

Southview Estates Drinking Water System

Waterworks # 220012260
System Category – Large Municipal Residential

Annual Water Report

Prepared For: The City of Kawartha Lakes

Reporting Period of January 1st, 2018 – December 31st, 2018

Issued: February 15, 2019

Revision: 0

Operating Authorities:



This report has been prepared to satisfy the annual reporting requirements in
O. Reg. 170/03 Section 11 and Schedule 22

Table of Contents

Annual Water Report	1
Report Availability	1
Compliance Report Card	1
System Process Description	1
Raw Source	1
Treatment	1
Treatment Chemicals used during the reporting year:	2
Summary of Non-Compliance.....	2
Adverse Water Quality Incidents.....	2
Non-Compliance	2
Non-Compliance Identified in a Ministry Inspection:	2
Flows	3
Raw Water Flows.....	3
Total Monthly Flows (m ³ /d)-Raw	3
Monthly Rate Flows (L/s)-Raw.....	3
Treated Water Flows	4
Monthly Rated Flows	4
Annual Total Flow Comparison.....	5
Regulatory Sample Results Summary	5
Microbiological Testing	5
Operational Testing	5
Inorganic Parameters	6
Schedule 15 Sampling:.....	7
Organic Parameters.....	7
Additional Legislated Samples.....	9
Major Maintenance Summary	9
WTRs Data and Submission Confirmation	A

Report Availability

This system does not serve more than 10,000 residences and the annual reports will be available to residents at the City of Kawartha Lakes Public Works Administration Office and on the City's website at www.kawarthalakes.ca. Notification that reports are available free of charge will be made on the City of Kawartha Lakes website. The City of Kawartha Lakes Public Works Administration Office is located at 12 Peel Street in Lindsay, Ontario.

Compliance Report Card

Drinking Water System Number: 220012260

Drinking Water System Name: Southview Estates DWS

Drinking Water System Owner: City of Kawartha Lakes

Drinking Water System Category: Large Municipal Residential

Period Being Reported: January 1, 2018 - December 31, 2018

	# of Events	Date	Details
Health & Safety			
Number of Incidents	0		
Drinking Water			
MECP Inspections	0	N/A	The Announced-Detailed Drinking Water Inspection is being held in the first quarter of 2019.
AWQI's	0	N/A	N/A
Number of Non-Compliances	0		
Number of Boil Water Advisories	0		

System Process Description

Raw Source

The Southview Estates Drinking Water System draws water from Sturgeon Lake.

Treatment

The treatment system consists of the following:

- Dual train conventional filtration package plant
- Inline static mixer
- Coagulant feed system with addition of SternPAC
- Coagulant aid feed system with addition of polymer
- Two mono-media upflow clarifier units
- Two dual media rapid gravity filters

- Sodium hypochlorite feed system for primary disinfection
- Dual celled chlorine contact tanks (274 m³) located beneath the plant
- Two highlift pump chambers housing four pumps
- Sodium hypochlorite feed system for post chlorination
- Online analyzers to monitor both free treated chlorine and filter effluent turbidity
- Wastewater treatment system that consists of two backwash pumps and two settling tanks that receive backwash water and clarifier sludge
- SCADA computer control system
- zebra mussel control system
- Standby power generator

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Brenntag
SternPAC	Coagulant	Kemira
Magnafloc	Coagulant Aid	BASF

Summary of Non-Compliance

Adverse Water Quality Incidents

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
There were no non-compliance issues reported during the reporting period.						

Non-Compliance

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. date(s))	Corrective Action	Status
There were no non-compliance issues reported during the reporting period.				

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

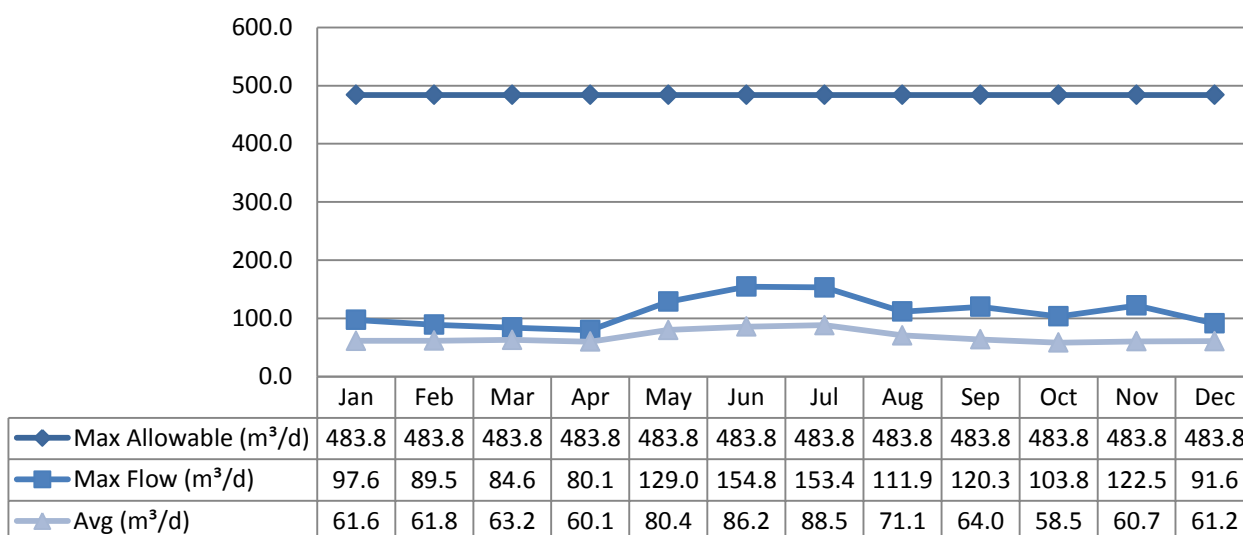
The Southview Estates Drinking Water System is operating on average under half the rated capacity.

Raw Water Flows

The Raw Water flows are regulated under the Permit to Take Water. 2018 Raw Flow Data was submitted to the Ministry electronically under permit #8118-AW2NZT. The confirmation and a copy of the data that was submitted are attached in Appendix A.

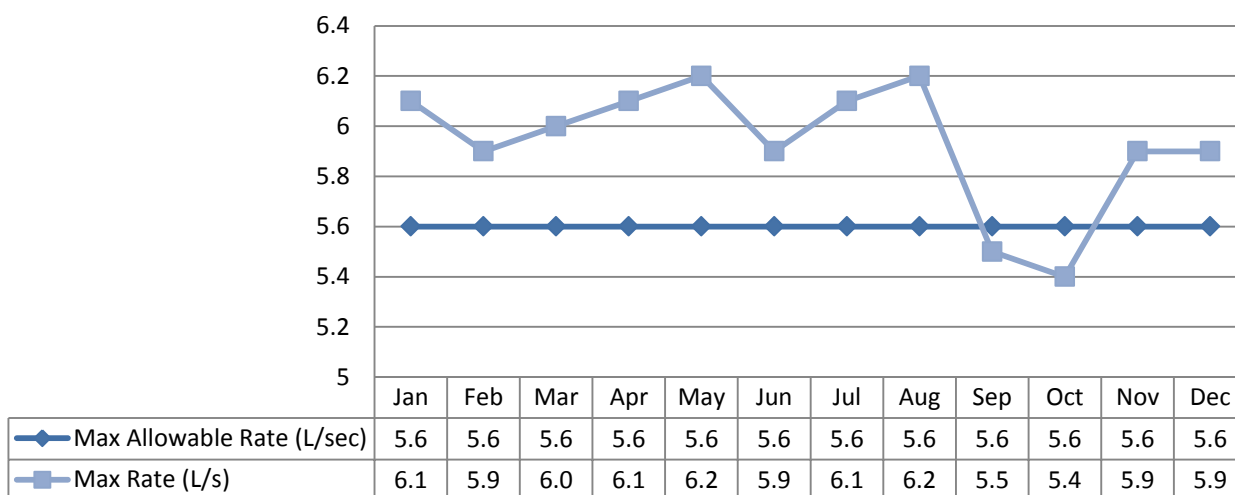
Total Monthly Flows (m³/d)

Max Allowable PTTW- Raw



Monthly Rated Flows (L/s)

Max allowable rate – PTTW- Raw



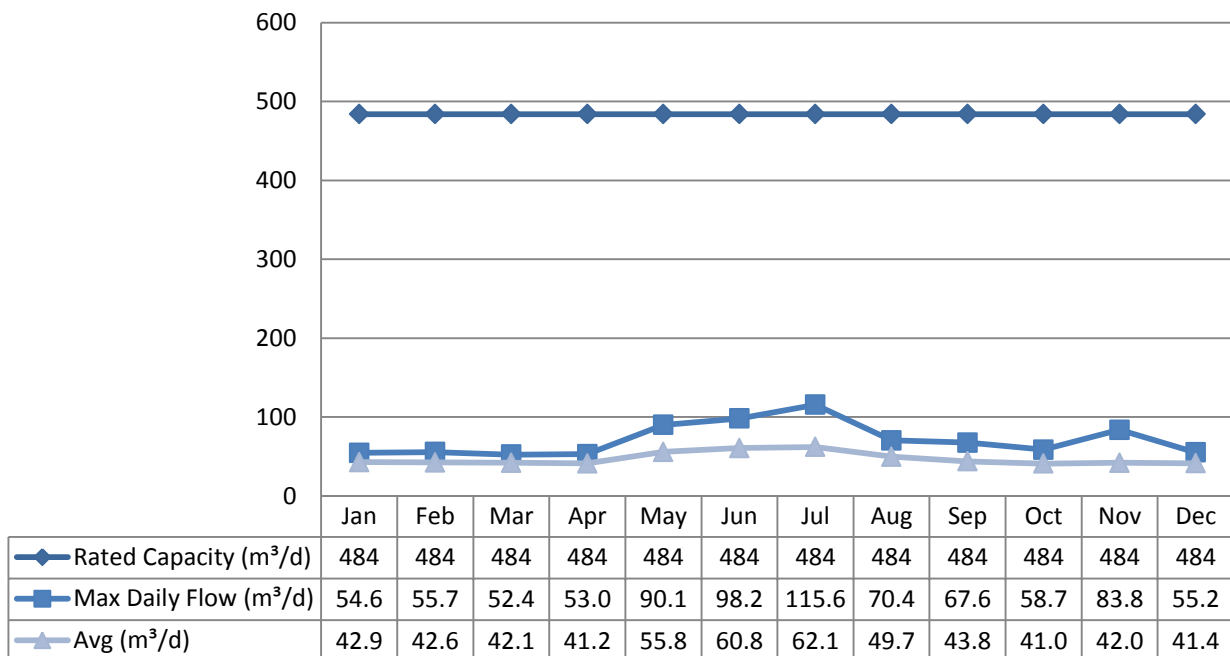
Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s) and exceedances were short in duration. The scheduled Flow Meter calibration was in July.

Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence.

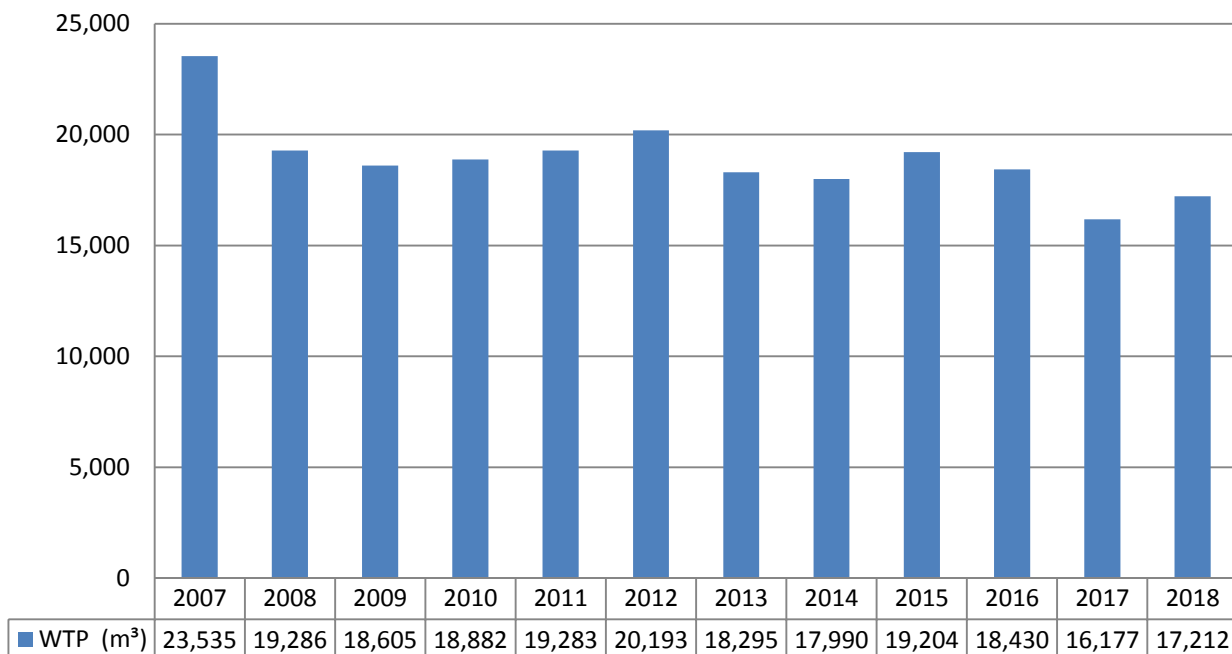
Monthly Rated Flows

Rated Capacity – MDWL



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	52	0	8	0	185		
Treated	52	0	0	0	0	0	1
Distribution	156	0	0	0	0	0	4

Operational Testing

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
Turbidity Raw (NTU)	49	0.36	2.77
Turbidity Filter 1 (NTU)	8760	0	3.57
Turbidity Filter 2 (NTU)	8760	0	3.41
Chlorine	8760	0	4.95
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 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	No. of Exceedances	
				MAC	1/2 MAC
Treated Water					
Antimony: Sb (ug/L) - TW	2018/01/15	<MDL 0.02	6.0	No	No
Arsenic: As (ug/L) - TW	2018/01/15	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2018/01/15	20.1	1000.0	No	No
Boron: B (ug/L) - TW	2018/01/15	12.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2018/01/15	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2018/01/15	0.13	50.0	No	No
Mercury: Hg (ug/L) - TW	2018/01/15	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2018/01/15	<MDL 0.04	50.0	No	No
Uranium: U (ug/L) - TW	2018/01/15	0.048	20.0	No	No
Additional Inorganics					
Fluoride (mg/L) - TW	2018/01/15	<MDL 0.06	1.5	No	No
Nitrite (mg/L) - TW	2018/01/15	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/04/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/07/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/10/01	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2018/01/15	0.23	10.0	No	No
Nitrate (mg/L) - TW	2018/04/03	0.371	10.0	No	No
Nitrate (mg/L) - TW	2018/07/03	0.161	10.0	No	No
Nitrate (mg/L) - TW	2018/10/01	0.182	10.0	No	No
Sodium: Na (mg/L) - TW	2018/01/15	10.7	20*	No	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 Sampling Points	Number of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	2	2	67	68	N/A	N/A
pH	2	2	8.29	8.41	N/A	N/A
Lead (ug/l)	N/A	N/A				

Organic Parameters

These parameters are tested 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	Exceedances	
				MAC	1/2 MAC
Treated Water					
Alachlor (ug/L) - TW	2018/01/15	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2018/01/15	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2018/01/15	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2018/01/15	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2018/01/15	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2018/01/15	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2018/01/15	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2018/01/15	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2018/01/15	<MDL 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2018/01/15	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2018/01/15	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2018/01/15	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2018/01/15	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2018/01/15	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2018/01/15	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2018/01/15	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2018/01/15	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2018/01/15	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2018/01/15	<MDL 0.19	100.00	No	No

Diclofop-methyl (ug/L) - TW	2018/01/15	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2018/01/15	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2018/01/15	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2018/01/15	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2018/01/15	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2018/01/15	<MDL 0.02	190.00	No	No
Metolachlor (ug/L) - TW	2018/01/15	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2018/01/15	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2018/01/15	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2018/01/15	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2018/01/15	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2018/01/15	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2018/01/15	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2018/01/15	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2018/01/15	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2018/01/15	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2018/01/15	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2018/01/15	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2018/01/15	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2018/01/15	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2018/01/15	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2018/01/15	<MDL 0.25	5.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW	2018/01/15	<MDL 0.12	100.00	No	No
Trifluralin (ug/L) - TW	2018/01/15	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2018/01/15	<MDL 0.17	1.00	No	No
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average - DW	2018	14.25	100	No	No
HAA Total (ug/L) Annual Average - DW	2018	5.3	N/A	N/A	N/A

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

Additional Legislated Samples

	Location	No. of Samples Collected	Range of Results	
			Minimum	Maximum
Alkalinity (mg/L as CaCO ³)	Point of Entrance to Distribution System	4	59.0	78.0
Aluminum (ug/L)	Point of Entrance to Distribution System	4	24.2	55.2
Dissolved Organic Carbon (mg/L)	Point of Entrance to Distribution System	4	2.0	3.0
Total Suspended Solids (mg/L)	Settling Tank Discharge Point	11	2.0	4.0

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

WO #	Description
579751	Refurbish backwash pump
376651	Repaired small building exterior roof

Appendix A

WTRS Data and Submission Confirmation

Water Taking Data submitted successfully.

Confirmation:

Thank you for submitting your water taking data online.

Permit Number: 8118-AW2NZT

Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.

Received on: Jan 30, 2019 10:03 AM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.

[Print Confirmation](#)

[Return to Main Page](#)