Ontario Clean Water Agency
Agence Ontarienne Des Eaux
Northeastern Ontario Region

McGarry Water & Wastewater Systems
Quarterly Operations Report

Prepared By: The Ontario Clean Water Agency | Prepared for: The Township of McGarry

SYSTEM OVERVIEW | January 1 to March 31, 2024

Highlights

Virginiatown-Kearns Drinking Water System

- Looking at the Langelier Index, which is an indicator of corrosivity, through jar testing which will guide process changes at the plant. We have recommended they install a corrosion control system in order to reduce the negative impacts to infrastructure. Adjusting the pH of the water could same the township a significant amount of money and time in water main repairs and replacement. OCWA is compiling information to provide to the Township

McGarry Wastewater Treatment Lagoon

- No significant issues

Capital Plan Progress

The Capital Letter which provides a list of recommended capital and major maintenance for 2024 was provided to the Owner in December 2023. Approval or rejection of the capital projects identified in the letter is a requirement under the system's Quality and Environmental Management System. OCWA is awaiting a response.

Status of capital work completed in 2024.

Capital Work – Water Treatment System	Status
Minor capital	Billed

Capital Work - Wastewater Lagoon System	Status
Minor capital	Billed

Incidents

Virginiatown Drinking Water System:

March 6 AWQI 164558

Unplanned/Emergency Water main Repair at House #5 - 28th St. The affected section of town encompasses 17 houses. The planned work started at 09:00 and the water will be restored before the end of the day. The residents affected by the loss of water are able to use the Community Complex for their water needs. Because of the loss of pressure a Boil Water Advisory (BWA) was issued. After two sets of samples were taken and free of bacteria, the BWA was lifted on March 9.

March 29 AWQI 164700

Watermain Break on Casselman Ave. (Kearns). The break was isolated. The loss of pressure involves 12 houses. 11 on Casselman and one on Kearns Ave. Because of the loss of pressure, a Boil Water Advisory (BWA) was issued. After two sets of samples were taken and free of bacteria, the BWA was lifted on March 31.

McGarry Lagoon:

FEBRUARY 2024 Event #1-4SVTZM - the effluent exceeded the average total phosphorus concentration limit of 0.5 mg/L having a monthly average concentration of 0.678 mg/L. Ice cover on the lagoons affecting lagoon process and phosphorus levels. Alum pump was not pumping at full capacity

MARCH 2024 Event # 1-5X88PX - average Total Phosphorous Loading was 0.674 kg/d, which exceeds the average limit of 0.6 kg/d. The phosphorous concentration did not exceed the limit, but the high loadings are attributed to the high flows.

COMPLAINTS

No complaints were documented this quarter.

CALL-OUT SUMMARY

Number of Call-outs this Quarter:	0
Total Call-outs to Date (2024):	0
Annual Call-out Allowance:	8
Details of the Call-outs:	Refer to Appendix A for a call-out summary.

Note: Not all call backs are billed to the Owner; depends on the nature of the call.

REGULATORY

Inspections

- There were no regulatory inspections during the quarter

Quality & Environmental Management System (QEMS)

- The management review was conducted on February 1
- The annual compliance and summary report for the drinking water system was submitted by February 28
- The annual wastewater system performance report was submitted by March 31

Sampling, Testing and Monitoring

- Refer to Appendix A for Quarterly Data Summaries.

Reporting

- No reporting was required this quarter.

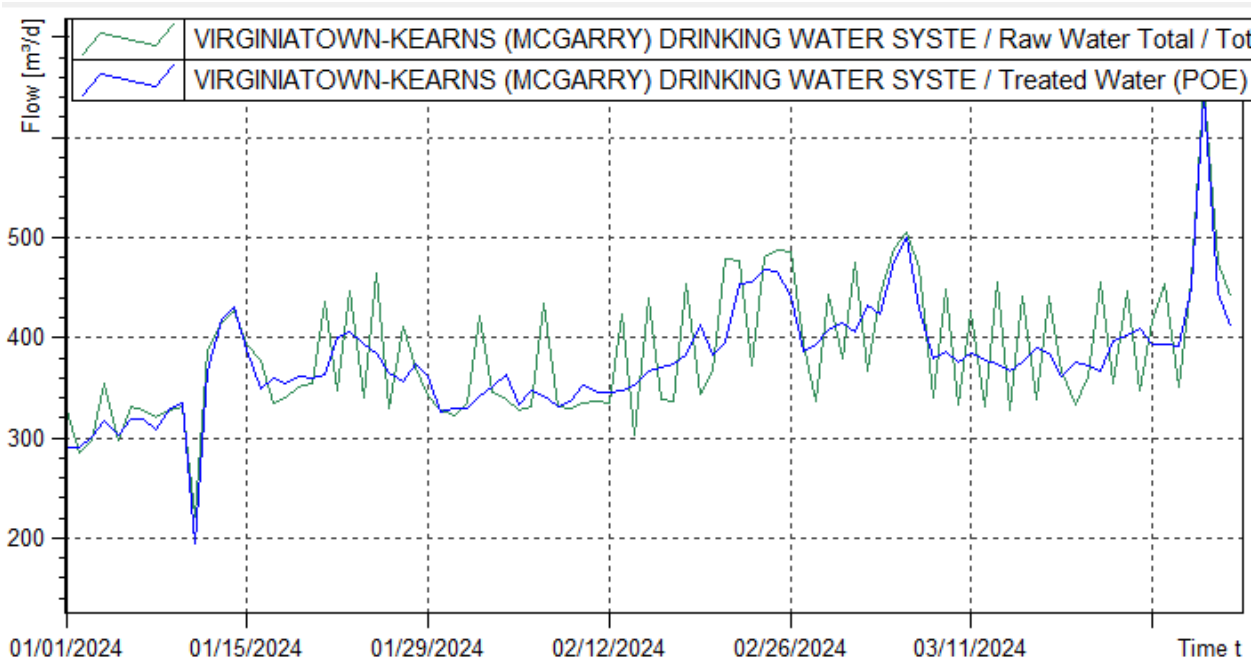
FLOW SUMMARIES

Virginiatown-Kearns Water Treatment Plant (Tower Flows)

	Total Raw Flows (m^3)	**Total Treated Flows** (m^3)	**Average Daily Treated Flow** (m^3/d)	**Maximum Treated Flow** (m^3/d)
January	10,946	10,758	347	431
February	11,162	10,978	379	468
March	12,921	12,690	409	643
Compliance	-	-	-	2,045

Raw Flow verses Treated Flow

January 1 to March 31, 2024

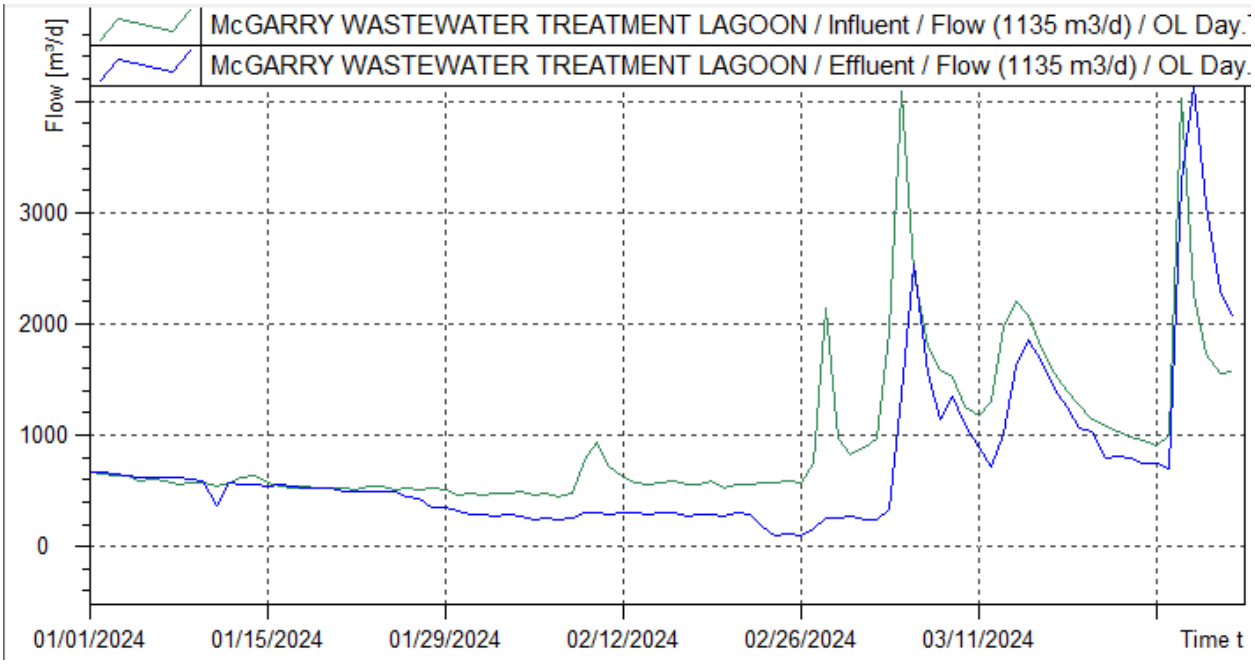


McGarry Lagoon

Year	**Total Effluent Flow** (m^3)	**Total Influent Flow** (m^3)	**Maximum Influent Flow** (m^3/d)	**Average Daily Influent Flow** (m^3/d)
January	16162	17323	668	559
February	7341	18660	2,143	643
March	42099	50343	4,096	1,624
Compliance	-	-	-	1,135

Influent Flow verses Effluent Flow

January 1 to March 31, 2024



HEALTH AND SAFETY

- All safety equipment at the plant was checked monthly to ensure that they are in good working order.
- Health and Safety Training/Sessions completed this quarter include:
  - ✓ WHMIS
  - ✓ Respiratory Protection
  - ✓ Hazard Inspections

APPENDIX A

Quarterly Data Summaries

VIRGINIATOWN-KEARNS (McGarry) **DRINKING WATER SYSTEM**

Quarterly Data Report

Q1: January 1 to March 31, 2024

Ontario Clean Water Agency
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Virginiatown-Kearns Drinking Water System		January	February	March	Compliance
Flows					
Total Raw Flow - Max. Daily Volume	m^3/d	464	488	650	Max. = 2044.8
Well 1 Flow - Maximum Daily Volume	m^3/d	464	488	650	Max. = 2044.8
Well 1 Flow - Maximum Flow Rate	L/min	1,400	1,374	1,333	Max. = 1420
Well 2 Flow - Maximum Daily Volume	m^3/d	83	101	124	Max. = 1500
Well 2 Flow - Maximum Flow Rate	L/min	1,102	1,103	1,100	Max. = 1105
Tower Flow - Maximum Daily Volume	m^3/d	431	468	643	Max. = 2045
Raw Water					
Well 1 Total Coliforms - Maximum	c/100mL	0	0	0	N/A
Well 1 *E.coli* - Maximum	c/100mL	0	0	0	N/A
Well 2 Total Coliforms - Maximum	c/100mL	0	0	0	N/A
Well 2 *E.coli* - Maximum	c/100mL	0	0	0	N/A
Well 1 Turbidity - Maximum	NTU	0.40	0.11	0.19	N/A
Well 2 Turbidity - Maximum	NTU	1.19	1.71	0.32	N/A
Treated Water					
Free Chlorine Residual - Minimum	mg/L	0.527	1.11	0.962	Min. = 0.10 (CT) [1]
Total Coliforms - Maximum	c/100mL	0	0	0	Max. = 0
E. coli - Maximum	c/100mL	0	0	0	Max. = 0
Nitrate	mg/L	0.07	-	-	Max. = 10
Nitrite	mg/L	<0.05	-	-	Max. = 1
Distribution Water					
Free Chlorine Residual - Minimum	mg/L	0.69	0.93	0.78	Min. = 0.05
Total Coliforms - Maximum	c/100mL	0	0	0	Max. = 0
E.coli - Maximum	c/100mL	0	0	0	Max. = 0
Trihalomethanes (THMs)	µg/L	3.2	-	-	Max. = 100 µg/L [2]

VIRGINIATOWN-KEARNS (McGarry) **DRINKING WATER SYSTEM**

Quarterly Data Report

Q1: January 1 to March 31, 2024

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Distribution Water		January	February	March	
Haloacetic Acids (HAAs)	µg/L	<8	-	-	Max. = 80 µg/L [3]
Lead – Maximum	µg/L	-	-	-	Max. = 10 µg/L[4]
Alkalinity - Maximum	mg/L	-	-	-	N/A [5]

Notes:

1 CT is the concentration of chlorine in the water times the time of contact that the chlorine has with the water. It is used to demonstrate the level of disinfection treatment in the water. CT calculations are performed for the Virginiatown-Kearns water plant if the free chlorine residual level drops below 0.10 mg/L to ensure primary disinfection is achieved. Primary disinfection was achieved this quarter.

2 Maximum Allowable Concentration (MAC) for Trihalomethanes (THMs) = 100 ug/L (Four Quarter Running Average).

3 Maximum Allowable Concentration (MAC) for Haloacetic Acids (HAAs) = 80 ug/L (Four Quarter Running Average).

4 Lead testing required every 3 years.

5 Alkalinity testing required twice per year. Sampling is done in March/April and September/October of each year.

McGARRY WASTEWATER SYSTEM
Quarterly Data Report
Q1: January 1 to March 31, 2024

Ontario Clean Water Agency
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McGarry Waste Water System		January	February	March	Compliance
Flows					
Influent – Average Daily Flow	m^3/d	559	643	1,624	Average = 1135
Influent – Maximum Daily Flow	m^3/d	668	2,143	4,096	N/A
Effluent – Average Daily Flow	m^3/d	521	253	1,358	Average = 1135
Effluent – Maximum Daily Flow	m^3/d	667	306	4,134	N/A
Influent					
BOD_5 – Average	mg/L	16	18	2.4	N/A
Total Kjeldahl Nitrogen (TKN) – Average	mg/L	7.6	4.4	2.8	N/A
Total Phosphorus (TP) – Average	mg/L	0.830	0.513	0.377	N/A
Total Suspended Solids (TSS) – Average	mg/L	12.0	<1.0	5.5	N/A
Effluent					
$cBOD_5$ – Average	mg/L	1.6	<0.63	2.2	Monthly Average = 25
$cBOD_5$ Loading	kg/d	0.70	<0.14	3.0	Monthly Average = 28.4
TSS – Average	mg/L	<2.1	<1.9	<1.5	Monthly Average = 25
TSS Loading	kg/d	<0.97	<0.48	<1.7	Monthly Average = 28.4
TP – Average	mg/L	0.38	0.68	0.50	Monthly Average = 0.5
TP Loading	kg/d	0.18	0.17	0.69	Monthly Average = 0.6
Total Ammonia Nitrogen (TAN) – Average	mg/L	1.86	0.38	2.09	Monthly Average = 5
TAN Loading	kg/d	0.71	0.10	3.8	Monthly Average = 5.7