 25
Distribution System	0 / 21
Operations Manuals	0 / 28
Logbooks	0 / 18
Certification and Training	0 / 14
Water Quality Monitoring	0 / 51
Reporting & Corrective Actions	21 / 63
Treatment Process Monitoring	0 / 21
TOTAL	**21 / 241**

Inspection Risk Rating	**8.71%**

FINAL INSPECTION RATING:	**91.29%**

Inspection Rating Record Generated On 13-SEP-18 (Inspection ID: 1-ICTQR).

Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2018-2019)

DWS Name:	TOWN OF LASALLE DISTRIBUTION SYSTEM
DWS Number:	220004402
DWS Owner:	Lasalle,The Corporation Of The Town Of
Municipal Location:	Lasalle
Regulation:	O.REG 170/03
Category:	Large Municipal Residential System
Type Of Inspection:	Adhoc
Inspection Date:	July 18, 2018
Ministry Office:	Windsor Area Office

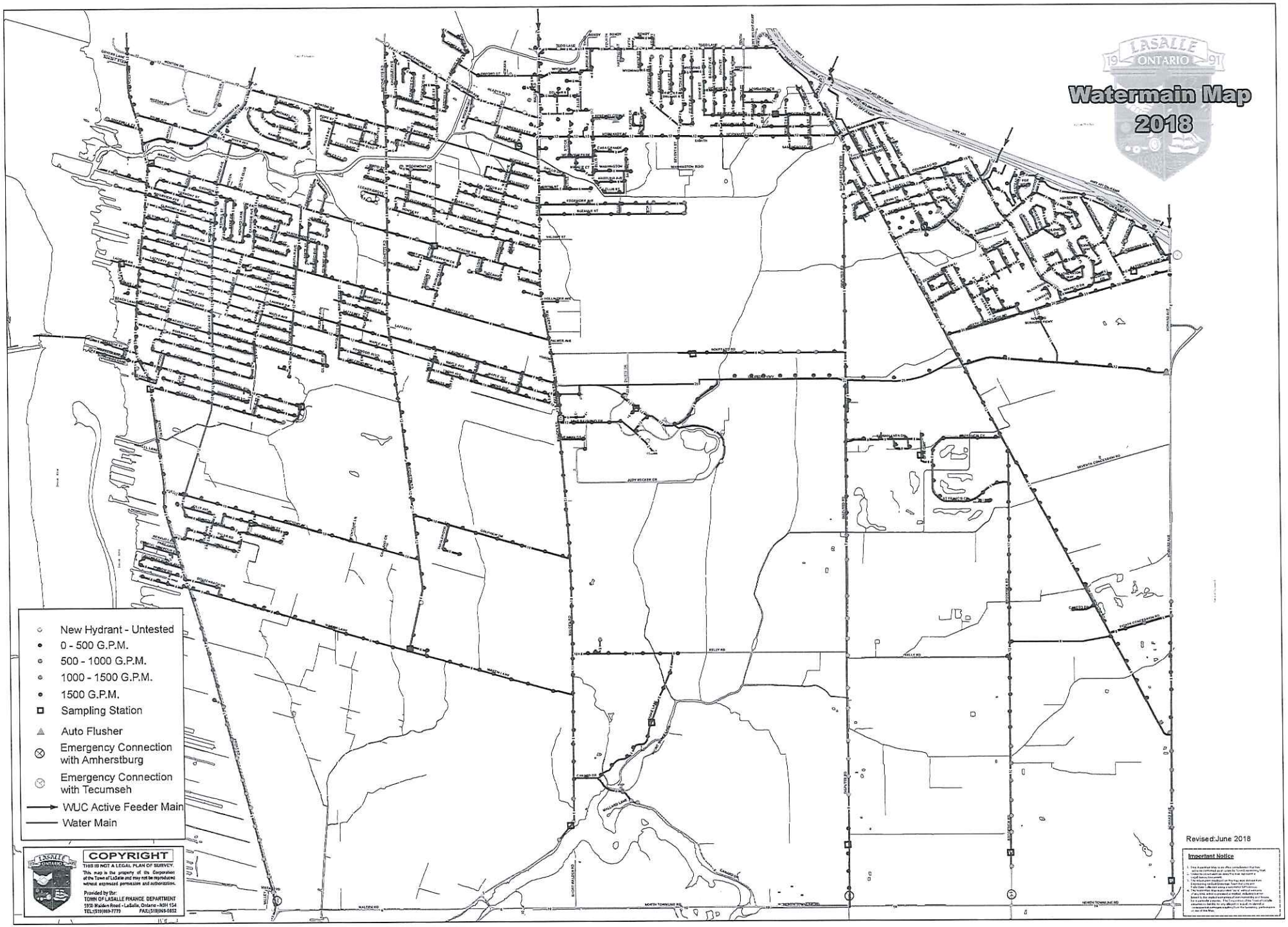
Non-compliant Question(s)	Question Rating
Reporting & Corrective Actions	
Were all required verbal notifications of adverse water quality incidents immediately provided as per O. Reg. 170/03 16-6?	21
TOTAL QUESTION RATING	21

Maximum Question Rating: 241

Inspection Risk Rating	**8.71%**
FINAL INSPECTION RATING:	**91.29%**

Inspection Rating Record Generated On 13-SEP-18 (Inspection ID: 1-ICTQR).

Appendix 2 - Map of Distribution System


LASALLE ONTARIO 1991
Watermain Map
2018
New Hydrant - Untested
0 - 500 G.P.M.
500 - 1000 G.P.M.
1000 - 1500 G.P.M.
1500 G.P.M.
Sampling Station
Auto Flusher
Emergency Connection with Amherstburg
Emergency Connection with Tecumseh
WUC Active Feeder Main
Water Main
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Provided by the:
TOWN OF LASALLE FINANCE DEPARTMENT
5950 Malden Road - LaSalle, Ontario - N9H 1S4
TEL:(519)969-7770 FAX:(519)969-0852
Revised:June 2018
Important Notice

Appendix 3 - Summaries of Reported Sample Results

Summaries of Results Reported for a Regulated Drinking Water System

Ontario

Name	Town Of Lasalle Distribution System
Municipality	Lasalle
Health Unit	Windsor-Essex County Health Unit
MOECC office	Windsor Area Office

ID number	220004402
Regulation	O.REG 170/03
Category	LMRS
Last Sample	05-Jun-2018

Microbiological Summaries

Number of Microbiological Results Reported – Grouped by Month

Collected between Sep 1, 2017 and May 31, 2018

		Raw Water		Treated Water			Distributed Water		
Year	Month	EC	TC	EC	TC	HPC	EC	TC	HPC
2017	Sep						46	46	12
	Oct						40	40	13
	Nov						40	40	12
	Dec						40	40	12

		Raw Water		Treated Water			Distributed Water		
Year	Month	EC	TC	EC	TC	HPC	EC	TC	HPC
2018	Jan						61	61	26
	Feb						40	40	12
	Mar						40	40	12
	Apr						40	40	13
	May						52	52	18

All Microbiological Results on Dates with an Exceedance

Collected between Jan 1, 2006 and May 31, 2018

Sampled	Sample Type	Parameter	Sample Result
09-May-2006	Distributed Drinking Water	Heterotrophic Plate Count (Hpc)	>500 cfu/mL
30-Oct-2006	Distributed Drinking Water	Heterotrophic Plate Count (Hpc)	>500 cfu/mL
23-Apr-2007	Distributed Drinking Water	Total Coliform	135 cfu/dL
	Distributed Drinking Water	Total Coliform	46 cfu/dL
29-Mar-2010	Distributed Drinking Water	Total Coliform	2 cfu/dL
11-Oct-2011	Distributed Drinking Water	Total Coliform	1 cfu/dL
19-Oct-2015	Distributed Drinking Water	Total Coliform	4 cfu/dL
16-Nov-2015	Distributed Drinking Water	Total Coliform	6 cfu/dL
04-Jul-2016	Distributed Drinking Water	Total Coliform	28 cfu/dL
05-Jul-2017	Distributed Drinking Water	Total Coliform	3 cfu/dL
11-Sep-2017	Distributed Drinking Water	Total Coliform	1 cfu/dL
15-Jan-2018	Distributed Drinking Water	Total Coliform	5 cfu/dL
	Distributed Drinking Water	Total Coliform	8 cfu/dL

Chemical Summaries

Total Trihalomethanes

Collected between Jan 1, 2014 and May 31, 2018

Year	Quarter	Sampling Date	Result
2014	1	Jan 13	20.8 ug/L
	2	Apr 15	21.2 ug/L
	3	Jul 21	30.3 ug/L
	4	Oct 1	33.1 ug/L
	Annual Average		**26.4 ug/L**
2015	1	Feb 10	12.7 ug/L
	2	Apr 13	19.1 ug/L
	3	Jul 20	33.9 ug/L
	4	Oct 5	43.5 ug/L
	Annual Average		**27.3 ug/L**
2016	1	Jan 11	11.1 ug/L
	2	Apr 11	18.3 ug/L
	3	Jul 11	32.5 ug/L
	4	Oct 11	33.3 ug/L
	Annual Average		**23.8 ug/L**
2017	1	Jan 16	13.3 ug/L
	2	Apr 18	18.5 ug/L
	3	Jul 17	22.2 ug/L
	4	Nov 21	19.7 ug/L
	Annual Average		**18.4 ug/L**
2018	1	Jan 30	11.7 ug/L
	2	Apr 23	18.4 ug/L
	Annual Average		**15.1 ug/L**

Note: Where reported results suggest a possible concern, compliance with the applicable limit for trihalomethanes should be based upon a running average of results collected in the current quarter (A) and the three preceding quarters (B through D). Where one sample is collected each quarter, the running average for the current quarter equals [A + B + C + D] ÷ 4

Where multiple samples are collected each quarter, the running average for the current quarter equals [Avg(A_1..A_x) + Avg(B_1..B_x) + Avg(C_1..C_x) + Avg(D_1..D_x)] ÷ 4

Total Haloacetic Acids

Collected between Jan 1, 2017 and May 31, 2018

Year	Quarter	Sampling Date	Result	
2017	1	Jan 16	5.3 ug/L	<MDL
	2	Apr 18	5.3 ug/L	<MDL
	3	Jul 17	20.1 ug/L	
	4	Nov 21	6.0 ug/L	
	Annual Average		**9.2 ug/L**	
2018	1	Jan 30	5.3 ug/L	<MDL
	2	Apr 23	5.5 ug/L	
	Annual Average		**5.4 ug/L**	

Lead Summaries

Lead and Alkalinity

Collected between Dec 15, 2007 and May 31, 2018

Sampling Period		Lead - Distribution Results			Lead - Plumbing Results*			Alkalinity - Distribution Results		
Start	End	Num of Results	Avg (ug/L)	Max (ug/L)	Num of Results	Avg (ug/L)	Max (ug/L)	Num of Results	Avg mg/L as CaCO3	Max mg/L as CaCO3
01-Jan-06	14-Dec-07	3	0.23	0.38	0			0		
15-Jun-08	15-Oct-08	29	0.27	2.19	134	1.63	**27.80**	25	79.92	86.00
15-Dec-08	15-Apr-09	14	0.34	2.04	136	6.37	**442.00**	11	91.36	96.00
15-Jun-09	15-Oct-09	13	0.45	1.59	132	0.95	8.01	12	79.50	83.00
15-Dec-11	15-Apr-12	7	0.21	0.56	66	1.45	**22.50**	7	91.43	102.00
15-Jun-12	15-Oct-12	8	0.76	1.46	66	2.67	**127.00**	8	74.00	79.00
15-Dec-12	15-Apr-13	0			0			4	91.00	99.00
15-Jun-13	15-Oct-13	0			0			4	77.25	81.00
15-Dec-13	15-Apr-14	0			0			4	86.50	90.00
15-Jun-14	15-Oct-14	0			0			4	86.25	89.00
15-Dec-14	15-Apr-15	4	0.12	0.33	0			4	84.75	90.00
15-Jun-15	15-Oct-15	4	0.22	0.30	0			4	84.50	95.00
15-Dec-15	15-Apr-16	0			0			4	91.00	97.00
15-Jun-16	15-Oct-16	4	0.07	0.09	0			4	78.50	80.00
15-Dec-16	15-Apr-17	0			0			4	83.75	88.00
15-Jun-17	15-Oct-17	0			0			4	80.50	83.00
15-Dec-17	15-Apr-18	6	1.96	**10.20**	0			4	90.00	92.00

* **Note:** Two samples are to be collected for lead testing from each point of plumbing being assessed, i.e., per Section 15.1-7 of O. Reg. 170/03. Therefore, the number of points being tested should be half of the number of samples reported.

Lead Exceedances

Collected between Dec 15, 2007 and May 31, 2018

Sampling				
Date	Time	Sample Type	Sample Submission ID	Result
18-Jun-2008	1:40 pm	Plumbing Drinking Water	CA15186-JUN08	**23.3 ug/L**
18-Jun-2008	1:41 pm	Plumbing Drinking Water	CA15186-JUN08	**27.8 ug/L**
09-Jul-2008	1:35 pm	Plumbing Drinking Water	CA17679-JUL08	**19.3 ug/L**
09-Jul-2008	1:36 pm	Plumbing Drinking Water	CA17679-JUL08	**19.2 ug/L**
21-Jan-2009	2:37 pm	Plumbing Drinking Water	CA16291-JAN09	**184 ug/L**
21-Jan-2009	2:38 pm	Plumbing Drinking Water	CA16291-JAN09	**442 ug/L**
30-Jan-2009	2:46 pm	Plumbing Drinking Water	CA18325-FEB09	**46.7 ug/L**
30-Jan-2009	2:47 pm	Plumbing Drinking Water	CA18325-FEB09	**89.5 ug/L**
03-Feb-2009	10:10 am	Plumbing Drinking Water	CA18365-FEB09	**14.4 ug/L**
01-Feb-2012	11:45 am	Plumbing Drinking Water	CA14371-FEB12	**22.5 ug/L**
01-Feb-2012	11:46 am	Plumbing Drinking Water	CA14371-FEB12	**19.7 ug/L**
28-Sep-2012	2:12 pm	Plumbing Drinking Water	CA17192-OCT12	**127 ug/L**
28-Feb-2018	7:20 am	Distributed Drinking Water	B18-05174	**10.2 ug/L**

Laboratory Summaries

Laboratories Providing Testing Services to the Drinking Water System
First and Last Sample Summarized by Parameter Group

Lab Licence	Laboratory		Parameter Group				
			Micro-biological	Organic Chemical	Inorganic Chemical	Chemical/ Physical	Other
Unknown License	Enwin Laboratories And Water Research Centre	First Sample	Jan-06	May-06			
		Last Sample	Mar-07	Nov-06			
Unknown License	Als Laboratory Group - Environmental Division (Waterloo)	First Sample	Jan-06	May-06			
		Last Sample	Mar-07	Nov-06			
2209	Sgs Environmental Services - London	First Sample	Mar-07				
		Last Sample	Mar-07				
2276	Caduceon Environmental Laboratories - Windsor	First Sample	Mar-07				
		Last Sample	Jun-18				
2232	Caduceon Environmental Laboratories - Holly Lane	First Sample		May-07	May-07		
		Last Sample		Apr-18	Feb-18		
2206	Sgs Environmental Services - Lakefield	First Sample		Jan-17	Jun-08	Jun-08	
		Last Sample		Apr-18	Mar-18	Mar-18	
2250	Caduceon Environmental Laboratories - Kingston	First Sample	Sep-08				
		Last Sample	Sep-08				
2196	E3 Laboratories Inc. - Niagara-On-The-Lake	First Sample	Apr-09				
		Last Sample	Apr-09				

Appendix 4 - Drinking Water System Dossier - Extracts

021 - Drinking Water System Dossier for 220004402

Drinking Water System Profile Information

DWS #	220004402
Registration Date (yyyy/mm/dd)	2002/09/18
DWS Status	Active DWS
DWS Expiry Date (yyyy/mm/dd)	
MOE Assigned Name	Town Of Lasalle Distribution System
Category	LMRS
Regulation Short Name	O.REG 170/03
DWS Type	Distribution System
Source Type	Distribution
Address	2170 Judy Recker Court, Lasalle, Ontario, N9J 0C3, Canada
Region	Southwestern Region
District	Windsor Area Office
Municipality	Lasalle
Public Health Unit	Windsor-Essex County Health Unit

DWS OPERATIONAL INFORMATION

Concession Plan Number	
Lot	
Geographic Township	
Population:	28,700
Number of Private Residences:	
Number of Service Connections:	
Rated Daily Capacity (L/S)	277.8
Number of DFs Served:	0
LSN Compliance Status:	*Complete LSN*
24/7 Contact	Lasalle Police Service 24 Hour Recorded Line
24/7 Contact Info	p: (519)9694143, f: (519)9692662, e: - , c: - , pg: -

DWS OWNER INFORMATION

Owner Legal Name	Lasalle,The Corporation Of The Town Of
Owner Business Name	Lasalle,The Corporation Of The Town Of
Owner Address	5950 Malden Rd ,Lasalle,ON,N9H 1S4
Owner Contact	Lena Petros, Manager Of Water & Wastewater
Owner Contact Info	p: (519)9697770 x4143, f: (519)9690070, e: lpetros@lasalle.ca
Owner Alternate Contact	Peter Marra, Director Of Public Works
Owner Alternate Contact Info	p: (519)9697770 x1475, f: (519)9690070, e: pmarra@lasalle.ca

DWS OPERATING AUTHORITY INFORMATION

Op. Authority Legal Name	Lasalle,The Corporation Of The Town Of
Op. Authority Business Name	Lasalle,The Corporation Of The Town Of
Op. Authority Address	5950 Malden Rd ,Lasalle,ON,N9H 1S4
Op. Authority Contact	Lena Petros, Manager Of Water & Wastewater
Op. Authority Contact Info	p: (519)9697770 x4143, f: (519)9690070, e: lpetros@lasalle.ca
Op. Authority Alternate Contact	Peter Marra, Director Of Public Works
Op. Authority Alternate Contact Info	p: (519)9697770 x1475, f: (519)9690070, e: pmarra@lasalle.ca

O. Reg 170 DWS that SUPPLY Water to THIS DWS

021 - Drinking Water System Dossier for 220004402

Supplying DWS #	Supplying DWS Name	Supplying DWS Category	How is Water Supplied?
220003421	City Of Windsor Drinking Water System	LMRS	Continuously

Appendix 5 - Memo re Haloacetic Acid Sampling

Ministry of the Environment
and Climate Change

Compliance, Promotion
and Support Branch

2nd floor
40 St. Clair Ave West
Toronto ON M4V 1M2

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

Direction de la promotion de la conformité
et du soutien

2ème étage
40, avenue St. Clair Ouest
Toronto (Ontario) M4V 1M2

Ontario

May 9, 2018

Re: Haloacetic Acids (HAAs) Sampling Concerns

Municipal Drinking Water System Owners/Operators,

The purpose of this document is to clarify ministry guidance for HAAs sampling. HAAs are disinfection by-products (DBPs) that are formed when dissolved organic matter reacts with chlorine which is added for the purpose of disinfection. Detailed information on HAAs can be found in "Health Canada (2008) Guidelines for Canadian Drinking Water Quality: Guideline Technical Document — Haloacetic Acids".

HAAs are a collection of several different compounds. The haloacetic acids most commonly found in drinking water are monochloroacetic acid (MCA), dichloroacetic acid (DCA), trichloroacetic acid (TCA), monobromoacetic acid (MBA) and dibromoacetic acid (DBA). Total HAAs is the sum of these five haloacetic acids. The HAAs most commonly found in the distribution system of drinking water systems are TCA and DCA. However the presence of bromide ions can result in the formation of MBA and DBA.

Volatilization of HAA is not expected in the distribution system as HAAs have low vapour pressure and high water solubility. TCA appears to be the most persistent HAA followed by DCA and then MCA.

Factors influencing the creation of HAAs

The levels of DBPs formed depend on many water quality parameters and operating conditions. In the case of HAAs, higher precursor concentrations (synthetic and natural organic matter, bromide ion) in the raw water, chlorine dose, chlorination pH, water temperature and the residence time will influence the type (THMs, HAAs, etc.) and the levels of DBPs formed. Studies found that surface water sources are more likely to produce higher HAAs than ground water sources.

HAAs concentrations are found to be higher in the distribution system, usually just after the chlorination process. Health Canada studies performed in 2002 and 2003 indicated that concentration of HAAs peaked in the distribution system closer to the chlorine addition point and decreased in the extremities of the system. Furthermore, the location of peak HAA values in a distribution system tends to change throughout the year, it is likely to be closer to the chlorine addition point in the summer and fall and further away from the point in the winter and spring. Precipitation and runoff events can also affect DBPs.

Sampling Points for HAAs

The ministry has recognized that more than one sampling location may be needed to characterize the HAAs levels throughout a municipal distribution system. HAA concentrations

can vary within and between distribution systems and so monitoring samples should be taken at points in the "middle" of the distribution system (i.e. an average water age, post re-chlorination). In light of the recently introduced HAAs standard of 80 µg/L, which will come in to force on January 1, 2020, the following guidance should be used in developing your monitoring program:

1. As a general rule, all samples described below should be obtained from a sampling point where the free (combined) chlorine residual concentration is maintained over 0.2 mg/L (1.0 mg/L) respectively.
2. First year of sampling: A system's established THM sampling point may be appropriate provided the chlorine concentrations are as described in item 1. If the residual is below the concentrations listed, use a nearby sampling point that meets the recommended residual.
3. Second year of sampling (*recommended order of selection*):
    a. Where a system re-chlorinates via a booster station, samples should be obtained in the distribution system after the booster station.
    b. If the system does not have booster stations, but has storage facilities where re-chlorination occurs, the sampling should be at points after the storage facilities.
    c. If the system does not re-chlorinate, but has storage the sampling should be at points after the storage facilities.
    d. If the system does not re-chlorinate nor have storage, obtain the sample from another point in the distribution system.
4. Third year of sampling:
    a. If neither of the running annual averages for HAAs calculated (after year one and two) were higher than one-half of the standard (40 µg/L), the sampling point used in the first year of sampling can be used for compliance in future years.
    b. If one of the running annual averages is over 40 µg/L, the municipality is required to choose a third sampling point using the same criteria as the second year, and obtain samples from this sampling point for the third year. The municipality will then be required to sample from the point which had the highest individual sample result for future years.

The outlined sampling plan is intended to be flexible and recognizes that municipalities have been sampling for HAAs since 2017.

Questions can be directed to: drinking.water@ontario.ca.

Cammy Mack
Director, Compliance, Promotion and Support Branch
Ministry of the Environment and Climate Change