

Park Lane Subdivision Drinking Water System

Waterworks # 220007132
System Category – Small Municipal Residential

Annual Water Report

Prepared For: The Township of Ramara

Reporting Period of January 1st – December 31st, 2020

Issued: February 26, 2021

Revision: 0

Operating Authority:



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Report Availability

This system does not serve more than 10,000 residence and the annual reports will be available to residents at the Township Of Ramara Administration Office and on the Township’s website at www.ramara.ca. Notification that reports are available free of charge will be made on the Township of Ramara website. The Township of Ramara Administration Office is located at 2297 Highway 12, Brechin, ON L0K 1B0.

Compliance Report Card

Drinking Water System Number: 220007132
Drinking Water System Name: Park Lane Subdivision DWS
Drinking Water System Owner: Township of Ramara
Drinking Water System Category: Small Municipal Residential
Period Being Reported: January 1, 2020 - December 31, 2020

	# of Events	Date	Details
Health & Safety			
Number of Incidents	0		
Drinking Water			
MECP Inspections	0		
AWQI's	1	August 19, 2020	Treated Water Sodium result of 60.9mg/L; resample result of 57.6mg/L
Number of Non-Compliances	1	September 2020	Monthly raw water turbidity handheld samples were missed for well #1 & 2 in September 2020
Number of Boil Water Advisories	0		

System Process Description

Raw Source

The Park Lane DWS is supplied with raw groundwater from two non-GUDI wells: Well # 1, # 2.

Treatment

The treatment system consists of the following:

- Pre-chlorination system and potassium permanganate system for iron and manganese oxidation
- Two (2) greensand filters with backwash equipment and backwash waste storage/decant tank system
- Sodium hypochlorite secondary disinfection system
- One (1) standpipe reservoir for potable water storage

- A high lift pumping system
- Stand-by propane generator on-site

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Brenntag
Potassium Permanganate	Iron and Manganese Oxidation	Carus Chemical Company

Summary of Non-Compliance

Adverse Water Quality Incidents

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
August 19, 2020	151437	Treated Water	Sodium result above 20mg/L	Result of 60.9mg/L	O. Reg 170	Resample, result 57.6mg/L

Non-Compliance

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. date(s))	Corrective Action	Status
O. Reg 170/03	Schedule 7.3 of O.Reg 170/03- Monthly Raw Water Turbidity Samples	September 2020	Operations Staff are provided and trained on facility sampling calendars which list the requirement for monthly raw turbidity sampling form each raw water source. A monthly work order is being created to provide additional direction.	Ongoing

Non-Compliance Identified in a Ministry Inspection:

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. date(s))	Corrective Action	Status
There were no non-compliances identified in a Ministry Inspection during this period.				

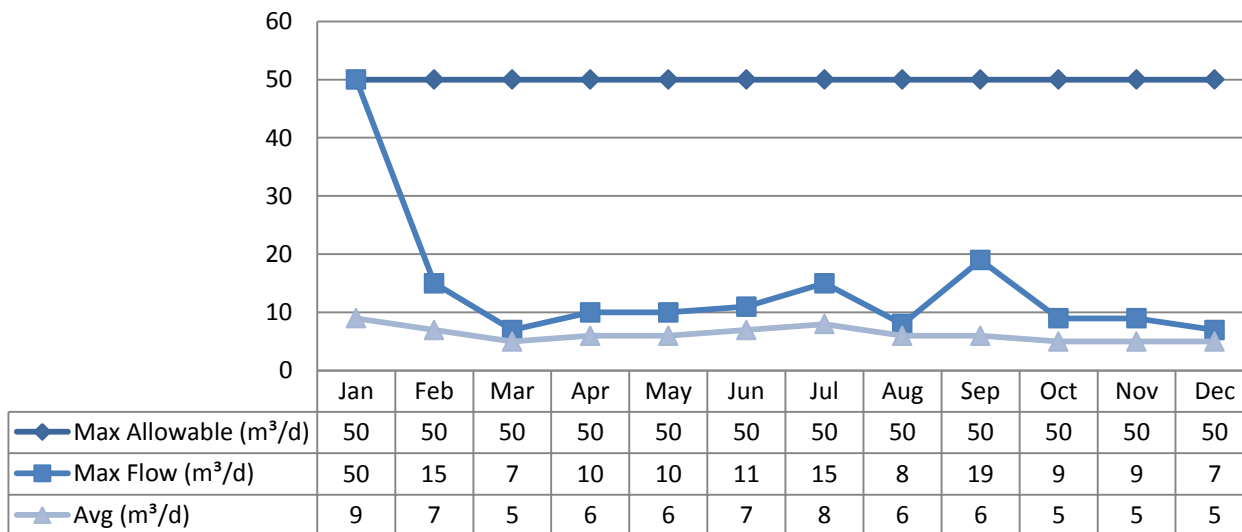
Flows

Raw Water Flows

The Raw Water flows are not regulated under a Permit to Take Water as they remain below 50m³/day. The Raw Water flows are regulated under the Municipal Licence.

Total Monthly Flows (m³/d)

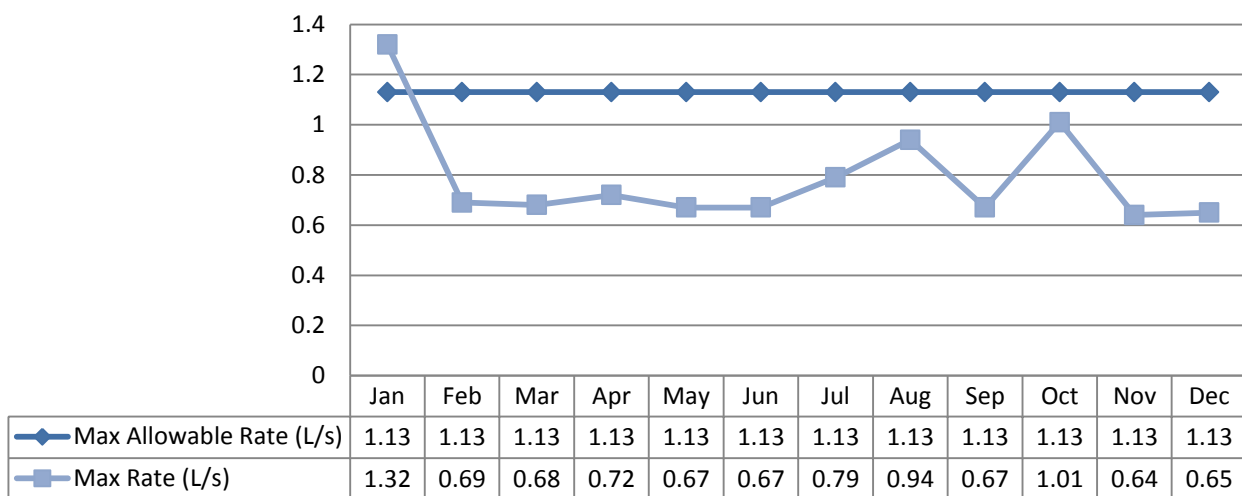
Max Allowable-MDWL- Well #1



Note: The above table shows there were exceedances in daily flows (m³/day). The spike in January was due to a distribution leak. All spikes are reviewed for compliance.

Monthly Rated Flows (L/s)

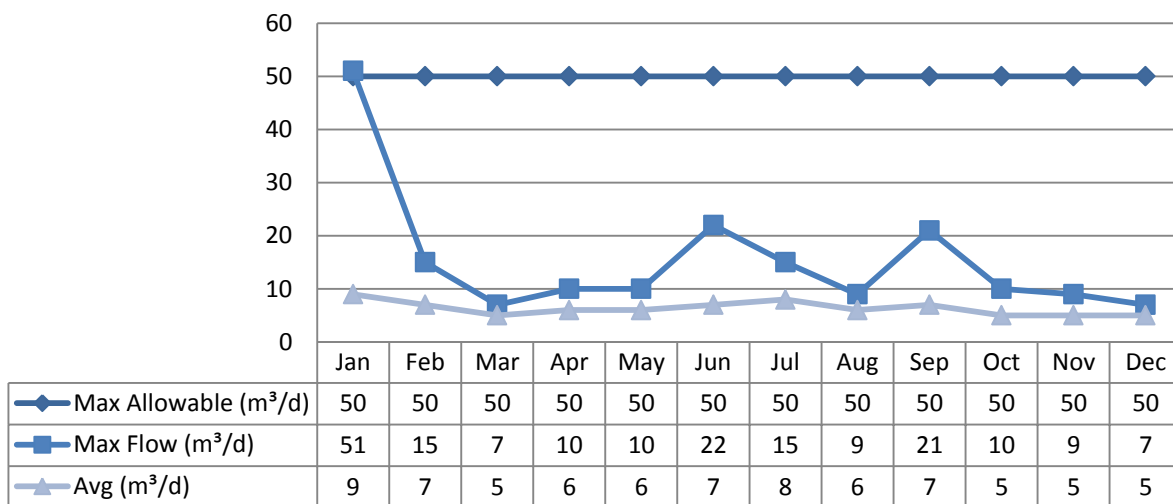
Max Allowable Rate-MDWL- Well #1



Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s). The spike in January was due to scheduled Flow Meter calibration. All spikes are reviewed for compliance.

Total Monthly Flows (m³/d)

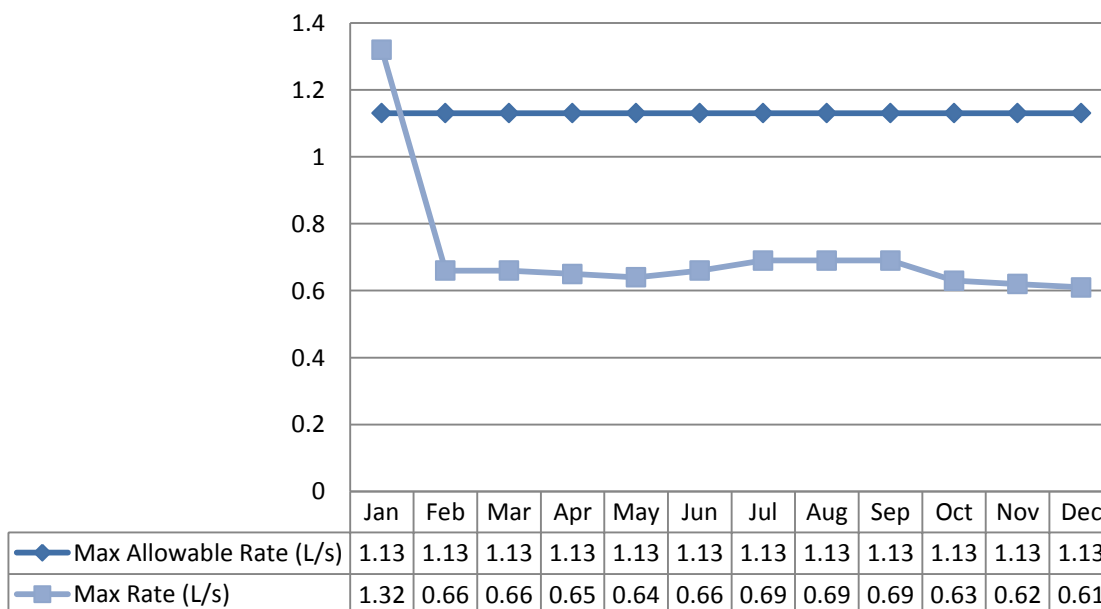
Max Allowable-MDWL- Well #2



Note: The above table shows there were exceedances in daily flows (m³/day). The spike in January was due to a distribution leak. All spikes are reviewed for compliance.

Monthly Rated Flows (L/s)

Max Allowable Rate-MDWL- Well #2



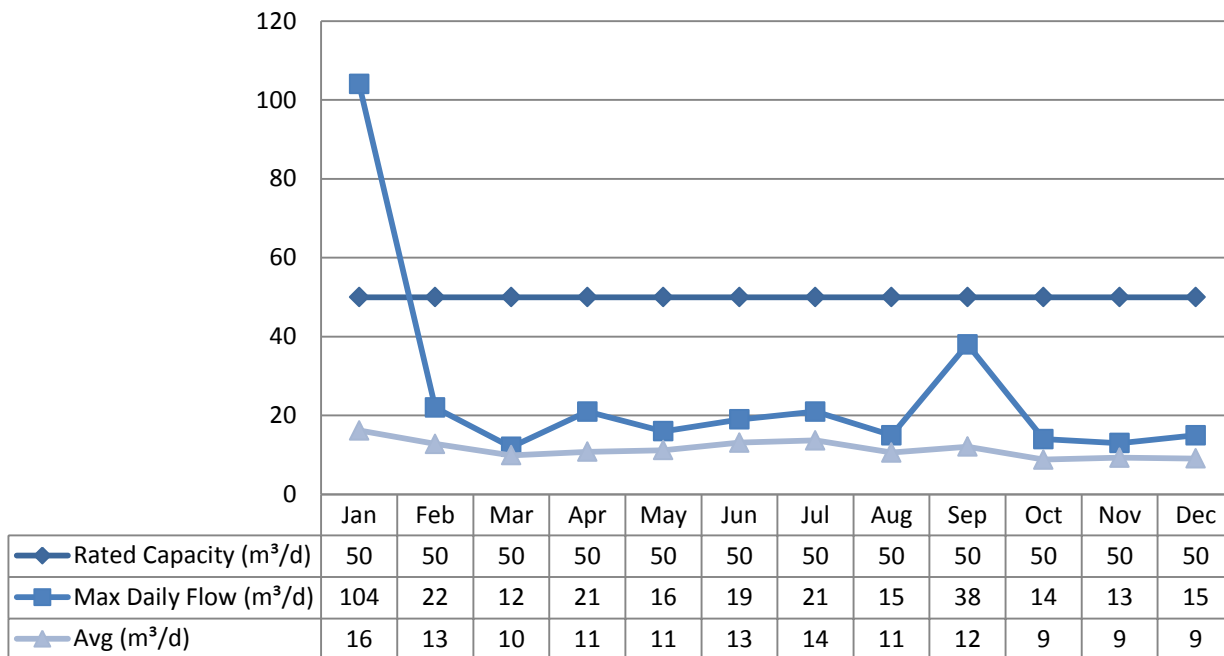
Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s). The spike in January was due to scheduled Flow Meter calibration. All spikes are reviewed for compliance.

Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence.

Monthly Rated Flows

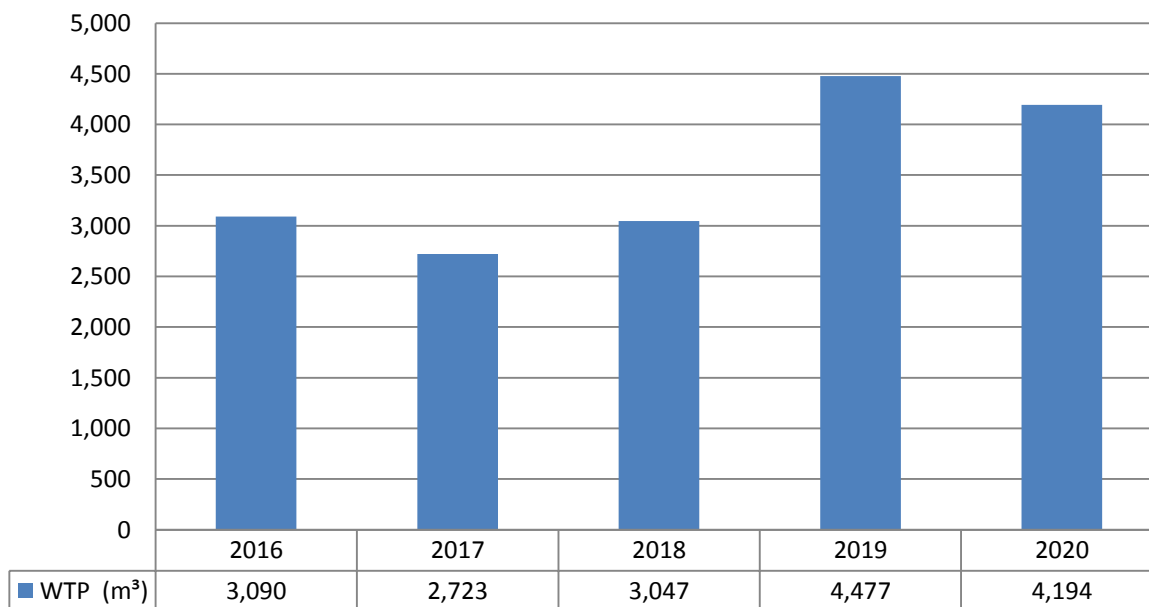
Rated Capacity – MDWL



Note: The above table shows there were exceedances in daily peak flows (m³/day). The spike in January was due to a distribution leak. All spikes are reviewed for compliance.

Annual Total Flow Comparison

Total Annual m³



Regulatory Sample Results Summary

Microbiological Testing

	No. of Samples Collected	Range of E. Coli Results		Range of Total Coliform Results		Range of HPC Results	
		Min	Max	Min	Max	Min	Max
Raw Well 1	39	0	0	0	1		
Raw Well 2	39	0	0	0	0		
Treated	36	0	0	0	0	0	74
Distribution	77	0	0	0	0	0	94

Operational Testing

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
Turbidity Well 1 (NTU)	11	0.55	4.91
Turbidity Well 2 (NTU)	11	0.14	14.1
Turbidity – Treated Water (NTU)	8760	0.00	2.03
Treated Water Chlorine (mg/L)	8760	0.00	3.24
Distribution Water Chlorine (mg/L)	110	0.61	2.68
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

Note: Record the unit of measure if it is **not** milligrams per litre.

Note: For continuous monitors 8760 is used as the number of samples. Spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O. Reg. 170/03.

Inorganic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. Sodium and Fluoride are required to be tested every 5 years. Nitrate and Nitrite are tested quarterly and the metals are tested annually as required under O. Reg. 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

- MAC = Maximum Allowable Concentration as per O. Reg. 169/03
- MDL = Method Detection Limit

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	
				MAC	1/2 MAC
Treated Water					
Antimony: Sb (ug/L) - TW	2019/08/21	<MDL 0.09	6.0	No	No
Arsenic: As (ug/L) - TW	2019/08/21	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2019/08/21	129.0	1000.0	No	No
Boron: B (ug/L) - TW	2019/08/21	152.0	5000.0	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	
				MAC	1/2 MAC
Cadmium: Cd (ug/L) - TW	2019/08/21	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2019/08/21	0.18	50.0	No	No
Mercury: Hg (ug/L) - TW	2019/08/21	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2019/08/21	<MDL 0.04	50.0	No	No
Uranium: U (ug/L) - TW	2019/08/21	0.002	20.0	No	No
Additional Inorganics					
Fluoride (mg/L) - TW	2017/08/15	0.24	1.5	No	No
Nitrite (mg/L) - TW	2020/02/26	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/05/05	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/08/12	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/11/19	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2020/02/26	<MDL 0.006	10.0	No	No
Nitrate (mg/L) - TW	2020/05/05	<MDL 0.006	10.0	No	No
Nitrate (mg/L) - TW	2020/08/12	<MDL 0.006	10.0	No	No
Nitrate (mg/L) - TW	2020/11/19	<MDL 0.006	10.0	No	No
Sodium: Na (mg/L) - TW	2020/08/12	60.9	20*	Yes	Yes
Sodium: Na (mg/L) - TW	2020/08/24	57.6	20*	Yes	Yes

*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

Schedule 15 Sampling:

The Schedule 15 Sampling is required under O. Reg. 170/03. This system is under reduced sampling. No plumbing samples were collected.

Distribution System	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (ug/L)	Number of Exceedances
Alkalinity (mg/L)	4	184	203	N/A	N/A
pH	4	6.88	7.41	N/A	N/A
Lead (ug/l)					

Note: Lead samples were last collected in the distribution system in 2019 as they are only required to be sampled every 36 months. Samples shown above are reflective of lead sampling period- from October 2019- October 2020.

Organic Parameters

These parameters are tested every 5 years as a requirement under O.Reg 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Treated Water					
Alachlor (ug/L) - TW	2019/08/21	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2019/08/21	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2019/08/21	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2019/08/21	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2019/08/21	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2019/08/21	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2019/08/21	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2019/08/21	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2019/08/21	<MDL 0.17	2.00	No	No
Chlorpyrifos (ug/L) - TW	2019/08/21	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2019/08/21	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2019/08/21	<MDL 0.20	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2019/08/21	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2019/08/21	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2019/08/21	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2019/08/21	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2019/08/21	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2019/08/21	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2019/08/21	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2019/08/21	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2019/08/21	<MDL 0.06	20.00	No	No
Diquat (ug/L) - TW	2019/08/21	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2019/08/21	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2019/08/21	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2019/08/21	<MDL 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA) (ug/L)	2019/08/21	<MDL 0.00012	1.00	No	No
Metolachlor (ug/L) - TW	2019/08/21	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2019/08/21	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2019/08/21	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2019/08/21	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2019/08/21	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2019/08/21	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2019/08/21	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2019/08/21	<MDL 1.0	190.00	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Prometryne (ug/L) - TW	2019/08/21	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2019/08/21	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2019/08/21	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2019/08/21	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2019/08/21	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2019/08/21	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2019/08/21	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2019/08/21	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2019/08/21	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2019/08/21	<MDL 0.17	1.00	No	No
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average - DW	2020	73.8	100	No	Yes
HAA Total (ug/L) Annual Average - DW	2020	65.3	80	No	Yes

MAC = Maximum Allowable Concentration as per O. Reg. 169/03

MDL = Method Detection Limit

Additional Legislated Samples

Municipal Drinking Water License	Parameter	Date Sampled	Result	Unit of Measure
Settling Tank Discharge Point	Filter Backwash (FBW): Suspended Solids (Composite)	February 2020	16	mg/L
		May 2020	2	mg/L
		August 2020	2	mg/L
		November 2020	4	mg/L
2020 Annual Average	Filter Backwash (FBW): Suspended Solids (Composite)	2020 Annual Average	6.0	mg/L

Note: The Suspended Solids annual average limit is 15 mg/L.

Inorganic or Organic Parameter Exceedances

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Trihalomethane: Total (ug/L) Annual Average - DW	73.8	(ug/L)	2020 Annual Average
HAA Total (ug/L) Annual Average - DW	65.3	(ug/L)	2020 Annual Average

Major Maintenance Summary incurred to install, repair or replace required equipment

Item Number #	Description
1	Clean Backwash tanks.
2	Repair broken water service.
3	Replace filter control circuit board on filter 2.