

Corporation of the Township of North Glengarry
3720 Cty Rd 34
RR2
Alexandria, ON
K0C 1A0
Tel: (613) 525-3087
Fax: (613) 525-1649

**NORTH
GLENGARRY
NORD**

*Ontario's Celtic Heartland
Le centre celtique de l'Ontario*

www.northglengarry.ca

Municipalité du Canton de Glengarry Nord
3720 Route de comté 34
RR2
Alexandria, ON
K0C 1A0
Tel: (613) 525-3087
Télécopieur: (613) 525-1649

The Township of North Glengarry

Alexandria Drinking Water System

2022 Annual and Summary Report

In compliance with O. Reg 170/03, section 11 and O. Reg 170/03 schedule 22

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Section 1: Introduction

This report is an annual summary of water quantity, quality system information, system operations and major expenditures for the Alexandria Water Treatment plant and distribution system during the reporting period of January 1, 2022 to December 31, 2022. It was prepared in accordance with section 11 and schedule 22 of the of Ontario's Drinking Water Systems Regulation O. Regulation 170/03.

Section 2: System Description

The Alexandria Drinking Water System is categorized as a large municipal residential system and is rated as a class 3 for water treatment. The system is made up of the following components, the Alexandria Water Treatment plant, 2 elevated storage towers, and 2 separate distribution systems connected via a transmission main and booster station.

The water treatment plant is located on Gernish St West within the town of Alexandria and the source water surface supply is obtained from the Mill Pond. It has a rated capacity to produce 8,014m³/day for treated water, but a raw water intake limitation of 5,616m³/day. The treatment processes are discussed in section 3.

The distribution system is comprised of 58.8kms of water pipes of varying sizes, isolation valves, pressure reducing valves, service connections and fire hydrants. The current system is located within the town boundaries of Alexandria and the village limits of Maxville, with a transmission main that runs 20.4kms between the two system. This system will be further discussed in section 3.

Section 3: Process and Equipment Description

Raw Water Intake

Located in Mill Pond, approximately 425m southwest of the water treatment plant, the intake is comprised of a precast concrete pipe, placed on top of a concrete slab housed in timber crib with screening.

A 350mm concrete pipe runs from the intake, east through the Island Park, then heads north on Park Avenue, before turning east again to enter the water plant in the low lift chamber.

The water flow from Mill Pond to the water plant is gravity based, and therefore is heavily influenced by water depth in the Mill Pond. The Mill Pond is part of a dam system controlled by the Raisin Region Conservation Authority, and as such the levels are monitored to ensure levels will be sufficient to supply the raw water demands.

Low Lift Chamber/Raw Water Well

The chamber/well is located in the southwest corner of the water treatment plant. There are two coarse screens, located between the raw well entry and the low lift chamber to provide a coarse screening prior to pumping.

The low lift pumps consist of two vertical turbine pumps, rated at 6,200m³/day at 14.6m total dynamic head (TDH). Each pump is equipped with auto, manual and stop capability through the SCADA control system and at the electrical panel. A flow meter and electric valve are used to control flows from the low lift pumps, as the valve will modulate based on flocculation tank levels. At any time if the flows are near the Permit to Take Water (PTTW) restrictions, alarms will notify operational staff, the valve can be manually operated to ensure the limits are not exceeded.

Potassium permanganate is typically added to the raw well only during cold water temperatures in order to oxidize manganese, which generally only increase under ice cover. The chemical addition is only applied when the water is below 10°C as required, based on treated and raw water monitoring. The application is not utilized above 10°C due to potential oxidation of harmful algae blooms which can occur in warmer water.

Coagulation/Flocculation/Sedimentation

Coagulant and polymer feed systems are in place at the water treatment plant to aid in the sediment removal from the raw water. The coagulant feed enters the process just after the low lift pumps prior to an in-line static mixer and the polymer feed is located after mixer. The water then flows through a flow meter and past control valves before entering the first flocculation tank.

Flows are directed to flocculation tank 4 and continue to flow by gravity through all tanks in series finishing in tank 2 before heading to the next process. Each tank is equipped with an agitator for slow and gentle mixing and level monitoring equipment is located at the outlet of tanks 2 and 4, which are used to control flow from the low lift pumps and monitor settling basin levels.

Process water from the flocculation tanks is directed into a common header and then into settling basins, these basins are utilized to reduce the flow and allow the sediment and or floc to fall out of suspension. The settling basins are comprised of 4 concrete tanks operated in parallel, which contain a baffle wall, tube settlers and a carriage mounted sludge collection system for sludge removal. The sludge removal program is run through the SCADA system and is based on amount of water treated through the filters, which can be adjusted to optimize the process.

Filtration

The filtration system consists of four filters operating in parallel, each having a surface area of 11.3m² and the capability of filtering a maximum flow of 2003m³/day. The filters contain a surface wash system mounted above the filter media, which is composed of GAC and silicate sand. All filters are so equipped with loss or head monitoring, turbidity monitoring and water level monitoring. Below the media a stainless-steel underdrain system collects all filtrate effluent water and directs it towards the process piping. Effluent flow from filters is directed to the clearwell for disinfection through a main header pipe.

The backwash system is comprised of 2 pumps, duty and standby, controlled by variable frequency drives, a SCADA program for process control, valves, surface wash systems and all associated piping. The SCADA program monitors for various trigger points which would initiate an automatic backwash process, including time in operation, turbidity, and filter loss of head. Although the system is mainly run automatically, manual operations can be completed, or process points can be adjusted if required. All backwash effluent water is directed to the sludge holding tank, and then directed to the sanitary sewer system, of which flows are controlled by a manual gate valve.

Disinfection

Chlorine gas is used as the only disinfectant in the water treatment process and is injected into the header pipe from the filters prior to entering the clearwell. The actual chlorination system consists of two vacuum regulated chlorinators, chemical lines, water piping, isolation valves, weight scales, cylinder selection switch, and four 68lbs chlorine cylinders, with two in service at a time. Chlorine cylinders are manually switched over by operational staff using all PPE and safety processes required.

The clearwell is divided into 2 wells (east and west) and each well is divided into smaller sections, which are labelled 1-4. The wells are interconnected through piping or sluice gate opening, controlled through manual valve operations. Influent water enters clearwell 4 and travels towards clearwell 1 before, which allows for the appropriate contact time for disinfection requirements.

After disinfection as the water is headed to the distribution ammonia sulfate is added to the chlorinated water to create a combined chlorine residual, which is a more stable and longer lasting disinfectant with reduced potential for disinfect by-product. The treated water is then metered, and chlorine residual are verified as it enters the distribution.

High Lift Pumps

Three vertical turbine pumps are used to move the water from the clearwell to the distribution. The pumps are operated in duty and standby, with No. 1 and No. 3 located in clearwell 1; and No. 2 located in clearwell 4. Pump No. 2 is not to be run unless under an emergency scenario or if all the disinfection requirements are met, as per the Procedure for Disinfection of Drinking Water in Ontario as released by the Ministry of Environment.

Distribution

The Alexandria distribution system is categorized as a class 2 distribution system. It is comprised of distribution piping in within Alexandria and Maxville.

The section within Alexandria contains 28.2kms of water mains of varying sizes, a 3,000m³ capacity elevated storage tank, located in the northwest section of Alexandria, 145 fire hydrants and approximately 1,500 service connections. The Maxville distribution system is made up of 10.2kms of water mains, a 1,500m³ capacity elevated storage tank, located on the southern boundary of Maxville, 82 fire hydrants and approximately 450 service connections. The two elevated storage are utilized for pressure monitoring, water storage, water supply and are both equipped with flow metering and residual monitoring equipment.

A 20.4 kms transmission main ties the 2 distribution systems together. The transmission main contains 17 fire hydrants, 32 air relief valves and a booster station, which is used to supply water to the Maxville Water Tower and to boost chloramine residuals.

Automated Monitoring and Control

A fully automated SCADA system was installed in 2011 and in 2020 it the system was upgraded and expanded to include the Maxville Booster Station and Maxville Water Tower. This system is capable of monitoring, controlling, and recording all the plant processes and data, such as flows, filter backwash, chemical dosing and parameter monitoring. The system is also fully alarmed with multiple alarm set points, so that if any parameter is exceeded an alarm will be triggered on the SCADA desktop and through the auto dialer system. The on-call operator is then notified by the monitoring centre, which operates 24 hours a day, 365 days a year.

Emergency Power

Multiple generators are in place at key locations throughout the drinking water system to ensure operations are always sustained and treatment is provided. An 175kW diesel powered generator is located at the water treatment plant and is equipped with automatic transfer switch, for transition during the event of utility power fail. This generator is also utilized to power the North Glengarry main office, through manual transfer procedures. An 85kW propane generator is in place at the Maxville Booster Station and is equipped with automatic transfer switch to ensure water delivery and secondary disinfection is provided to Maxville Water Distribution. An 18kW propane generator is in

place at each water tower and both are equipped with automatic transfer switch to ensure key water monitoring points and storage are always available.

Additional Equipment.

All piping, valves, controls, and appurtenances along with associated mechanical and electrical equipment not mentioned in the description but are utilized to make up the system.

Section 4: Flow Summary

In order to assess the rated capacity of the WTP in terms of meeting existing and planned uses of the system, a summary of the treated flow rates of water supplied during this period covered by this report was prepared and is presented below. In accordance with License #181-101, the Alexandria Drinking Water System was not operated to exceed the rated capacities of the treatment system. The permit to take water allows for a maximum daily raw flow of 5,616 m³/day and the water works license allows for a maximum treated water flow of 8,014m³.

The average treated daily flow for 2022 is calculated to be 1,945m³ and the maximum treated daily flow for the year was reported to be 3,056m³. This represents 24.3% of the total plant rated capacity. Refer to the appendices for full 2022 data summary

2022 Treated Flow Summary	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Daily Flow (m ³)	1,927	2,014	2,062	1,974	2,550	2,554	3,056	2,713	2,692	2,821	2,361	2,140
Monthly Average Flow (m ³)	1,561	1,740	1,686	1,581	1,962	2,063	2,355	2,352	2,247	2,243	1,944	1,608
Monthly Average Daily Maximum Instantaneous Flow (m ³ /sec)	0.037	0.037	0.037	0.037	0.039	0.040	0.041	0.042	0.042	0.042	0.037	0.059
Rated Maximum Daily Flow for the approved system										8014 m ³ /day		
Rated Maximum Instantaneous Flow										0.093 L/s		

Section 5: Sampling and Laboratory Analysis Summary

The Township of North Glengarry uses Caduceon Laboratories as the primary provider for all sample analysis. Caduceon Laboratories is an accredited laboratory under the Ministry of the Environment, Conservation and Parks requirements. Refer to table below for all results as required.

2022 Microbiological Testing Completed as per Schedule 10, 11 and/or 12 of O. Reg 170/03					
Location	Number of Samples	Range of E. Coli or Fecal Results (#-#)	Range of Total Coliform Results (#-#)	Number of HPC Samples	Range of HPC Results (#-#)
Raw Water	52	0 - 28	6 - 360	0	
Treated Water	52	0 - 0	0 - 0	52	< 2 - 2
Distribution Water	219	0 - 0	0 - 0	206	< 2 - 84

2022 Operational Testing as per Schedule 7, 8 and or 9 of O. Reg 170/03		
Parameter	Number of Samples	Range of Results (#-#)
Raw Turbidity	247	0.43 NTU - 3.46 NTU
Free Chlorine	Continuous	0.86 mg/L - 3.07 mg/L
Distribution Free Chlorine	Continuous	1.23 mg/L - 2.56 mg/L
Fluoride (if DWS provides fluoridation)		n/a

Additional Sampling or Testing in Accordance with System Approval Requirement or Order				
Date of Order or Approval Amendment	Parameter	Date Sampled	Result	Unit of Measure
March 16, 2021	NDMA	January 18, 2022	0.0051	µg/L
		April 19, 2022	< 0.0008	µg/L
		July 18, 2022	0.0054	µg/L
		October 17, 2022	0.0054	µg/L

Summary of 2022 Inorganic Sampling Results (1ppm = 1mg/L)					
Parameter	Sample Date	Standard (maximum concentration)	Result Value	Unit of Measure	Exceedance
<i>Antimony</i>	October 24, 2022	0.006 mg/L	< 0.0001	mg/L	No
<i>Arsenic</i>	October 24, 2022	0.01 mg/L	0.0003	mg/L	No
<i>Barium</i>	October 24, 2022	1.0 mg/L	0.011	mg/L	No
<i>Boron</i>	October 24, 2022	5.0 mg/L	.007	mg/L	No
<i>Cadmium</i>	October 24, 2022	0.005 mg/L	< 0.000010	mg/L	No
<i>Chromium</i>	October 24, 2022	0.05 mg/L	< 0.002	mg/L	No
<i>Lead</i>	September 14, 2020	0.01mg/L	0.00006	mg/L	No
<i>Mercury</i>	October 24, 2022	0.001mg/L	< 0.00002	mg/L	No
<i>Selenium</i>	October 24, 2022	0.01 mg/L	< 0.001	mg/L	No
<i>Sodium</i>	January 12, 2022	20 mg/L	12.9	mg/L	No
<i>Uranium</i>	October 24, 2022	0.02 mg/L	< 0.00005	mg/L	No
<i>Fluoride</i>	September 26, 2022	1.5 mg/L	< 0.1	mg/L	No
<i>Nitrite</i>	January 16, 2023	1.0 mg/L	< 0.1	mg/L	No
<i>Nitrate</i>	January 6, 2023	10.0 mg/L	< 0.1	mg/L	No

Summary of 2022 Lead Sampling results (1ppm = 1mg/L)							
Location & Type	Number of Samples	Lead Range (#-#)	Unit of Measure	Alkalinity Range (#-#)	Unit of Measure	Average pH	Exceedance
Residential Plumbing	0						
Non-Residential Plumbing	0						
Distribution	14	n/r		43 - 96	mg/L	6.80	N

Summary of 2022 Organic Sampling Results (1µg/L = 0.001mg/L)					
Parameter	Sample Date	Standard (maximum concentration)	Result Value	Unit of Measure	Exceedance
<i>Alachlor</i>	October 24, 2022	0.005 mg/L	< 0.3	µg/L	No
<i>Atrazine + N-dealkylated metabolites</i>	October 24, 2022	0.005 mg/L	< 0.5	µg/L	No
<i>Azinphos-methyl</i>	October 24, 2022	0.02 mg/L	< 1	µg/L	No
<i>Benzene</i>	October 24, 2022	0.001 mg/L	< 0.5	µg/L	No
<i>Benzo(a)pyrene</i>	October 24, 2022	0.00001 mg/L	< 0.006	µg/L	No
<i>Bromoxynil</i>	October 24, 2022	0.005 mg/L	< 0.5	µg/L	No
<i>Carbaryl</i>	October 24, 2022	0.09 mg/L	< 3	µg/L	No
<i>Carbofuran</i>	October 24, 2022	0.09 mg/L	< 1	µg/L	No
<i>Carbon Tetrachloride</i>	October 24, 2022	0.002 mg/L	< 0.2	µg/L	No
<i>Chlorpyrifos</i>	October 24, 2022	0.09 mg/L	< 0.5	µg/L	No
<i>Diazinon</i>	October 24, 2022	0.02 mg/L	< 1	µg/L	No
<i>Dicamba</i>	October 24, 2022	0.12 mg/L	< 1	µg/L	No
<i>1,2-Dichlorobenzene</i>	October 24, 2022	0.2 mg/L	< 0.5	µg/L	No
<i>1,4-Dichlorobenzene</i>	October 24, 2022	0.005 mg/L	< 0.5	µg/L	No
<i>1,2-Dichloroethane</i>	October 24, 2022	0.005 mg/L	< 0.5	µg/L	No
<i>1,1-Dichloroethylene (vinylidene chloride)</i>	October 24, 2022	0.014 mg/L	< 0.5	µg/L	No
<i>Dichloromethane</i>	October 24, 2022	0.05 mg/L	< 5	µg/L	No
<i>2-4 Dichlorophenol</i>	October 24, 2022	0.9 mg/L	< 0.2	µg/L	No
<i>2,4-Dichlorophenoxy acetic acid (2,4-D)</i>	October 24, 2022	0.1 mg/L	< 1	µg/L	No
<i>Diclofop-methyl</i>	October 24, 2022	0.009 mg/L	< 0.9	µg/L	No
<i>Dimethoate</i>	October 24, 2022	0.02 mg/L	< 1	µg/L	No
<i>Diquat</i>	October 24, 2022	0.07 mg/L	< 5	µg/L	No
<i>Diuron</i>	October 24, 2022	0.15 mg/L	< 5	µg/L	No
<i>Glyphosate</i>	October 24, 2022	0.28 mg/L	< 25	ug/L	No
<i>Haloacetic Acid (Rolling Average)</i>	January 16, 2023	0.08 mg/L	45.4	ug/L	No
<i>Malathion</i>	October 24, 2022	0.19 mg/L	< 5	ug/L	No
<i>2 Methyl-4 Chlorophenoxyacetic (MCPA)</i>	October 24, 2022	0.1 mg/L	< 10	ug/L	No
<i>Metolachlor</i>	October 24, 2022	0.05 mg/L	< 3	ug/L	No
<i>Metribuzin</i>	October 24, 2022	0.08 mg/L	< 3	ug/L	No
<i>Monochlorobenzene</i>	October 24, 2022	0.08 mg/L	< 0.5	ug/L	No
<i>Paraquat</i>	October 24, 2022	0.01 mg/L	< 1	ug/L	No
<i>Pentachlorophenol</i>	October 24, 2022	0.06mg/L	< 0.2	ug/L	No
<i>Phorate</i>	October 24, 2022	0.002 mg/L	< 0.3	ug/L	No
<i>Picloram</i>	October 24, 2022	0.19 mg/L	< 5	ug/L	No

Summary of 2022 Organic Sampling Results					
(1µg/L = 0.001mg/L)					
Parameter	Sample Date	Standard (maximum concentration)	Result Value	Unit of Measure	Exceedance
<i>Polychlorinated Biphenyls (PCB)</i>	October 24, 2022	0.003 mg/L	< 0.05	ug/L	No
<i>Prometryne</i>	October 24, 2022	0.001 mg/L	< 0.1	ug/L	No
<i>Simazine</i>	October 24, 2022	0.01 mg/L	< 0.5	ug/L	No
<i>THM (Rolling Average)</i>	January 16, 2023	0.100 mg/L	49.8	ug/L	No
<i>Terbufos</i>	October 24, 2022	0.001 mg/L	< 0.5	ug/L	No
<i>Tetrachloroethylene</i>	October 24, 2022	0.03 mg/L	< 0.5	ug/L	No
<i>2,3,4,6-Tetrachlorophenol</i>	October 24, 2022	0.1 mg/L	< 0.2	ug/L	No
<i>Triallate</i>	October 24, 2022	0.23 mg/L	< 10	ug/L	No
<i>Trichloroethylene</i>	October 24, 2022	0.005 mg/L	< 0.5	ug/L	No
<i>2,4,6-Trichlorophenol</i>	October 24, 2022	0.005 mg/L	< 0.2	ug/L	No
<i>Trifluralin</i>	October 24, 2022	0.045 mg/L	< 0.5	ug/L	No
<i>Vinyl Chloride</i>	October 24, 2022	0.002 mg/L	< 0.2	ug/L	No

Inorganic or Organic Parameters that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards			
Parameter	Result Value	Unit of Measure	Date of Sample
n/a			

Section 6: Significant Expenses Incurred

Significant expenses included,

- Install required equipment
- Repair required equipment
- Replace required equipment
- None during this period

Briefly Describe Incident and/or Expenses Incurred:

No.	Project Name	Description	Cost
1	Tobin St Relining Project	<ul style="list-style-type: none"> • refurbish water main on Tobin St between William St and Main St, including installation of 2 valves • liner installed in 2-phases 	\$226,435.44
2	Proactive Valve Replacement Program	<ul style="list-style-type: none"> • valves located on Bishop St, Kincardine St West, and Anik St 	\$30,338.56
3	Repair to WTP Filter Influent Channel	<ul style="list-style-type: none"> • intermittent leaking occurred between May-August • caused by deterioration in filter influent channel at building expansion joint • repaired to prevent reoccurrence 	\$3,900

No.	Project Name	Description	Cost
4	P1660 refurbishment	<ul style="list-style-type: none"> backwash pump failure caused by motor windings short, pump refurbished and reinstalled 	\$3,700
5	Rotork Valve 1410 Replacement	<ul style="list-style-type: none"> multiple alarms caused by motor issues replaced motor 	\$2,100
6	SCADA Communications Issues	<ul style="list-style-type: none"> multiple issues. equipment failures and alarms due to loss of communication within SCADA system. PLC communications issues caused by defective gateway card, <ul style="list-style-type: none"> replace and reprogram to static IP perform all required updates at Booster Station. equipment communications issues caused by internal communication card failure at Alexandria WTP <ul style="list-style-type: none"> replaced all defective equipment. 	\$6,500
7	HLP1610 Variable Frequency Drive Failure	<ul style="list-style-type: none"> intermittent communication issues between SCADA and VFD, noted from Aug-Dec replaced multiple parts including control panel, internal communication wiring, T-comm board and magnetic cable attachments to reestablish communications 	\$1,400

Section 7: Compliance with Licenses, Permits, Approvals and Orders

The system is an approved system through the accreditation process that was rolled out by the Ministry of the Environment and Climate Control, now known as Ministry of the Environment, Conservation and Parks. The operating authority strives to remain compliant with the Drinking Water Quality Management Standard, the Safe Drinking Water Act and all associated procedures or a guideline. This approach is utilized for creating a multi-barrier approach to ensure safe drinking water.

The following table is a listing of all permits and or licenses that apply to this system:

Description	Number	Version	Issue Date	Expiry Date
Water Works License	181-101	3	March 16, 2021	March 16, 2026
Water Works Permit	181-201	4	March 16, 2021	March 16, 2026
Permit to Take Water	0512-8VVPRD		July 6, 2012	July 8, 2022
Permit to Take Water	2285-CEDRDN		May 26, 2022.	May 14, 2032

The Township has been actively engaged in the process of internal and external auditing, as per the Drinking Water Management Standard. All outstanding issues from previous years have been brought back into conformance.

During this period, all raw water flows were compliant with all permits to take water and are currently at 38.1% of the allowable limit. It has been noted that since the water plant upgrades have completed, less raw water taking has been noted due to process optimization of sludge removal process. All treated flows were well within the rated capacity for the system and as previously stated the system is currently only at 24.3% of the rated capacity.

All disinfection equipment was operated in such a manner that all license requirements were always met. The treatment system was always operated to ensure compliance with the Procedure for Disinfection of Drinking Water in Ontario. All equipment was maintained as per operations manuals and/or calibrated annually by a certified technician.

Section 8: Non-Compliance with Licenses, Permits, Approvals and Orders

There was 1 instance of non-compliance in association to regulatory requirements, municipal license requirements and sampling during this period. There were also 2 self-imposed boil water advisories issued due to water main relining project completed on Tobin St.

2022 Reported Incident in accordance to subsection 18(1) of the Safe Drinking Water Act or Schedule 16 of O. Reg 170/03					
Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
July 14, 2022	Combined Chlorine	0.13	mg/L	• flushing to increase residual	July 14, 2022
June 29, 2022	Self-Imposed BWA			• water main relining & commissioning	July 19, 2022
August 11, 2022	Self-Imposed BWA			• water main relining & commissioning	August 30, 2022

Section 9: Township of North Glengarry Endorsement of Summary Report

A copy of the report was presented to all members of the municipal council through the Public Works Committee meeting held on March 22, 2022, see appendix D for motion. The report was also made available to the public through the Township of North Glengarry website or upon individual request at the Main office, located at 3720 County Rd 34 in Alexandria.

This report has been endorsed by Tim Wright, Director of Public Works on behalf of Township of North Glengarry Council.

Section 8: Contact

All efforts have been made to provide accurate and up to date information in a relevant format. In the event that additional information is required please submit all verbal requests by phone at 613-525-3087; in writing by mail 3720 County Rd in Alexandria, Ontario, K0C 1A0; or in writing by email to enviro@northglengarry.ca

Appendix A: Alexandria 2022 Daily Treated Flows (m³/day)

	January	February	March	April	May	June	July	August	September	October	November	December
1	1,582	1,764	1,800	1,517	1,652	2,058	2,358	2,448	1,931	2,195	2,324	1,539
2	1,266	1,777	2,029	1,635	1,637	1,978	2,287	2,263	2,366	2,225	1,922	1,612
3	1,436	1,666	2,062	1,703	1,737	2,259	2,046	2,356	2,205	2,108	2,304	1,675
4	1,359	1,729	1,506	1,514	1,651	1,733	2,623	2,333	2,052	2,274	2,206	1,620
5	1,384	1,895	1,644	1,642	1,848	2,120	2,097	2,538	2,692	2,511	2,181	1,473
6	1,452	1,933	1,734	1,676	1,894	2,252	2,383	2,431	2,306	2,234	1,971	1,602
7	1,597	1,421	1,596	1,411	1,842	1,844	2,351	2,106	2,040	2,325	2,361	1,562
8	1,623	1,803	1,710	1,373	1,680	1,737	2,022	2,169	2,086	2,198	2,214	1,846
9	1,353	1,876	1,811	1,682	2,089	2,024	2,494	2,276	2,472	2,403	2,212	1,387
10	1,356	1,926	1,791	1,694	2,229	1,943	2,245	2,383	2,326	2,184	2,102	1,890
11	1,573	1,647	1,524	1,572	2,550	2,068	2,599	2,264	2,270	2,380	1,848	1,568
12	1,487	1,856	1,685	1,327	2,354	1,778	1,887	2,383	2,463	1,798	2,078	1,463
13	1,556	1,942	1,626	1,483	2,194	2,233	2,428	2,329	2,198	2,241	2,031	1,657
14	1,335	1,561	1,494	1,569	1,953	2,383	2,463	2,254	2,217	2,537	2,064	1,676
15	1,666	1,650	1,833	1,639	1,925	2,554	2,234	2,713	2,171	2,270	2,036	1,597
16	1,667	1,793	1,728	1,530	2,174	2,155	2,555	2,667	2,487	1,650	2,013	1,223
17	1,264	1,746	1,635	1,423	2,026	1,752	2,446	2,322	2,123	2,821	2,159	2,140
18	1,914	1,586	1,684	1,495	1,763	2,048	2,132	2,052	2,257	2,390	1,920	1,921
19	1,633	1,865	1,774	1,393	1,712	1,776	2,368	2,307	2,069	1,966	2,104	1,554
20	1,732	1,736	1,786	1,661	2,224	2,132	2,356	2,489	2,409	2,053	2,093	1,704
21	1,436	1,755	1,471	1,414	1,569	2,012	2,644	2,488	2,158	2,551	1,957	1,475
22	1,674	1,578	1,686	1,677	1,895	2,355	2,100	2,145	2,235	2,241	1,599	1,613
23	1,777	2,014	1,635	1,620	1,921	1,986	2,454	2,239	2,206	2,553	1,406	1,677
24	1,308	1,579	1,704	1,921	2,260	1,898	2,236	2,278	2,148	1,977	1,785	1,477
25	1,668	1,763	1,915	1,693	1,838	1,949	1,763	2,500	2,330	2,519	1,356	1,453
26	1,802	1,717	1,758	1,236	2,254	2,369	3,056	2,216	2,214	2,266	1,736	1,514
27	1,599	1,529	1,501	1,579	2,045	1,907	2,272	2,480	2,028	2,187	1,590	1,596
28	1,927	1,606	1,443	1,706	1,568	2,534	2,567	2,373	2,277	2,165	1,512	1,548
29	1,805		1,636	1,681	1,981	2,136	2,288	2,158	2,119	2,110	1,624	1,732
30	1,841		1,651	1,974	2,424	1,923	2,631	2,350	2,556	2,098	1,621	1,384
31	1,319		1,405		1,947		2,631	2,609		2,090		1,658
Minimum	1,264	1,421	1,405	1,236	1,568	1,733	1,763	2,052	1,931	1,650	1,356	1,223
Average	1,561	1,740	1,686	1,581	1,962	2,063	2,355	2,352	2,247	2,243	1,944	1,608
Maximum	1,927	2,014	2,062	1,974	2,550	2,554	3,056	2,713	2,692	2,821	2,361	2,140
Total	48,391	48,714	52,259	47,442	60,837	61,894	73,015	72,921	67,411	69,521	58,328	49,839

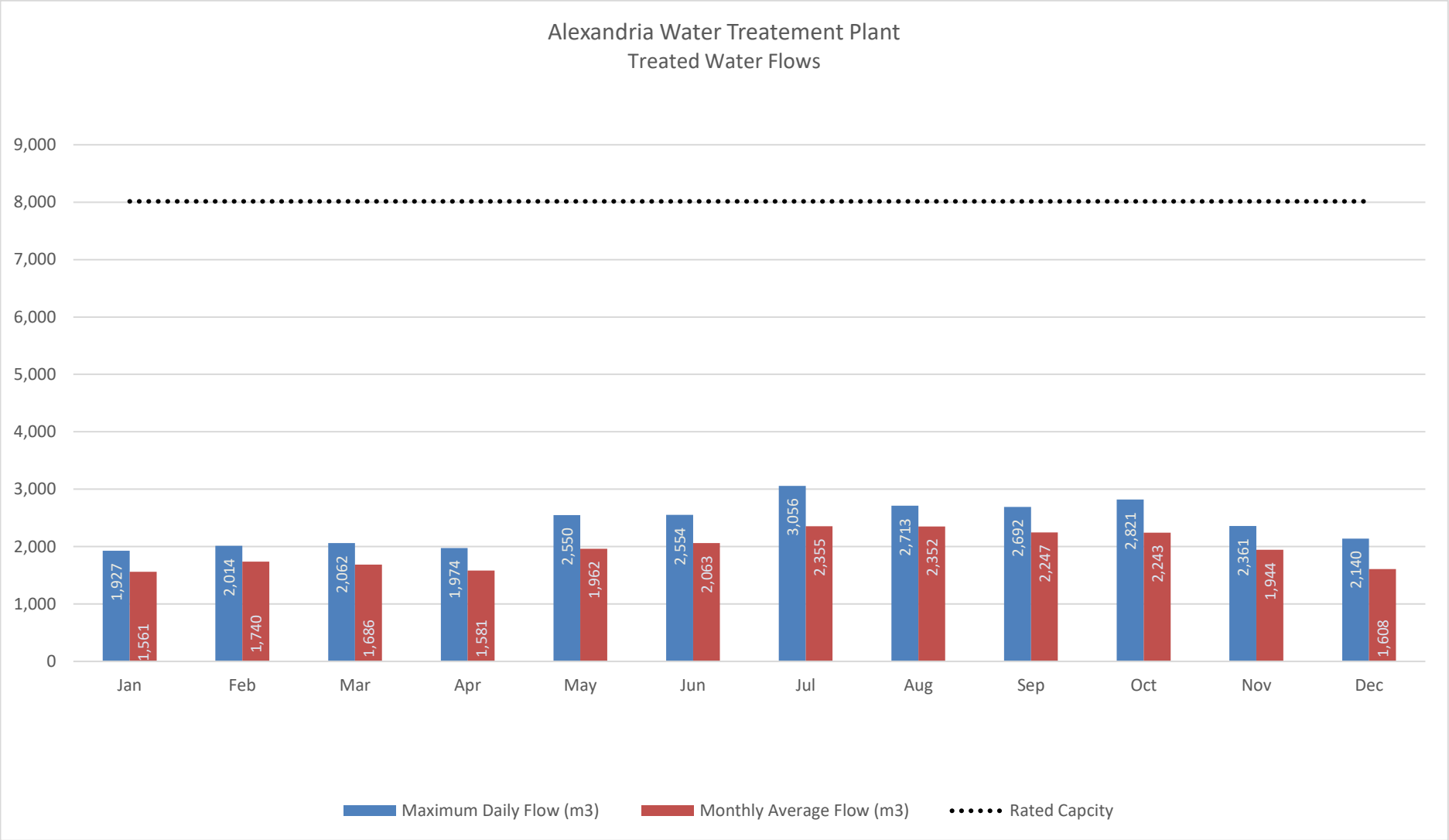
Annual Flows Summary	
	1,223
	1,947
	3,056
710,571	

Appendix B: Alexandria 2022 Maximum Instantaneous Treated Flows (m³/sec)

	January	February	March	April	May	June	July	August	September	October	November	December
1	0.037	0.038	0.037	0.037	0.037	0.040	0.041	0.041	0.042	0.042	0.041	0.058
2	0.037	0.037	0.037	0.037	0.037	0.040	0.041	0.040	0.042	0.042	0.041	0.060
3	0.037	0.037	0.038	0.039	0.042	0.040	0.041	0.043	0.042	0.041	0.042	0.059
4	0.037	0.037	0.037	0.037	0.039	0.040	0.041	0.042	0.042	0.042	0.042	0.058
5	0.037	0.037	0.037	0.039	0.037	0.040	0.041	0.042	0.042	0.041	0.041	0.059
6	0.037	0.037	0.037	0.038	0.037	0.041	0.041	0.042	0.042	0.041	0.041	0.059
7	0.037	0.037	0.037	0.037	0.037	0.041	0.041	0.042	0.043	0.041	0.027	0.059
8	0.037	0.038	0.037	0.037	0.037	0.041	0.041	0.042	0.043	0.042	0.026	0.059
9	0.037	0.037	0.037	0.037	0.038	0.040	0.041	0.042	0.042	0.043	0.042	0.059
10	0.037	0.036	0.037	0.038	0.038	0.040	0.041	0.041	0.044	0.041	0.041	0.059
11	0.037	0.037	0.037	0.037	0.038	0.040	0.041	0.041	0.042	0.041	0.041	0.057
12	0.038	0.037	0.037	0.037	0.037	0.041	0.041	0.041	0.041	0.042	0.042	0.059
13	0.037	0.038	0.037	0.037	0.038	0.040	0.041	0.041	0.041	0.041	0.042	0.059
14	0.037	0.038	0.037	0.037	0.037	0.040	0.041	0.041	0.042	0.042	0.042	0.058
15	0.037	0.037	0.037	0.037	0.037	0.041	0.043	0.042	0.042	0.042	0.042	0.059
16	0.037	0.037	0.038	0.037	0.038	0.040	0.040	0.046	0.042	0.042	0.043	0.059
17	0.037	0.037	0.037	0.037	0.037	0.040	0.041	0.041	0.042	0.042	0.042	0.059
18	0.037	0.038	0.037	0.036	0.037	0.040	0.042	0.042	0.041	0.042	0.022	0.059
19	0.037	0.037	0.037	0.037	0.038	0.040	0.041	0.042	0.042	0.043	0.024	0.058
20	0.038	0.037	0.037	0.038	0.039	0.041	0.042	0.041	0.042	0.042	0.024	0.060
21	0.037	0.036	0.037	0.037	0.039	0.040	0.041	0.042	0.041	0.041	0.023	0.060
22	0.037	0.037	0.037	0.037	0.039	0.040	0.042	0.042	0.042	0.044	0.019	0.058
23	0.037	0.038	0.043	0.037	0.039	0.040	0.041	0.042	0.042	0.043	0.041	0.059
24	0.037	0.038	0.037	0.038	0.040	0.040	0.041	0.041	0.042	0.041	0.041	0.059
25	0.037	0.037	0.037	0.037	0.040	0.040	0.041	0.041	0.041	0.042	0.042	0.058
26	0.038	0.037	0.037	0.037	0.041	0.040	0.046	0.041	0.041	0.041	0.040	0.057
27	0.037	0.037	0.037	0.037	0.040	0.040	0.041	0.042	0.041	0.041	0.041	0.058
28	0.038	0.036	0.037	0.037	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.058
29	0.037		0.038	0.037	0.040	0.041	0.042	0.041	0.041	0.041	0.041	0.058
30	0.036		0.038	0.038	0.040	0.041	0.041	0.042	0.041	0.041	0.047	0.058
31	0.037		0.038		0.042		0.041	0.042		0.041		0.058
Minimum	0.036	0.036	0.037	0.036	0.037	0.040	0.040	0.040	0.041	0.041	0.019	0.057
Average	0.037	0.037	0.037	0.037	0.039	0.040	0.041	0.042	0.042	0.042	0.037	0.059
Maximum	0.038	0.038	0.043	0.039	0.042	0.041	0.046	0.046	0.044	0.044	0.047	0.060

Annual Flows Summary
0.02
0.04
0.06

Appendix C: Comparison of Average and Maximum Monthly Treated Flow Rates



Appendix D: Committee of the Whole Agenda

THE CORPORATION OF THE TOWNSHIP OF NORTH GLENGARRY Committee of the Whole

Wednesday, March 22, 2023, 3:00 pm

Council Chamber
3720 County Road 34
Alexandria, On. K0C 1A0

1. CALL TO ORDER
2. DECLARATION OF PECUNIARY INTEREST
3. ACCEPT THE AGENDA(Additions/Deletions)
4. DELEGATIONS
5. STAFF REPORTS
 - a. Administration Department
 1. Draft Strategic Plan and Priorities 2023-2026
 - b. Treasury Department
 1. Variance Report March 2023
 - c. Building/Planning & By-law Department
 1. Update on Clear Cutting By-law No. 43-2021
 2. Update on Shipping Container By-law Amendment
 3. Administrative Monetary Penalties
 - d. Public Work's Department
 1. Annual Drinking Water System Summary Reports for Alexandria/Maxville and Glen Robertson
 2. Annual Waste Water Systems Reports for Alexandria and Maxville
 3. Blue Box Transition and Regional Waste Management Group Update
 - e. Fire Department

1. Training Facility - Rental

6. CONSENT AGENDA

- a. TR 2023-09 Workplan Update March 2023
- b. CS 2023-06 Community Services Workplan Q1 2023
- c. PW 2023-14 Public Works Work Plan
- d. FD 2023-02 Departmental Workplan Update – March 2023

7. UNFINISHED BUSINESS

8. OTHER BUSINESS

9. MATTERS ARISING FROM STANDING COMMITTEES

- a. Raisin Region Conservation Authority update by Councillor Jacques Massie
- b. Maxville Manor update by Councillor Gary Martin
- c. Glengarry Pioneer Museum update by Councillor Gary Martin
- d. Glengarry Archives update by Mayor Jamie MacDonald
- e. Arts, Culture & Heritage update by Councillor Jeff Manley
- f. County Council update by Deputy Mayor Carma Williams
- g. Friends of the Trails update by Councillor Jeff Manley
- h. Community Development Committee by update by Deputy Mayor Carma Williams
- i. Rural Affairs update by Councillor Brian Caddell

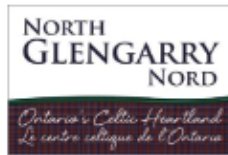
10. NOTICE OF MOTION

Next Committee of the Whole Meeting

Wednesday June 21 2023 at 3:00 p.m. at the Council Chambers Ontario.

Note: Meeting are subject to change or cancellation.

11. ADJOURNMENT



STAFF REPORT TO THE COMMITTEE OF THE WHOLE Report No: PW 2023-12

March 15, 2023

From: Angela Cullen – Water Wastewater Compliance Coordinator

RE: Annual Drinking Water System Summary Reports for Alexandria/Maxville and Glen Robertson

Recommended Motion:

THAT the Committee of the Whole receives Staff Report No. PW 2023-12 for information purposes.

Background / Analysis:

Staff have prepared the annual reports for the Alexandria Drinking Water System and the Glen Robertson Drinking System, as per the requirements under Ontario Regulation 170/03 for each system.

The attached annual reports will be sent to the Ministry of the Environment and posted to the North Glengarry Township's website for public access, as part of the Township's obligation.

Financial Implications:

N/A

Others Consulted:

Dean McDonald, Environmental Services Manager

Tim Wright, Director of Public Works

Attachments:

- Alexandria Drinking Water System 2022 Annual and Summary Report
- Glen Robertson Drinking Water System 2022 Annual and Summary Report
- Annual Drinking Water Systems Annual Report to Council

Reviewed and approved by: Sarah Huskinson, CAO/Clerk