

Prepared By: The Ontario Clean Water Agency

Prepared for: The Township of McGarry

SYSTEM OVERVIEW

April 1 to June 30, 2023

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
- Tower roof needs painting and/or repairs. A full inspection of the tower by an outside contractor is recommended.

McGarry Wastewater Treatment Lagoon

- Duckweed is becoming an issue

CAPITAL PLAN PROGRESS

The Capital Letter which provides a list of recommended capital and major maintenance for 2023 was provided to the Owner on December 5, 2022. Approval or rejection of the capital projects identified in the letter is a requirement under the system's Quality and Environmental Management System.

Status of capital work completed in 2023.

CAPITAL WORK – WATER TREATMENT SYSTEM	STATUS
Sampling for AWQI 161079	Completed and billed
Non-routine sampling (WO 3204689)	Completed and billed

CAPITAL WORK - WASTEWATER LAGOON SYSTEM	STATUS
Signal isolator replacement	Completed and billed

INCIDENTS

Virginiatown Drinking Water System:

APRIL 26 Cat 2 WM Repair/LOP/BWA – AWQI 161838

April 26 - Category 2 watermain break at 17 Dorfman Street caused a loss of pressure to 6 homes with active service, and 1 business (Legion building). One home on the line has no active service. The main was isolated to repair a split in a 6 inch main with a repair band. The local Health Unit was notified and a BWA was issued for the affected area.

After the repair was complete, the pressure was restored and the area was flushed until an acceptable chlorine residual was achieved (0.55 mg/L). Two sets of 3 bacteriological samples were collected (upstream, downstream and at the site of the break) on April 27th and 28th. Sample results indicated no total coliforms or E.

coli. BWA was lifted on May 1st at approximately 10:15 AM
 Resolution submitted on May 1, 2023

McGarry Lagoon:

- April 14 Overflow at McGarry SPS (98 Connell Avenue) – SAC Ref 1-3ENQAP
 Duration: 127 hours (April 14 at 0700 to April 18 at 1400)
 Approximate volume: 15,000 m³
 Details: Heavy snow melt caused pump station to overflow into Larder Lake
 Actions: Report, chlorinate, sample and monitor
 Reporting: Verbal reports to SAC and MOH, emailed to EC, MOH and SAC.
- April 2023 TP and TSS Loading Exceedances – SAC Event # 1-3FVRG1
 April 2023 - the effluent exceeded the monthly total suspended solids (TSS) loading limit of 28.4 kg/day having a calculated loading of 39 kg/day.
 The effluent also exceeded the monthly total phosphorus (TP) loading limit of 0.6 kg/day, having a monthly loading of 1.13 kg/day.
 High flows due to rapid snow melt and heavy rainfall contributed to the high TP and TSS loadings. Alum addition was increased to help reduce levels.
- May 1 Overflow at V-town SPS – SAC Ref 1-3FRLM5
 Duration: 95 hours (May 1 at 0900 to May 4 at 0800)
 Approximate volume: 13,000 m³
 Details: Heavy rains caused pump station to overflow into Larder Lake
 Actions: Report, chlorinate, sample and monitor
 Reporting: Verbal reports to SAC and MOH, emailed to EC, MOH and SAC.

COMPLAINTS

No complaints were documented this quarter.

CALL-OUT SUMMARY

Number of Call-outs this Quarter:	1 (water system)	0 (sewage lagoon)
Total Call-outs to Date (2023):	1	
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

- No regulatory inspections were conducted this quarter.

Quality & Environmental Management System (QEMS)

- No audits were conducted this quarter.

Sampling, Testing and Monitoring

- Refer to Appendix A for Quarterly Data Summaries.

Reporting

- No reporting was required this quarter.

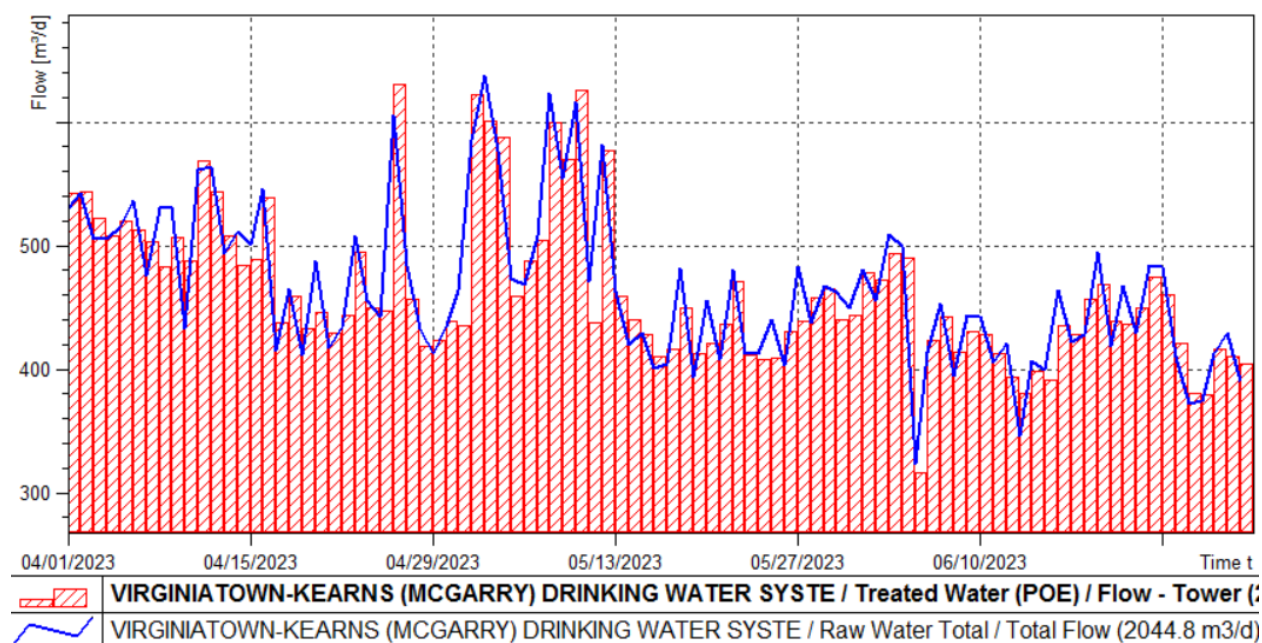
FLOW SUMMARIES

Virginiatown-Kearns Water Treatment Plant (Tower Flows)

Year	Total Raw Flows (m ³)	Total Treated Flows (m ³)	Average Daily Treated Flow (m ³ /d)	Maximum Treated Flow (m ³ /d)	Maximum % of Rated Capacity (2045 m ³ /d)
Jan to June 2023	87,264	87,050	481	630	30.8
2022	194,073	167,244	458	1254	61.3%
2021	145,878	142,720	391	789	38.6%
2020	191,383	188,494	515	889	43.5%
2019	233,524	230,717	632	991	45.5%

Raw Flow versus Treated Flow

April 1 to June 30, 2023

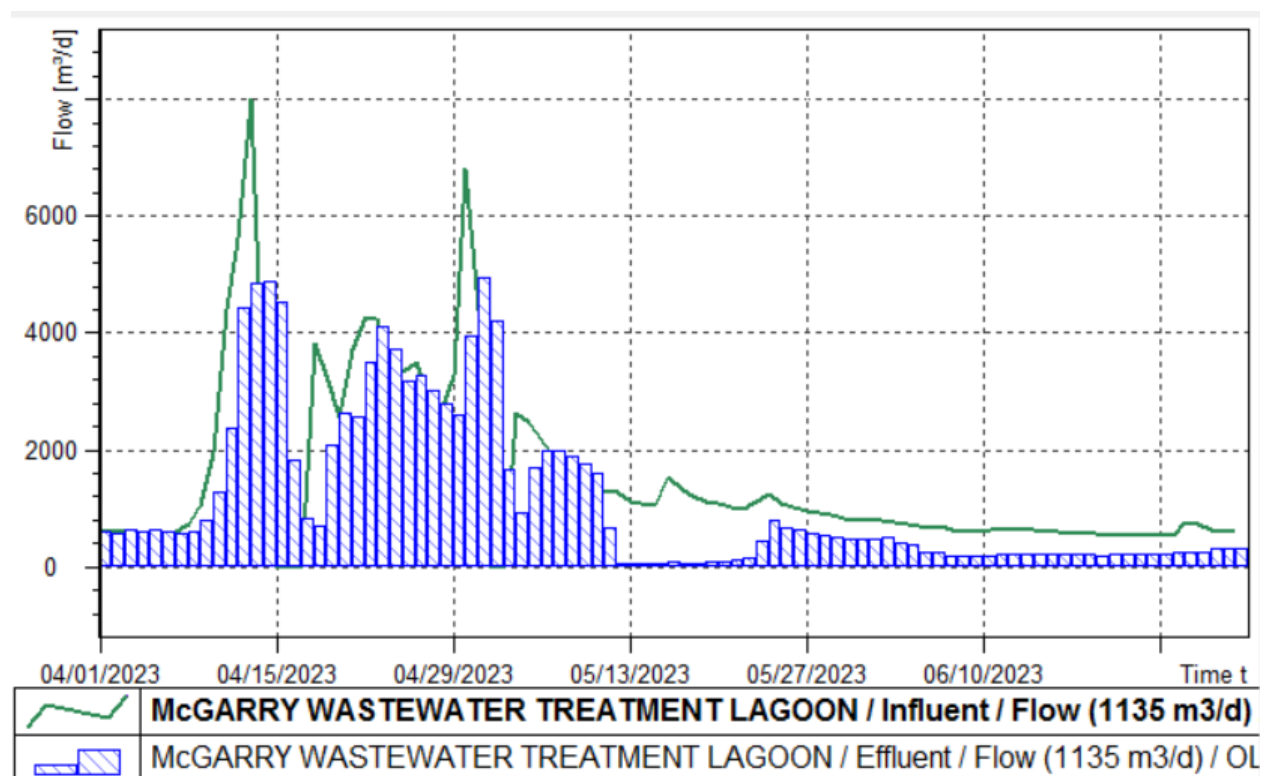


McGarry Lagoon

Year	Total Effluent Flow (m ³)	Total Influent Flow (m ³)	Maximum Influent Flow (m ³ /d)	Average Daily Influent Flow (m ³ /d)	Average Day % of Design Capacity (1135 m ³ /d)
Jan to June 2023	162,956	193,965	7,995	1,069	94.2%
2022	373,865	514,595	7897	1410	124%
2021	258,570	349,792	10,000	958	84.4%
2020	426,479	476,828	6191	1303	115%
2019	434,790	475,681	7585	1303	115%

Influent Flow versus Effluent Flow

April 1 to June 30, 2023



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:
 - ✓ Human and Organizational Performance
 - ✓ Plants, Insects and Wildlife
 - ✓ Review of the Facility Emergency Plan



APPENDIX A

Call Out Summary

Work Order Call Back Details Report

3341446: Alarm 6 and 7 5085

Asset:

Location: 5085-WTTW

5085, McGarry WTP Tower

Page Time:	04/23/2023 06:30 PM
Arrive time:	04/23/2023 07:00 PM
Leave time:	04/23/2023 11:00 PM
Finish Time:	04/23/2023 11:00 PM
Report Date:	4/25/23
Reported By:	Tanner Mazzocato
Supervisor:	

Site:	OCWASITE
Priority:	5
Work Type:	CALL
Status:	CLOSE
Classification	CALIBRATION
GL Account:	MCGARY5085-210M

Actual Labor				
Task ID	Craft	Labor	Regular Hours	Premium Hours
	OPERATOR	Tanner Mazzocato	00:00	04:00

Log		
Date	Created By	Description
4/25/23	Tanner Mazzocato	Alarm 6 and 7 5085
Fire Causing High Flows and low tower level checked tower, monitored tower		



APPENDIX B

Quarterly Data Summaries

VIRGINIATOWN-KEARNS (McGarry) DRINKING WATER SYSTEM

Quarterly Data Report

April 1 to June 30, 2023



Virginiatown-Kearns Drinking Water System		April	May	June	Compliance
Flows					
Total Raw Flow - Max. Daily Volume	m ³ /d	605	638	509	Max. = 2044.8
Well 1 Flow - Maximum Daily Volume	m ³ /d	564	638	509	Max. = 2044.8
Well 1 Flow - Maximum Flow Rate	L/min	1,331	1,344	1,401	Max. = 1420
Well 2 Flow - Maximum Daily Volume	m ³ /d	65	77	70	Max. = 1500
Well 2 Flow - Maximum Flow Rate	L/min	1,105	1,102	1,101	Max. = 1105
Tower Flow - Maximum Daily Volume	m ³ /d	630	626	494	Max. = 2045
Raw Water					
Well 1 Total Coliforms - Maximum	c/100mL	0	0	0	N/A
Well 1 <i>E.coli</i> - Maximum	c/100mL	0	0	0	N/A
Well 2 Total Coliforms - Maximum	c/100mL	0	0	0	N/A
Well 2 <i>E.coli</i> - Maximum	c/100mL	0	0	0	N/A
Well 1 Turbidity - Maximum	NTU	0.24	0.33	0.50	N/A
Well 2 Turbidity - Maximum	NTU	1.45	2.77	0.42	N/A
Treated Water					
Free Chlorine Residual - Minimum	mg/L	0.90	0.94	0.79	Min. = 0.10 (CT) ¹
Total Coliforms - Maximum	c/100mL	0	0	0	Max. = 0
<i>E. coli</i> - Maximum	c/100mL	0	0	0	Max. = 0
Nitrate	mg/L	0.1	-	-	Max. = 10
Nitrite	mg/L	< 0.01	-	-	Max. = 1
Distribution Water					
Free Chlorine Residual - Minimum	mg/L	0.59	0.71	0.35	Min. = 0.05
Total Coliforms - Maximum	c/100mL	0	0	0	Max. = 0
<i>E.coli</i> - Maximum	c/100mL	0	0	0	Max. = 0
Trihalomethanes (THMs)	µg/L	2.4	-	-	N/A
THM four quarter average	ug/L	7.03			Max. = 100 µg/L ²

VIRGINIATOWN-KEARNS (McGarry) DRINKING WATER SYSTEM

Quarterly Data Report

April 1 to June 30, 2023



Distribution Water		April	May	June	
Haloacetic Acids (HAAs)	µg/L	<8	-	-	N/A
HAA four quarter running average	ug/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 and September of each year.

McGARRY WASTEWATER SYSTEM

Quarterly Data Report

April 1 to June 30, 2023



McGarry Waste Water System		April	May	June	Compliance
Flows					
Influent – Average Daily Flow	m ³ /d	2537	1333	635	Average = 1135
Influent – Maximum Daily Flow	m ³ /d	7995	4400	809	N/A
Effluent – Average Daily Flow	m ³ /d	2292	945	259	Average = 1135
Effluent – Maximum Daily Flow	m ³ /d	4895	4939	515	N/A
Influent					
BOD ₅ – Average	mg/L	2.40	<0.50	16.00	N/A
Total Kjeldahl Nitrogen (TKN) – Average	mg/L	5.6	1.5	6.9	N/A
Total Phosphorus (TP) – Average	mg/L	0.350	0.227	1.53	N/A
Total Suspended Solids (TSS) – Average	mg/L	<1.0	1.5	62.0	N/A
Effluent					
cBOD ₅ – Average	mg/L	3.6	2.4	<1.5	Monthly Average = 25
cBOD ₅ Loading	kg/d	8.5	1.9	<0.3	Monthly Average = 28.4
TSS – Average	mg/L	<17	<10	4.	Monthly Average = 25
TSS Loading	kg/d	<38	<6.1	0.91	Monthly Average = 28.4
TP – Average	mg/L	0.50	0.20	0.16	Monthly Average = 0.5
TP Loading	kg/d	1.1	0.2	0.03	Monthly Average = 0.6
Total Ammonia Nitrogen (TAN) – Average	mg/L	2.37	0.10	0.29	Monthly Average = 5
TAN Loading	kg/d	5.1	0.2	0.06	Monthly Average = 5.7