Ministry of the Environment, Conservation and Parks
Eastern Region
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Peterborough ON K9J 3C7
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Ministère de l'Environnement, de la Protection de la nature et des Parcs
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300, rue Water
2e étage, Tour Sud
Peterborough (Ontario) K9J 3C7
Tél: 705 755-4300
558-0595230,

Ontario

October 2, 2020

The Corporation of the Township of Cramahe
1 Ontario Road,
Colborne, Ontario K0K ISO

Attention: Arryn McNichol, Treasurer/CAO

RE: Colborne Drinking Water System (220000790)
Drinking Water Inspection Report 1-ONQ4T
File: SI NO CR PU 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 August 19, 2020.

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 Environmental and Enforcement Compliance Office.

"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 staff for the assistance afforded to me during this compliance assessment. If you have any questions or concerns please contact myself or Jacqueline Fuller, Water Compliance Supervisor, at 705-768-0436.

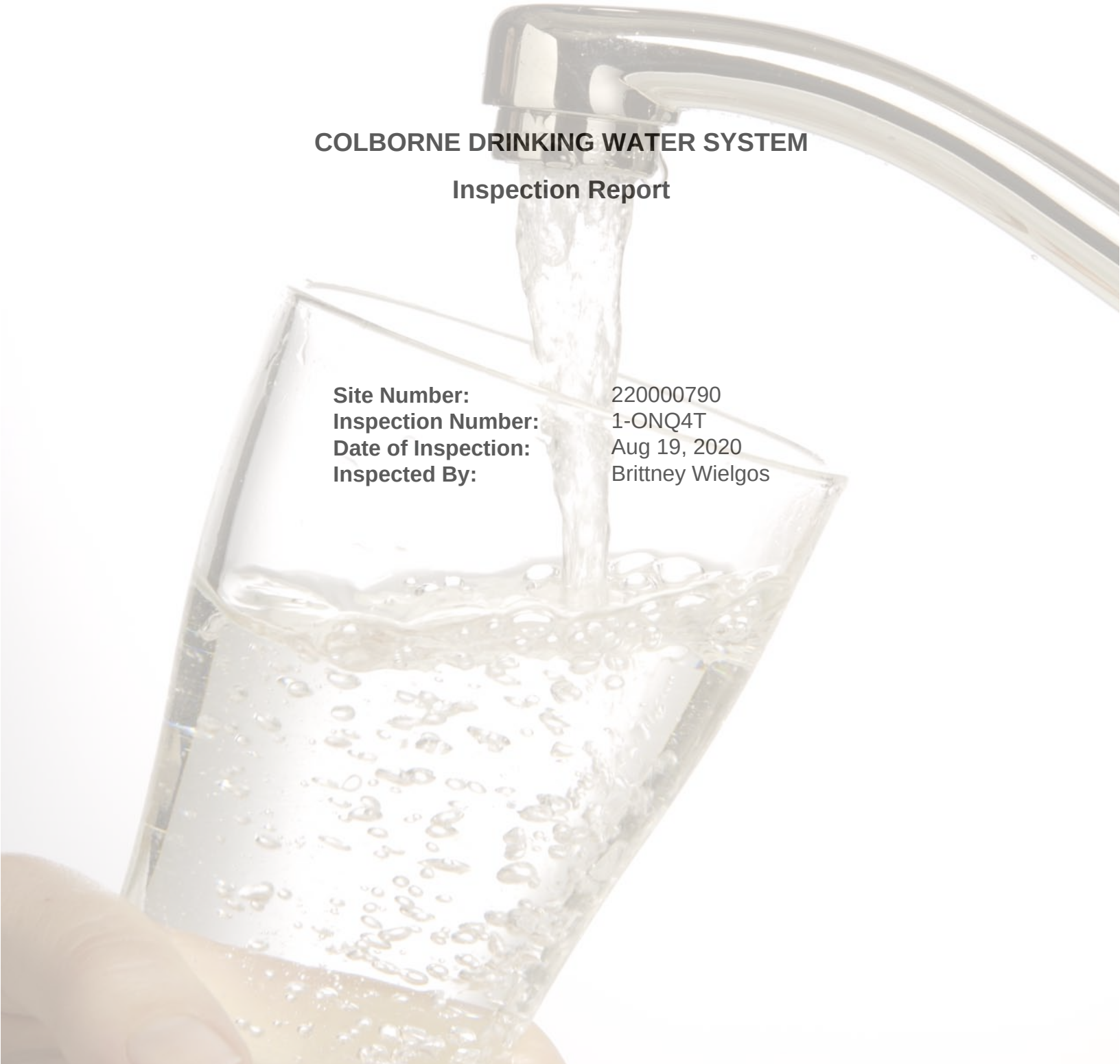
Yours truly,

Brittney Wielgos
Water Inspector
Ministry of the Environment, Conservation and Parks
Drinking Water and Environmental Compliance Division
300 Water Street, 2nd Floor South
Peterborough, ON K9J 3C7
705-768-8195

cc:
David Macpherson, Manager of Public Works and Environmental Services, Township of Cramahe
Larry Spyrka, Manager of Water Capital Projects, Lakefront Utility Services
Shawn Bolender, Manager of Water Operations, Lakefront Utility Services
Sarah Whitton, Water Compliance Coordinator, Lakefront Utility Services
Dr. Lynn Noseworthy, Medical Officer of Health, Haliburton, Kawartha, Pine Ridge District Health Unit
Rhonda Bateman, CAO/Secretary – Treasurer, Lower Trent Conservation Authority
Jacqueline Fuller, Water Compliance Supervisor, Peterborough District Office, MECP

Ontario

Ministry of the Environment, Conservation and Parks



COLBORNE DRINKING WATER SYSTEM

Inspection Report

Site Number:	220000790
Inspection Number:	1-ONQ4T
Date of Inspection:	Aug 19, 2020
Inspected By:	Brittney Wielgos

TABLE OF CONTENTS

OWNER INFORMATION:

Company Name: CRAMAHE, THE CORPORATION OF THE TOWNSHIP OF
Street Number: 1 **Unit Identifier:**
Street Name: ONTARIO Rd
City: COLBORNE
Province: ON **Postal Code:** K0K 1S0

CONTACT INFORMATION

Type: Owner **Name:** Aaryn Mcnichol
Phone: (905) 355-2821 xX33 **Fax:**
Email: amcnichol@cramahetownship.ca
Title: Treasurer/CAO

Type: Owner **Name:** David Macpherson
Phone: (905) 355-2821 xX126 **Fax:**
Email: dmacpherson@cramahetownship.ca
Title: Manager of Public Works and Environmental Services

Type: Operating Authority **Name:** Larry Spyrka
Phone: (905) 372-2193 x5238 **Fax:** (905) 372-2581
Email: lspyrka@lusi.on.ca
Title: Manager of Water Capital Projects

Type: Operating Authority **Name:** Shawn Bolender
Phone: (905) 372-2193 x5239 **Fax:**
Email: sbolender@lusi.on.ca
Title: Manager of Water Operations

Type: Operating Authority **Name:** Sarah Whitton
Phone: (905) 372-2193 x5228 **Fax:**
Email: swhitton@lusi.on.ca
Title: Water Compliance Coordinator

INSPECTION DETAILS:

Site Name: COLBORNE DRINKING WATER SYSTEM
Site Address: 321 PURDY Road COLBORNE ON K0K 1S0
County/District: CRAMAHE
MECP District/Area Office: Peterborough District
Health Unit: HALIBURTON, KAWARTHA, PINE RIDGE DISTRICT HEALTH UNIT
Conservation Authority: Lower Trent Conservation
MNR Office:
Category: Large Municipal Residential
Site Number: 220000790
Inspection Type: Announced
Inspection Number: 1-ONQ4T

Date of Inspection: Aug 19, 2020
Date of Previous Inspection: Dec 17, 2019

COMPONENTS DESCRIPTION

Site (Name): RAW WATER - WELL NO. 1 (Standby Well)
Type: Source **Sub Type:** Ground Water
Comments:
Well No. 1 is a 150 mm diameter, 71.3 m deep drilled well, equipped with a submersible well pump rated at 13.2 L/s, a total dynamic head (TDH) of 83.3 m, with a 150 mm pump discharge connected to the well pump common discharge header. Well No. 1 has historically had problems with high turbidity levels and is only used as a standby well when Well No. 2 is out of service.

Site (Name): RAW WATER - WELL NO. 2 (Duty Well)
Type: Source **Sub Type:** Ground Water
Comments:
Well No. 2 is a 500 mm diameter, 72.5 m deep drilled well, equipped with a vertical turbine pump rated at 38.0 L/s with a total dynamic head (TDH) of 91.5 m. Well No. 2 is the main production well.

Site (Name): TREATED WATER - COLBORNE WTP
Type: Treated Water POE **Sub Type:** Treatment Facility
Comments:
The Colborne Well Supply consists of disinfection with liquid sodium hypochlorite solution and iron sequestering with sodium silicate. Completion of the system upgrades in 2002 included the installation of a 215 meters serpentine pipe, 450 mm in diameter, in order to provide sufficient chlorine contact time. Continuous online analyzers monitor treated water for chlorine residual prior to discharge to the distribution system. Turbidity samples are taken monthly from both wells and from the treated sample point. Magnetic flow meters monitor raw water taken from each well.

Site (Name): DISTRIBUTION
Type: Other **Sub Type:** Other
Comments:
Distribution piping runs from each well directly to a common feedermain that supplies the community. The distribution system consists approximately 27 km of watermain ranging in size from 25 mm to 300 and made of PVC, ductile iron and cast iron. The distribution has 130 fire hydrants, 900 residential water meters and 109 industrial, commercial and institutional water meters.

Site (Name): COLBORNE TREATED WATER STORAGE TANK
Type: Other **Sub Type:** Other
Comments:
The Colborne treated water storage tank is located at 220 Herley Road, Colborne. The standpipe has a total storage volume of 2342 m^3 and usable volume of 2,282 m^3.

Site (Name): MOE DWS Mapping
Type: DWS Mapping Point **Sub Type:** Other

Site (Name): STAND-BY POWER GENERATOR
Type: Stand-by Power Generation **Sub Type:** STP Generator

Comments:
A stand-by power supply is provided by a 100 kW diesel generator and an 814 litre capacity double-walled fuel storage tank.

INSPECTION SUMMARY:

Introduction

- **The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry drinking water related policies and guidelines during the inspection period. The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment and distribution components as well as management practices.**

  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 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.

  On August 19, 2020, Provincial Officer Brittney Wielgos began an announced focused inspection of the Colborne Drinking Water System.

  The Colborne Drinking Water System (the System) is owned by the Corporation of the Township of Cramahe and operated by Lakefront Utility Services Inc. (LUSI). The water treatment plant and supply wells are located at 321 Purdy Road in the Township of Cramahe, County of Northumberland and the water tower is located at 220 Herley Road.

  The System has a rated capacity of 3,283 cubic meters per day (m^3/day). The Colborne Distribution and Supply is classified as a Class 3 Water Distribution and Supply Subsystem.

  The System delivers treated water through approximately twenty-seven (27) kilometers of watermains ranging in diameter sizes from 25 mm to 250 mm into two (2) pressure zones. Source water is provided by two (2) secure ground water wells. The System provides potable water to a population of approximately 2,160 in the Village of Colborne.

  The inspection included a compliance assessment of applicable Ministry of Environment, Conservation and Parks (MECP) legislation, an inspection of the procedures used within the treatment and distribution system, and a review of records.

  Records reviewed in conjunction with this inspection include:
  - Drinking Water Works Licence No. 138-101 Issue Number 2 (The Licence); and,
  - Drinking Water Works Permit No. 138-201 Issue Number 2 (The Permit)
  -Permit to Take Water Number: 2363-8VMR6M

  This inspection was conducted pursuant to section 81 of the Safe Drinking Water Act in order to assess compliance with the requirements of Ontario Regulation 170/03. The drinking water inspection included: physical inspections of

Introduction

the equipment and facilities; interviews with operating authority staff; and, a review of relevant documents from the period of December 17, 2019 to August 19, 2020 (hereafter referred to as the "inspection review period").

Source

- **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.**

  Source water for the System is obtained from two (2) groundwater wells identified as Well No. 1 and Well No. 2.

  Both wells are located within their respective well pumphouses at 321 Purdy Road in Colborne, Ontario. Well No. 1 experiences high turbidity due to sand at pumping rates above 10 litres per second, therefore, Well No. 1 is the standby well and Well No. 2 is designated the duty well.

  A third drilled well was completed in 2015, identified as Well No.1A is located approximately 16 m northwest of Well No. 1. On April 11, 2020 a Permit to Take Water was issued for Well No. 1A, #8612-BNENBH. Well No. 1A is not currently connected to the Colborne DWS.

  LUSI performs monthly inspections of the production wells, as described in 'LT Infrastructure Tracking - Colborne DWS'. Most recently a visual inspection was performed on July 27, 2020.

  There were no concerns identified following a visual inspection of the casing and the immediate area around each well. Furthermore, no concerns were detected following the review of the raw water quality data for the inspection review period.

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

  Conditions 16.2.8, 16.2.9 and 16.2.10 of Schedule B of Municipal Drinking Water Licence 138-101 prescribe that the Colborne DWS Operations and Maintenance Manual must include a well inspection and maintenance program that includes the following:

  - An inspection schedule for all wells associated with the drinking water system, including all production wells, stand-by wells, test wells and monitoring wells;
  -Well inspection and maintenance procedures for the entire well structure of each well including all above and below grade well components; and
  -Remedial action plans for situations where an inspection indicates non-compliance with respect to regulatory requirements and/or risk to raw well water quality.

  LUSI utilizes 'SOP-COLWTP-Well Inspection, Maintenance and Refurbishment" procedure which outlines the inspection and maintenance of the Colborne Water System production and monitoring wells.

  LUSI performs monthly visual inspection of the wells which inludes a visual inspection of the well cap, air vent screen and electrical conduit for Well No.1, as described in 'SOP-COLWTP-Well Inspection'. Visual inspection of Well No. 2 consists of visual inspection of the well pump head, including the air vent screen, packing condition and leakage rate, sound and vibration level.

  Furthermore, the well level and status is recorded on the Daily Log Sheet.

Capacity Assessment

- **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.**

Capacity Assessment

At the time of the inspection sufficient flow meters were installed to permit the continuous measurement of the flow rates and daily volume of treated water that flows from the treatment subsystem into the distribution system in accordance with Condition 2 of Schedule C of the Licence.

- **The owner was in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Municipal Drinking Water Licence issued under Part V of the SDWA.**

  Condition 1.1 of Schedule C of the Licence requires that the System not be operated to exceed the rated capacity of:

  Colborne Drinking Water System: 3,283 m^3/day

  The rated capacity was not exceeded during the inspection review period. The maximum treated flow for the inspection review period was 1,519 m^3/day in June 2020.

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.**

  The Drinking Water Works Permit Number 138-201 outlines the equipment installed throughout the Colborne Drinking Water System which includes the ground water supply, pumphouse and the treated water storage tank.

  During the physical inspection, a comparison between the equipment described in the permit and the equipment installed on site was performed.

- **The owner/operating authority was in compliance with the requirement to prepare Form 2 documents as required by their Drinking Water Works Permit during the inspection period.**

  During the inspection review period a Form 2 - Record of Minor Modifications or Replacements to the Drinking Water System was prepared, dated May 19, 2020.

  The Form 2 describes the installation of one (1) upgraded sodium silicate pump to replace two (2) sodium silicate pumps. The pump was placed in service on May 19, 2020.

  The Form 2 documents reviewed suggests that the documents were prepared in accordance with the Drinking Water Works Permit.

- **Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers.**

  Section 1-3 of Schedule 1 of O. Reg. 170/03 states that the Owner of a drinking water system that obtains water from a raw water supply that is ground water shall ensure provision of water treatment equipment that is designed to be capable of achieving, at all times, primary disinfection in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario, including at least 99 per cent removal or inactivation of viruses by the time water enters the distribution system.

  The System consists of two (2) wells Well No. 1 is equipped with a constant speed submersible pump and Well No.2 is equipped with a variable speed vertical turbine pump. The well water is pumped from one of the two wells to the raw water header in the treatment building. Treatment consists of chlorination for disinfection purposes and the addition of sodium silicate for iron sequestering.

  Contact time is achieved via an 215 m long, 450 mm diameter underground serpentine pipe located east of Well

Treatment Processes

No. 1 pumphouse.

The online free chlorine analyse is located at the end of the contact piping and measures the effluent free chlorine. The DWS will alarm at a high free chlorine level of 3.0 mg/L and a low free chlorine level of 0.65 mg/L. The DWS low-low alarm will shut the plant down at 0.45 mg/L.

A review of records indicates that treatment equipment was operated in accordance with the design capabilities during the inspection review period.

- **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 free chlorine residual grab samples taken from the Colborne distribution system indicate that the free chlorine residual was greater than 0.05 mg/L at all times during the inspection review period.

  The minimum free chlorine residual measured during the inspection review period was 0.56 mg/L.

- **Where an activity has occurred that could introduce contamination, all parts of the drinking water system were disinfected in accordance with Schedule B, Condition 2.3 of the Drinking Water Works Permit.**

Treatment Process Monitoring

- **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 System is equipped with one (1) online continuous analyser to monitor chlorine residual at the end of the 215 m serpentine (450 mm diameter PVC pipe).

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

  Section 7-2 (3) of Schedule 7 of O.Reg.170/03 requires the owner of a large municipal residential system that provides secondary disinfection and the operating authority for the system shall ensure that at least seven distribution samples are taken each week in accordance with subsection (4) and are tested immediately for, (a) free chlorine residual, if the system provides chlorination and does not provide chloramination; or (b) combined chlorine residual, if the system provides chloramination.

  Unless one sample is collected each day of the week, four (4) of the samples must be taken on one day of the week and three (3) of the samples are to be taken on a second day of the week, at least 48 hours after the last sample was taken on the previous day in the same week.

  LUSI operators collect one chlorine residual each day from the distribution system and record it on form "Colborne Daily Operational Checks". Additionally, at least three (3) chlorine residual samples were collected from the distribution system each week while conducting routine distribution microbiological.

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

  The System is inspected on a daily basis by a licenced operator to monitor the process, perform operational duties, maintenance and respond to customer concerns as described in procedure P08 "Operator Duties". The Township has installed a SCADA system that continuously monitors process parameters. Daily checks include: reviewing the previous 24 hour SCADA trending and physical verification of conditions at the treatment plant once per day.

Treatment Process Monitoring

- **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.**

  At the time of the inspection, the continuous monitoring equipment utilized for sampling and testing of chlorine residual was equipped with the following alarm set points:

  Minimum Alarm Set Points:
  Outlet Analyser - Low: 0.65 mg/L; Low-Low - Shutdown: 0.45 mg/L

  Maximum Alarm Set Point:
  Outlet Analyser- High: 3.0 mg/L

- **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.**

- **All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.**

  LUSI staff utilize procedure 'QMS-D08-Instrument Calibration' which contains a list of instruments that are calibrated in-house by LUSI operators and externally by a third-party contractor.

  Review of records indicate that online chlorine analysers are verified against portable chlorine analysers on a regular basis.

  Calibration and verification of continuous analysers was completed in June 2020 by Nichol Water Services.
  Calibration and verification of flow meters was completed in May 2020 by Franklin Empire.

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

- **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.**

  Based on the review of records during the inspection review period, it appears that only certified operators performed operational tests.

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.**

Certification and Training

Subsection 23(1) of O. Reg. 128/04 "Certification of Drinking-Water System Operators and Water Quality Analysts" states that a municipal residential drinking water system must have a designated overall responsible operator (ORO). The ORO shall be an operator who holds a certificate for that type of subsystem (e.g. water distribution subsystem) and that is of the same class or higher than the class of that subsystem.

LUSI established procedure P08 "Operator Duties" to ensure that the designation of the Overall Responsible Operator (ORO) is clearly defined and documented. LUSI appoints the Manager of Water Capital Projects as the ORO for the Colborne Drinking Water System. Operators identify the ORO in the logbook each day of the year during daily system checks.

The Colborne Drinking Water System is a Water Distribution and Supply Subsystem Class 3. During the inspection review period, Larry Spyrka, Manager of Water Capital Projects possessed a Water Distribution and Supply Subsystem Class 3 certification that expires on May 31, 2023 and a Water Treatment Subsystem Class 3 certificate that expires on October 31, 2020.

During the inspection review period, the ORO and alternates possessed the appropriate operator certificates to serve in this capacity.

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

  LUSI designates all operators with the exception of Operators in Training as Operator in Charge (OIC). The OIC is identified each day in the daily logbook.

- **All operators possessed the required certification.**

- **Only certified operators made adjustments to the treatment equipment.**

Water Quality Monitoring

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

  Schedule 10, Section 10-2 of O.Reg.170/03 indicates that at least eight distribution samples plus one additional distribution sample for every 1,000 people served by the system are to be taken each month with at least one sample being taken each week.

  The population served, based on service connections, is 2000, indicating ten (10) samples are to be taken each month and tested for E.coli and total coliform, with at least 25% of those also being tested for heterotrophic plate count (HPC).

  Distribution sample results reviewed for the inspection review period indicated that three (3) samples were collected each week.

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

  Section 10-3 of Schedule 10 of O. Reg. 170/03 requires that the Owner of a drinking water system and the Operating Authority for the system ensure that a water sample is taken at least once every week and tested for E.coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic plate count.

  A review of sample records provided during the inspection period indicates that one treated water sample was collected from the System each week.

- **All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Water Quality Monitoring

Section 13-2 (1) of Schedule 13 of O. Reg. 170/03 states that the owner of a large municipal drinking water system and the operating authority for the system shall ensure that at least one water sample is taken every 36 months, if the system obtains water from a raw water supply that is ground water. The owner shall ensure that each of the samples taken is tested for every parameter set out in Schedule 23.

Samples for Schedule 23 inorganic parameters were analyzed on January 13, 2020.

- **All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

  Section 13-4 (1) of Schedule 13 of O. Reg. 170/03 states that the owner of a large municipal drinking water system and the operating authority for the system shall ensure that at least one water sample is taken every 36 months, if the system obtains water from a raw water supply that is ground water. The owner shall ensure that each of the samples taken is tested for every parameter set out in Schedule 24.

  Samples for Schedule 24 organic parameters were analyzed on January 13, 2020.

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

  Schedule 13-11 of O. Reg. 170/03 requires the owner of a drinking water system that provides chlorination or chloramination and the operating authority for the system shall ensure that at least one distribution sample is taken in each calendar quarter, from a point in the drinking water system's distribution system, or plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of haloacetic acids.

  Results provided by LUSI indicate that sampling was conducted in each calendar quarter, as required.

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

  Section 13-6 of Schedule 13 of O. Reg. 170/03 requires that the owner of a drinking water system that provides chlorination and the operating authority for the system ensure that at least one distribution sample is taken every three months, from a point in the drinking water system's distribution system, or plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of trihalomethanes. Each sample shall be tested for trihalomethanes.

  Results provided by LUSI indicate that sampling was conducted every three months as required.

- **All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS.**

  Section 13-7 of Schedule 13 of O. Reg. 170/03 requires that the owner of a drinking water system and the operating authority for the system ensure that at least one water sample is taken every three months and tested for nitrate and nitrite.

  Results provided by LUSI indicate that sampling was conducted a minimum of every three months.

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

  Section 13-8 of Schedule 13 of O. Reg. 170/03 requires that the owner of a drinking water system and the operating authority for the system ensure that at least one water sample is taken every 60 months and tested for sodium.

Water Quality Monitoring

Results provided by LUSI indicate that sampling was last completed September 16, 2019.

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

  Section 13-9 of Schedule 13 of O. Reg. 170/03 requires that the owner of a drinking water system and the operating authority for the system ensure that at least one water sample is taken every 60 months and tested for fluoride.

  Results provided by the LUSI indicate that sampling was last completed September 16, 2019.

- **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 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).**

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.**

  On June 23, 2020, an adverse water quality incident (AWQI #150355) was reported due to a loss of pressure to four services on County Road 2, Northumberland (13548, 13574, 13580 and 13590). LUSI staff arrived on site and confirmed zero water pressure. LUSI operators worked to restore pressure to all affected residences. Once pressure was restored a free chlorine residual was observed at 0.98 mg/L.

  A Boil Water Order (BWO) was issued by Haliburton, Kawartha, Pine Ridge (HKPR) Health Unit on June 23, 2020 to the Township of Cramahe order them to :

  -Immediately provide the 3 impacted homes and 1 commercial business with copies of the BWO and Boil Water Advisory (BWA) that the Haliburton Kawartha Pine Ridge Health Unit (HKPR) has issued.
  -Complete all necessary repairs by December 31, 2020.
  -Once all repairs are completed, collect two (2) satisfactory bacteriological water samples at least 24 hours apart but not greater than 48 hours apart and submit the results to the HKPR.

  The cause of the low pressure event is still under investigation and the BWO is currently in place. Temporary pressure tanks have been installed at all four residences to maintain pressure. At the time of the inspection, the Township of Cramahe is in the process of selecting a project contract and intends for the construction to happen as soon as possible.

- **All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.**

- **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.**

  A review of continuous monitoring records and logbook entries for the inspection review period suggest that when an alarm was triggered that a certified operator responded and took appropriate action.

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.

Not Applicable

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: Brittney Wielgos

Signature: (Provincial Officer)

Reviewed & Approved By: Jackie Fuller

Signature: (Supervisor)

Review & Approval Date: 02/10/2020

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.

Ontario

APPENDIX A

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 Ministry if you need assistance or have questions at 1-866-793-2588 or waterforms@ontario.ca.

For more information on Ontario's drinking water visit www.ontario.ca/drinkingwater

PUBLICATION TITLE	PUBLICATION NUMBER
FORMS: Drinking Water System Profile Information Laboratory Services Notification Adverse Test Result Notification	 012-2149E 012-2148E 012-4444E
Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils	Website
Procedure for Disinfection of Drinking Water in Ontario	Website
Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids	Website
Filtration Processes Technical Bulletin	Website
Ultraviolet Disinfection Technical Bulletin	Website
Guide for Applying for Drinking Water Works Permit Amendments, & License Amendments	Website
Certification Guide for Operators and Water Quality Analysts	Website
Guide to Drinking Water Operator Training Requirements	9802E
Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption	Website
Drinking Water System Contact List	7128E01
Ontario's Drinking Water Quality Management Standard - Pocket Guide	Website
Watermain Disinfection Procedure	Website
List of Licensed Laboratories	Website

Ontario

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 ministère au 1-866-793-2588, ou encore à waterforms@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

TITRE DE LA PUBLICATION	NUMÉRO DE PUBLICATION
Renseignements sur le profil du réseau d'eau potable Avis de demande de services de laboratoire Avis de résultats d'analyse insatisfaisants et de règlement des problèmes	012-2149F 012-2148F 012-4444F
Prendre soin de votre eau potable - Un guide destiné aux membres des conseils municipaux	Site Web
Marche à suivre pour désinfecter l'eau portable en Ontario	Site Web
Stratégies pour minimiser les trihalométhanes et les acides haloacétiques de sous-produits de désinfection	Site Web
Filtration Processes Technical Bulletin (en anglais seulement)	Site Web
Ultraviolet Disinfection Technical Bulletin (en anglais seulement)	Site Web
Guide de présentation d'une demande de modification du permis d'aménagement de station de production d'eau potable	Site Web
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	Site Web
Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable	9802F
Échantillonnage et analyse du plomb dans les collectivités : échantillonnage normalisé ou réduit et admissibilité à l'exemption	Site Web
Liste des personnes-ressources du réseau d'eau potable	Site Web
L'eau potable en Ontario - Norme de gestion de la qualité - Guide de poche	Site Web
Procédure de désinfection des conduites principales	Site Web
Laboratoires autorisés	Site Web

Ontario

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APPENDIX B

INSPECTION RATING RECORD

Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2020-2021)

DWS Name:	COLBORNE DRINKING WATER SYSTEM
DWS Number:	220000790
DWS Owner:	Cramahe, The Corporation Of The Township Of
Municipal Location:	Cramahe
Regulation:	O.REG 170/03
Category:	Large Municipal Residential System
Type Of Inspection:	Focused
Inspection Date:	August 19, 2020
Ministry Office:	Peterborough District

Maximum Question Rating: 499

Inspection Module	Non-Compliance Rating
Source	0 / 14
Capacity Assessment	0 / 30
Treatment Processes	0 / 81
Operations Manuals	0 / 28
Logbooks	0 / 14
Certification and Training	0 / 42
Water Quality Monitoring	0 / 112
Reporting & Corrective Actions	0 / 66
Treatment Process Monitoring	0 / 112
TOTAL	**0 / 499**

Inspection Risk Rating	**0.00%**

FINAL INSPECTION RATING:	**100.00%**

Inspection Rating Record Generated On 02-OCT-20 (Inspection ID: 1-ONQ4T).

Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2020-2021)

DWS Name:	COLBORNE DRINKING WATER SYSTEM
DWS Number:	220000790
DWS Owner:	Cramahe, The Corporation Of The Township Of
Municipal Location:	Cramahe
Regulation:	O.REG 170/03
Category:	Large Municipal Residential System
Type Of Inspection:	Focused
Inspection Date:	August 19, 2020
Ministry Office:	Peterborough District

Maximum Question Rating: 499

Inspection Risk Rating	**0.00%**

FINAL INSPECTION RATING:	**100.00%**

Inspection Rating Record Generated On 02-OCT-20 (Inspection ID: 1-ONQ4T).