



February 2023

The Corporation of the Municipality of Oliver Paipouge
3250 Highway 130
Rosslyn, Ontario
P7K 0B1

Re: 2022 Annual Summary Report for the Rosslyn Village Subdivision Drinking-Water System

Ontario's Drinking-Water Systems Regulation (O.Reg.170/03), made under the *Safe Drinking Water Act, 2002*, requires that the owner of a drinking water system prepare an annual summary for municipalities on the operation of the system and the quality of its water.

The annual summary must cover the period of January 1st to December 31st in a year and must *be prepared not later than March 31st* of the following year. Pursuant to the legislative requirements, enclosed for your records is the 2022 Annual Summary for the Rosslyn Village Subdivision Drinking-Water System.

Pursuant to the legislative requirements, *Schedule 22 Summary Reports for Municipalities*, the annual summary must:

- (a) list the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report; and,
- (b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure."

- O. Reg. 170/03 s. 22 (2)

"The report must also include the following information for the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and planned uses of the system:

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement."

-O. Reg. 170/03 s. 22 (3)

In addition, Section 12 (1) - 4 - gives the direction that a copy of the annual summary for the system is given, without charge, to every person who requests a copy and be made available for inspection by any member of the public during normal business hours. The reports should be made available at the office of the municipality, or at a location that is accessible to the users of the water system.

This report was prepared by the Ontario Clean Water Agency on behalf of the Municipality of Oliver Paipoonge and is based on information kept on record by OCWA at the Rosslyn Village Subdivision Drinking-Water System. The report covers the period January 1st through to December 31st 2022.

Yours truly,



Ty Maurice
Senior Operations Manager
Northwestern Ontario Regional Hub
807-938-5067

Copy to: Wayne Hanchard – CAO/Clerk
Chris Bowles – Director of Operations
Operations Staff – Rosslyn Drinking Water System

2022 Schedule 22 Annual Summary Report

Rosslyn Village Subdivision Drinking- Water System

February 2023

Prepared by the



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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Section 1: Introduction

This report is a summary of water quality information for the Rosslyn Village Subdivision Well Supply System, published in accordance with Schedule 22 of Ontario's Drinking-Water Systems Regulation for the reporting period of January 1st to December 31st 2022. The Rosslyn Village Subdivision Well Supply System is categorized as a Small Municipal Residential Drinking Water System.

This report is prepared by The Ontario Clean Water Agency on behalf of the Municipality of the Oliver Paipoonge. A copy of the Summary Report is to be provided to the members of the municipal council by March 31st 2023.

Section 2: What Does This Report Contain?

"The report must,

- (a) list the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report; and,
- (b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure."

- O. Reg. 170/03 s. 22 (2)

"The report must also include the following information for the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and planned uses of the system:

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement."

- O. Reg. 170/03 s. 22 (3)

Section 3: Daily Flow Rates

In accordance with the ***Municipal Drinking Water Licence 293-101 Schedule C: System Specific Conditions 1.0 Performance Limits***, the Rosslyn Village Subdivision Well Supply system shall be operated not to exceed the rated capacity for the maximum flow rate from the treatment subsystem to the distribution system of **249.12 m³/ day**.

The drinking-water system may be operated temporarily at a rate above the rated capacity where necessary for:

- i) the purposes of fighting a large fire or,
- ii) the maintenance of the drinking-water system

In 2022, the average monthly raw flow rate was 568.86 m³; the average daily flow rate was 18.81 m³, with a maximum raw daily flow rate of 34.05 m³.

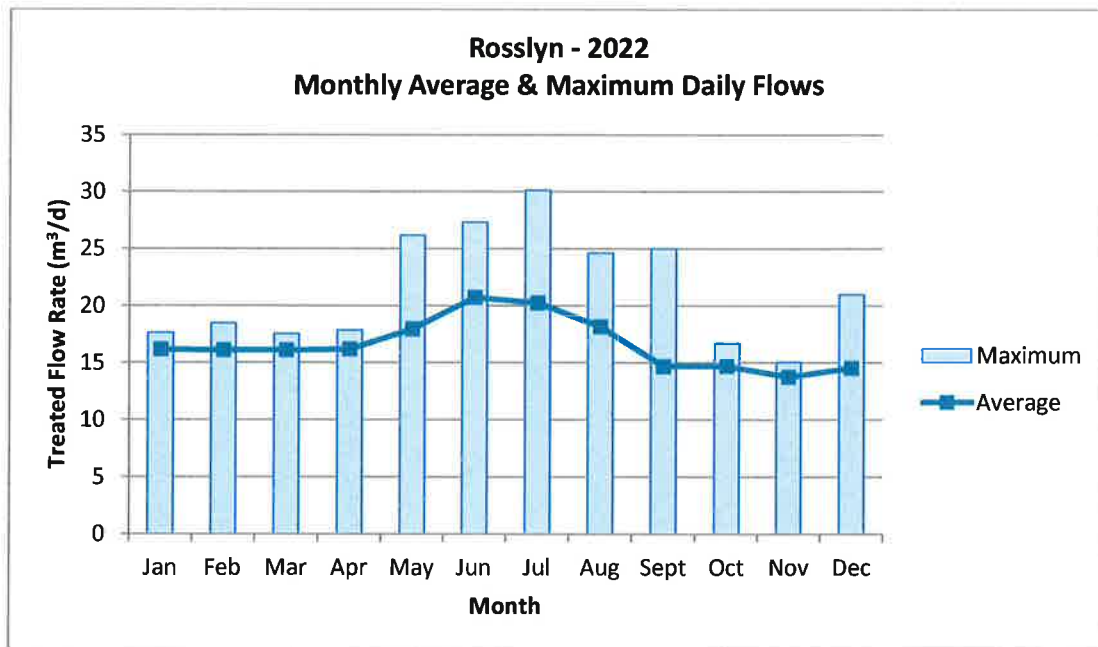
In 2022, the average monthly treated flow rate was 505.06 m³; the average daily treated flow was 16.6 m³ and the maximum daily treated flow for the year was 30.13 m³; this represents 12.09 % of the design rated capacity.

A summary of raw and treated flows, including maximum raw flow into the treatment system as well as treated average, maximum and total flow rates are included in the tables below.

The quantity of raw water supplied during the reporting period did not exceed the daily maximum liters of the *Permit to Take Water* nor did the treated flows directed to the distribution system exceed the rated capacity for this system. The flow rates in the permit are in liters per minute while the plant flows are recorded in liters per second. The permit flow rates were converted to liters per second.

Monthly Raw & Treated Flow Rates for 2022

Month	Average Daily Raw Flow Rate (m ³ /d)	Maximum Daily Raw Flow Rate (m ³ /d)	Average Daily Treated Flow Rate (m ³ /d)	Maximum Daily Treated Flow Rate (m ³ /d)	Total Monthly Treated Flow Rate (m ³ /month)
January	16.73	19.77	16.15	17.63	500.76
February	15.88	20.05	16.1	18.46	450.92
March	16.47	18.44	16.09	17.5	498.93
April	16.52	18.6	16.18	17.83	485.25
May	18.44	26.16	17.94	26.15	556.04
June	23.45	31.59	20.71	27.31	621.34
July	24.34	34.05	20.23	30.13	627.23
August	22.56	30.4	18.15	24.6	562.56
September	18.56	29.2	14.66	25	439.92
October	18.22	20.1	14.68	16.7	455.06
November	17.22	19.57	13.74	15.03	412.13
December	16.86	25.4	14.53	20.97	450.53
2022 Total Treated Flows (m³)				6,060.67	



Section 4: System Failures and Correction

The Ministry of Environment conducted an *unannounced* inspection of the Rosslyn Village Subdivision Well Supply System on April 27 2022. The final inspection report identified 20 non-conformance as summarized in the table below.

The 2022 final inspection rating record for Rosslyn Village Subdivision Well Supply System was 68.51%.

Item	Non-Compliance Identified	Compliance Date	Action Being Taken to Address item	Status
1	Spill containment was not provided for process chemicals and/or standby power generator fuel. The backup generator contains a self-contained, double-walled fuel tank. Sodium hypochlorite within the water treatment plant does not have secondary containment.		OCWA will discuss with client	In Progress
2	Clean-up equipment and materials were not in place for the cleanup of spills.		OCWA will discuss with client	In Progress
3	For every required operational test and every required sample, a record was not made of the date, time, location, name of the person conducting the test and result of the test. On at least 10 occasions, logbook records for distribution chlorine residuals did not include the location of where the sample was collected.	1. N/A 2. July 4, 2022 2. August 3, 2022		Complete
4	Logs or other record keeping mechanisms were not available for at least five (5) years. Prior to the inspection period, minimal operation and maintenance logs and records were available. The former operating authority did not appropriately maintain logs and records for this drinking water system. The alleged violations for missing logs and records are being addressed through other mandatory abatement means.	N/A		Complete
5	The operations and maintenance manuals did not contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system. At the time of the inspection, operations and maintenance manuals were not completed.	August 15 2022		Complete
6	The operations and maintenance manuals did not meet the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA. Provincial Officer's Order 1-MXDG8, dated December 17, 2019, required that by February 1, 2020, the Municipality of Oliver Paipouge and Water Quality Service shall provide to the	August 15, 2022		Complete

undersigned inspector a copy of the operations and maintenance manual(s) that meet Condition 16 of the Municipal Drinking Water Licence.

The previous 2021-22 annual drinking water inspection report required the owner and the Ontario Clean Water Agency, as the current operating authority, to have the operations and maintenance manual completed and provided to the undersigned inspector of that report by no later than November 26, 2021. The date was extended to February 2022 as several engineering firms were contacted for request for quote. At the time of this inspection, a draft operation and maintenance manual had been submitted but still did not meet the requirements of Condition 16 of the Municipal Drinking Water Licence.

7 Records did not indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under O. Reg. 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers. In accordance with O. Reg. 170/03, Schedule 1, section 1-2(2), the owner of a drinking water system and the operating authority for the system shall ensure the following, which includes, among other requirements, the following: - The water treatment equipment is operated in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario; - The water treatment equipment required by section 1-3 or 1-4 is operated in a manner that achieves the design capabilities it is required to have under that section. The Rosslyn DWS did not meet the above requirements on the following occasion:
AWQI #154944 was reported on August 3, 2021: The operator arrived on site on August 3, 2021 at 10:40am to perform routine checks of the drinking water system. At that time the continuous analyzer for the chlorine contact loop was reading a chlorine residual of 0.3 mg/L for primary disinfection. The required minimum chlorine residual required to meet primary disinfection is 0.65mg/L.

In Progress

A review of the continuous chlorine trends indicates that the primary disinfection chlorine residual fell below the alarm setpoint of 0.9 mg/L at approximately 19:00 on July 30, 2021. Alarm records indicate that an alarm was initiated but no call out was received by the operator on call. The primary chlorine residual remained below the minimum required chlorine residual for primary disinfection until approximately 17:00 August 3, 2021 when the plant operator made his routine rounds, discovered the low chlorine and switched the plant to bypass. Sampling within the distribution system at the time of the incident also indicated that there was no secondary disinfection chlorine residual (0.0 mg/L) present in the two samples collected within the distribution system.

At the time of the incident it was reported that the auto-dialer system failed to initiate the call out. The issues with the auto-dialer were resolved and the system installed to correct the failed alarm callout was left as a secondary alarm system. OCWA installed new monitoring equipment (Wonderware) to call out alarms. However, the auto-dialer currently calls out for low chlorine.

There have been no further incidents where the Wonderware or auto-dialer system failed to notify operators of a critical alarm parameter within the drinking water system.

8	<p>Records did not confirm 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.</p> <p>In accordance with O. Reg. 170/03, Schedule 1, section 1-2(2), the owner of a drinking water system and the operating authority for the system shall ensure the following, which include but are not limited to:</p> <ul style="list-style-type: none">- If the drinking water system's water treatment equipment provides chlorination for secondary disinfection, the equipment is operated so that, at all times and at all locations within the distribution system, the free chlorine residual is never less than 0.05 milligrams per litre.	Complete
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The Rosslyn DWS did not meet the above requirements on the following occasion:

On August 2, 2021 during AWQI #154944, two distribution system free chlorine residual samples were below the minimum required free chlorine residual concentration of 0.05 mg/L for water in the distribution system.

Refer to question MRDW1023001 for full AWQI #154944 details.

9	<p>The secondary disinfectant residual was not measured as required for the small municipal residential distribution system.</p> <p>Section 7.2 (5) of Schedule 7 to O.Reg. 170/03 requires that at least two distribution samples are collected and immediately tested for free chlorine. Section 7-2 (5) of Schedule 7 requires that at least one of the distribution samples referred to in subsection (5) must be taken at least 48 hours after, and during the same week as, one of the other distribution samples referred to in subsection.</p> <p>Free chlorine residuals are sampled three times a week and recorded in the logbook and log sheets. A review of the logbook and log sheets indicated that the required distribution chlorine residuals are being collected with the exception of the following: - Distribution samples were not collected for the week of June 14, 2021 - Second sample for the week of June 28, 2021 was not collected. The first sample for the week was collected on June 28, 2021, the following sample was collected on July 5, 2021.</p>	Complete	
10	<p>Operators were not examining continuous monitoring test results or they were not examining the results within 72 hours of the test. Schedule 6-5 section (1) 1-4 of O.Reg. 170/03 states requirements that include, but are not limited to, that continuous monitoring equipment tests results must be examined within 72 hours of when the test was conducted.</p> <p>Throughout the inspection review period there are numerous and consistent occasions where the review of the continuous monitoring data are outside the 72 hour obligation. It was observed that these non-compliances most often occur between the end of the week and the beginning of the following week.</p>	<p>1. N/A 2. July 14, 2022 3. July 29, 2022</p>	Complete

Specifically, trends were checked on July 30th up until 12:57pm. The next time trends were checked was on August 3, 2021 at approximately 11:25am, approximately 94.5 hours after the previous check on July 30th. During this time a low primary disinfection chlorine alarm was triggered but not called out to the operator. Refer to question MRDW1023001 for more details on AWQI #154944 reported on August 3, 2021.

11	<p>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 not equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6. Sections 6-5(1)5 and 6-5(1.1) of Schedule 6 to O. Reg. 170/03 requires that one of the two following conditions are met for continuous monitoring equipment:</p> <ul style="list-style-type: none"> - 6-5(1)5: The continuous monitoring equipment must have a feature that ensures that nowater is directed to users of water sampled by the equipment in the event that the equipment malfunctions or loses power or a test result for a parameter is above the maximum alarm standard or below the minimum alarm standard specified in the table to the section for the parameter or; - 6-5(1.1): The continuous monitoring equipment must cause an alarm to signal immediately where a person is present to respond if the equipment malfunctions or loses power or a test result for a parameter is above the maximum alarm standard or below the minimum alarm standard specified in the table to this section for the parameter. The treatment system does not shut-down if the free chlorine residual is less than the required amount to ensure primary disinfection. Instead, an alarm is initiated to call-out an operator. Alarm logs from the computer system record the value that initiates the alarm. <p>During the inspection review period, a low chlorine event was noticed by the operator during trending review on August 3, 2021. The chlorine was below the minimum alarm set point and did not call out the operator. Refer to question MRDW1023001 for more details on AWQI #154944.</p>	July 24 2022	Complete
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Note: A similar event occurred outside of the inspection review period on June 4, 2021. Low chlorine was discovered to be below the low chlorine alarm set point and no alarm was called out to the operator.

It was reported that the issue with missed call-outs when an alarm was triggered was due to the auto-dialer system. The issues with the auto-dialer have since been resolved.

12	<p>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 did not respond in a timely manner and/or did not take appropriate actions.</p>	<p>1. N/A 2. July 14, 2022 3. July 29, 2022</p>	Complete
	<p>The treatment system is not designed to shut off when the free chlorine residual drops below the minimum alarm set point to ensure primary disinfection. Instead, an alarm is initiated to call-out an operator. Alarm logs from the computer system record the value that initiates the alarm. On July 30, 2021 at approximately 6:40 p.m. the free chlorine residual measured at the point of entry to the distribution system fell below the minimum alarm set point. An alarm should have triggered a call-out to notify the on-call operator of the alarm condition at this time. The alarm dialer failed to call out an operator and the low free chlorine residual condition continued for 94.5 hours until the operator conducted his routine rounds on August 3, 2021.</p> <p>After the alarm failed to call out the operator to respond to the event, Section 6-5(1)3 of Schedule 6 to O. Reg. 170/03, which requires a review of continuous monitoring test results within 72 hours, should have prompted the operator to review and subsequently respond to the low free chlorine residual condition at the WTP, 20 hours before the low free chlorine residual was actually discovered and corrective actions taken.</p> <p>Refer to question MRDW1023001 for details on AWQI #154944.</p>		
13	<p>All microbiological water quality monitoring requirements prescribed by legislation for distribution samples in a small municipal residential system were not being met. Distribution samples must be collected every two</p>		Complete

	<p>weeks, between 10-20 days apart, and analyzed for total coliforms, E.coli and heterotrophic plate count (HPC). During the inspection review period there were two occurrences, listed below, where microbiological sampling in the distribution system were not met. - July 26, 2021 was collected 21 days after previous sample on July 5, 2021</p> <p>- November 15, 2021 was collect 21 days after previous sample on October 25, 2021</p>		
14	<p>The owner did not indicate that the required records are kept and will be kept for the required time period.</p> <p>Prior to the inspection period, limited records were available. The former operating authority did not appropriately maintain records for this drinking water system. The alleged violations for missing logs and records are being addressed through other mandatory abatement means. As of June 2021, the Ontario Clean Water Agency took over as the accredited operating authority for this drinking water system.</p>		Complete
15	There was no backflow prevention program, policy and/or bylaw in place.	OCWA will discuss with client	In Progress
16	There was no program in place for inspecting and exercising valves.	OCWA will discuss with client	In Progress
17	There was no program in place for inspecting and operating hydrants. There is one hydrant, for flushing purposes only, at the East end of the distribution system.	OCWA will discuss with client	In Progress
18	There was no by-law or policy in place limiting access to hydrants. The municipality and the Ontario Clean Water Agency have access to the hydrant. Although there is no policy or by-law in place, access is generally known to be restricted.	OCWA will discuss with client	In Progress
19	Operators and maintenance personnel did not have ready access to operations and maintenance manuals. At the time of the inspection the operations and maintenance manual remains incomplete.	August 15 2022	Complete
20	<p>The owner and/or operating authority did not undertake efforts to promote water conservation and/or reduce water losses in their system. The Rosslyn DWS is a small system which serves 31 residents. The storage tank on site allows for approximately 3 days or storage for the system. At this time, residents and council have not</p>		Complete

requested water conservation programs.

Section 5: Conclusion

In the reporting year of 2022, there were two adverse water quality incident (AWQI) reports filed as summarized in the table below.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
June 17 2022	Treated water flow meter failure			Install new flow meter, collect bacti sample	June 24 2022
July 5 2022	TC present in distribution sample	Present		Flush & resample at same sample point	July 9 2022

The drinking water inspection found the plant to be producing good quality water. A review of the treated water samples showed the plant met or exceeded the requirements of ODWS (Ontario's Drinking-Water Standards). Treated water samples at the plant and in the distribution system were shown to be free of bacteriological contaminants.

For the operating year of 2022, the Rosslyn Village Subdivision Well Supply System was able to meet the demand of water use within the town without exceeding the Municipal Drinking Water Licence and Permit to Take Water max daily liters.