



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

1266 West Elgin Distribution System
Operations Report
Fourth Quarter 2022

Ontario Clean Water Agency, Southwest Region
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Facility Description

Facility Name: West Elgin Distribution System

Facility Type: Municipal

Classification: Class 1 Water Distribution

Drinking Water System Category: Large Municipal Residential

Title Holder: Municipality

Service Information

Area(s) Serviced: The West Elgin Distribution System receives water from the Tri-County Drinking Water System and services the communities of West Lorne, Rodney, Eagle, New Glasgow and Rural areas within the municipality.

Operational Description:

In addition to the watermains, valves, auto flushers, sample stations and fire hydrants, the West Elgin Distribution System has a water storage facility. The system is controlled at the Tri-County Water Treatment Plant by the SCADA system.

The Rodney Tower in conjunction with the West Lorne Standpipe (a part of the Tri-County Drinking Water System) provides water pressure to the distribution system. The highlift pumps at the Tri-County Water Treatment Plant start when the West Lorne Standpipe reaches the start set point and will continue to fill till the stop set point. Based on the elevations in the system, the Rodney Tower will only begin filling once the West Lorne Standpipe is full. There are four chambers located at Pioneer Line, Marsh Line, Silver Clay and Talbot Line West of Graham that control the flow to Rodney. These chambers contain automated valves so that when the Rodney Tower reaches the start set point the valves open up to allow water to be fed from the West Lorne distribution system. The highlift pumps stop set point of the West Lorne Standpipe will be overridden if the Rodney Tower has not reached its stop set point, and therefore will continue to run to fill up the Rodney Tower.

Key information on the Rodney Tower:

- Single fill/draw 300mm diameter pipe
- Constructed in 1994 by Landmark
- Volume of 1,200m³
- Base elevation: 210.8m; Storage elevations: 238.9m to 250.6m; therefore resulting water pressure 276-386kPa (40-56psi)
- Located at 192 Victoria Street in Rodney

SECTION 1: COMPLIANCE SUMMARY

FIRST QUARTER:

There were no compliance or exceedance issues reported for the first quarter.

SECOND QUARTER:

There were no compliance or exceedance issues reported for the second quarter.

THIRD QUARTER:

There were no compliance or exceedance issues reported for the third quarter.

FOURTH QUARTER:

There were no compliance or exceedance issues reported for the fourth quarter.

SECTION 2: INSPECTIONS

FIRST QUARTER:

On February 11th, 2022 a routine MECP inspection took place by Angela Stroyberg. A rating of 100% was received.

SECOND QUARTER:

There were no MECP or MOL inspections for the second quarter.

THIRD QUARTER:

There were no MECP or MOL inspections for the third quarter.

FOURTH QUARTER:

There were no MECP or MOL inspections for the fourth quarter.

SECTION 3: QEMS UPDATE

FIRST QUARTER:

There have been no updates to QEMS at this time.

SECOND QUARTER:

There have been no updates to QEMS at this time.

THIRD QUARTER:

The DWQMS took place on June 29, 2022 by Terri-Lynn Thomson. 0 non-conformances and 11 opportunities for improvement were found. The Management review took place on July 19, 2022 along with the 36-month risk assessment redo. The external audit took place on September 12, 2022 by Sandra Tavares of SAI Global. 0 non-conformances and OFI's were found.

FOURTH QUARTER:

There have been no updates to QEMS at this time.

SECTION 4: PERFORMANCE ASSESSMENT REPORT

All sampling and testing have met O. Reg. 170/03 requirements. The limit for Total Coliform and E. coli is zero, heterotrophic plate count (HPC) doesn't have a limit. This is an operational guide to initiate an action plan if results are continuously high in an area. Samples are taken at four different locations throughout the distribution system each week, see results below.

	# Samples	Total Coliform Range (cfu/100mL)	E. coli Range (cfu/100mL)	# Samples	HPC (cfu/100mL)
January	20	0 - 0	0 - 0	10	<10 – <10
February	16	0 - 0	0 - 0	8	<10 – <10
March	16	0 - 0	0 - 0	8	<10 – <10
April	16	0 - 0	0 - 0	8	<10 – 20
May	20	0 - 0	0 - 0	10	<10 – <10
June	16	0 - 0	0 - 0	8	<10 – 60
July	16	0 - 0	0 - 0	8	<10 – <10
August	20	0 - 0	0 - 0	10	<10 – <10
September	16	0 - 0	0 - 0	8	<10 – <10
October	20	0 - 0	0 - 0	10	<10 – <10
November	16	0 - 0	0 - 0	8	<10 – 60
December	16	0 - 0	0 - 0	8	<10 – 20

Trihalomethanes are sampled on a quarterly basis. The table below shows the current running average in 2022. The annual average in 2021 was 51.25 ug/L, therefore the current running average has decreased 8.3% when compared to the annual average in 2021.

	Limit (ug/L)	THM Result (ug/L)
January 2022	-	43
April 2022	-	36
July 2022	-	38
October 2022	-	71
Running Average	100	47

Haloacetic Acids (HAAs) are sampled on a quarterly basis in accordance with O. Reg. 170/03. The table below shows the running average so far in 2022. The annual average in 2021 was 26.4 ug/L, therefore the current running average has increased 6.6% when compared to the annual average in 2021.

	Limit (ug/L)	HAA Result (ug/L)
January 2022	-	18.1
April 2022	-	20.5
July 2022	-	22.6
October 2022	-	51.3
Running Average	80	28.1

The Rodney Tower continuously monitors the free chlorine residual of the water. The results fluctuate based on fill cycles. During the winter months the results are usually very good, however, once there is warmer weather the chlorine residuals dissipate. In spring of 2018 the Rodney tower installed a re-chlorination facility. Chlorine residuals are taken throughout the distribution system in accordance to O. Reg. 170/03 requirements. The graph below provides the minimum, maximum and average chlorine residuals throughout the distribution system in 2022.

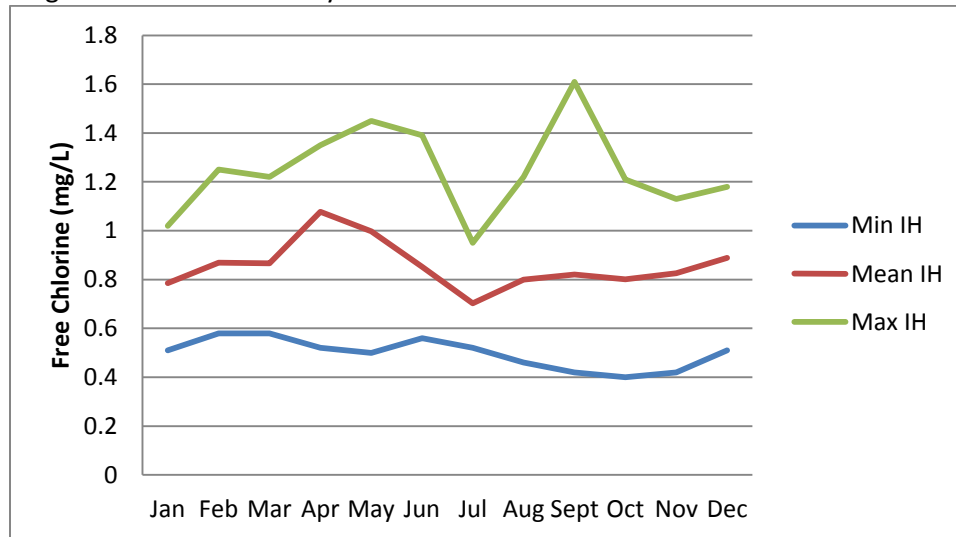


Figure 1. Free Chlorine Residuals in Distribution System

SECTION 5: OCCUPATIONAL HEALTH & SAFETY

FIRST QUARTER:

There were no Health & Safety issues identified during the first quarter.

SECOND QUARTER:

There were no Health & Safety issues identified during the second quarter.

THIRD QUARTER:

There were no Health & Safety issues identified during the third quarter.

FOURTH QUARTER:

There were no Health & Safety issues identified during the fourth quarter.

SECTION 6: GENERAL MAINTENANCE:

FIRST QUARTER

JANUARY

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

General maintenance as schedule by WMS

18: On site on Highway #3-new build; completed live tap.

FEBRUARY

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

General maintenance as schedule by WMS

03: PH calibration at analyzers.

24: On site at Fletchers Lane & Centre Street Rodney for service leak on 2 inch service. Working alongside municipal workers, replaced approximately 1.5 feet of two inch PVC pipe.

MARCH

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

General maintenance as schedule by WMS

17: Operator on site at Bus depot West Lorne for Fire Flow testing with Forest City Fire Protection.

28: Operator on site at 154 John Street, West Lorne for water leak. Operator installed 4 inch saddle on main, re-tapped water service to home, re-opened valves and flushed before leaving site.

SECOND QUARTER:

APRIL:

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

General maintenance as schedule by WMS

Spring Hydrant Flushing commence from April 4th - April 15th

06: Hydrant # 36 @ Funival Rd and Gray Line repaired

07: Hydrant # 42 @ 21257 Gray Lie repaired

12: PVEX Contracting on site at Gray Line for new water meter installation to future sub-division

26: On site at Graham Road and Marsh Line for fire flow testing with Kent Sprinkler System.

MAY:

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

General maintenance as schedule by WMS

No out of scope maintenance completed.

JUNE:

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

General maintenance as schedule by WMS

09: Hydrant #18 at 10794 Graham Road repaired

29: Service repair with West Elgin Roads crew at 188 Munroe St, West Lorne; replaced 1.5 feet of 5/8 service pipe and brand new curb box.

THIRD QUARTER:

JULY

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

05: On site at 22208 Douglas Street; operator completed live tap as requested by municipality for new build.

08: On site to repair chlorine injector; operator used valves to bypassed injector, removed, re built and reinstalled.

14: Blow offs completed for the month.

- 20: Closed secondary valve and bagged hydrant at the corner of Marsh Line and Furnival Road as requested by OIC due to possible leaking hydrant.
- 21: On site with Keith Douglas Services for inspection of backflow preventers.

AUGUST

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

- 05: Operator on site at Rodney Water Tower to inspect the chlorine spikes. Lowered stroke length on pumps from 60% to 30%.
- 09: Completion of monthly dead end blow offs and sample station point checks. Sample Station 4 is leaking; operator turned off at curb stop to prevent wasted water.
- 12-29: Valve turning

SEPTEMBER

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

- 01: Operator instructed by ORO S. Smith to flush distribution hydrants close to Rodney tower to get low and high slugs of chlorine out of system.
- 06: Fall hydrant flushing begins.
- 07: Operator repaired bagged out of service hydrant located at Furnival and Marsh Line.
- 16: Fall hydrant flushing completed.
- 20: Operator on site at the corner of Graham and Queens Line to repair bagged out of service hydrant.
- 27: Operator reviewed trending for high chlorine alarms. Conditions last only approximately 5 minutes each time with no flow directed OUT to the distribution system. Will continue to investigate issues with chlorine spiking. Operator from Tri County WTP on SCADA for Rodney Tower; changed Rodney tower full chlorine concentration from 1.30 to 0.80 and Rodney tower emptying chlorine concentration from 1.30 to 0.80. Discussed with ORO Sam Smith.

FOURTH QUARTER:

OCTOBER

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

- 07: Pulled chlorine injector at Rodney Tower
- 17: Turned off curb stop for sample station on Dunborough Road due to complaint about sample station leaking.
- 31: Replaced controller for auto flusher on McMurchy.

NOVEMBER

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

- 09: Completed new 1" service tap and curb install at 174 Main Street, West Lorne for Titan Contracting as per SOM, Sam Smith and Mike Kalita.
- 23: On site at 131 Main Street in West Lorne for watermain live tap. Mike Golding on site for tap of 6 inch service crossing road to new build; 6 inch saddle and 1 inch curb stop used for parts
- 29: On site today at 21661 Talbot Line, Rodney to replace 4" service line valve; completed.

DECEMBER

Sampled As Per Sampling Calendar

Completed Set 2 of Weekly Residuals

16: On site at the corner of Kerr and Silverclay Road completing live tap for West Elgin Township; 8" main tapped with 2" water service.

SECTION 7: ALARMS:

FIRST QUARTER

JANUARY

23: High Cl₂ Alarm at Rodney Tower. Arrived on site and analyzers were out of alarm. Operator tested and calibrated before leaving site.

FEBRUARY

11: Received call from Tri County operator for high PH at Rodney Tower due to CO₂ issues at Water Plant. Operator gave Andrew Trask of Tri County permission to increase PH set point from 8.50 to 8.60 as approved by ORO and PCT.

MARCH

No alarms this month.

SECOND QUARTER:

APRIL:

No alarms this month.

MAY:

No alarms this month.

JUNE:

17: No communications to Rodney tower, due to power outage. Operator contacted Hydro One to inquire restoration time and monitored until power was restored.

THIRD QUARTER:

JULY

08: Operator on site for High chlorine alarm received. Calibrated analyzers and left site.

AUGUST

30: High Chlorine alarm. On call operator monitored, residual dropped back into normal range.

SEPTEMBER

09: Received call from from Tri County Water Treatment Plant on call operator @ 0455, for high chlorine alarm at Rodney Tower. The chlorine spiked to 5mg/L and was starting to trend back to normal. Chlorine level within normal range within 5 minutes.

22: Received alarm from TRI-county operator at 0509 that there was a high chlorine alarm from the answering service that came through at 0504. Chlorine spiked up to 4.88mg/L for approximately 5 minutes then returned out of alarm range at 1.90 mg/L and still going down. On call operator onsite, confirmed chlorine analyzer was out of calibration and not actually as high. Fixed calibration

and off site.

FOURTH QUARTER:

No alarms to report this quarter.

SECTION 8: COMPLAINTS & CONCERNS:

FIRST QUARTER

No customer complaints this quarter.

SECOND QUARTER:

No customer complaints this quarter.

THIRD QUARTER:

SEPTEMBER

- 14: Customer at 26492 Talbot Line complained of having no water. Operator on site and found the service line broken on the homeowner's side.
- 19: Customer at 149 Walker Street complaining of a "high chlorine smell". Hydrant located directly across street from property was flushed and tested chlorine at hydrant. Flushed next closest hydrant located at corner of Mary and Bainard Street. Homeowner brought out a glass of water from inside sink and tested at 0.61mg/l. All appears to be ok with water in surrounding area. Directed homeowner to try flushing all her taps and see if that helps with the reported "smell" as operator could not smell anything irregular.

FOURTH QUARTER:

No complaints to report this quarter.