



Huron Sands Drinking Water System 2021 Operation and Maintenance Annual Report

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1.0 INTRODUCTION AND BACKGROUND

The purpose of the 2021 Annual Report is to document the operation and maintenance data for the Huron Sands Drinking Water System for review by The Ministry Environment, Conservation and Parks (MECP) in accordance with O. Reg. 170/03. This report covers January 1, 2021 to December 31, 2021. A copy of this report will be submitted to the owner to be uploaded to the township's website and can be provided to interested parties upon request.

2.0 DESCRIPTION OF WATER SYSTEM

The Huron Sands Drinking Water System (DWS #220007757), is characterized as a "secure ground water" system and is classified as a small municipal residential system. It is owned by the Township of ACW and operated by Veolia Water Canada, the Operating Authority. The system consists of one well with chlorination treatment and iron sequestering, and is operated seasonally between April and November.

The entire system is located on Front Concession, Lot 19, in the Huron Sands Subdivision of Ashfield-Colborne-Wawanosh Township. The Huron Sands well house is located at 85019 Michelle St. S., Huron Sands Subdivision, Ashfield-Colborne-Wawanosh. The distribution system serves the community of Huron Sands with a population of approximately 120 seasonal residents, with approximately 48 customer services.

Well # 1, drilled in 2001, is a secure deep bedrock well, 200 mm diameter, 100 metres deep, equipped with a submersible pump with a rated capacity of 3.8 L/s, with instrumentation and control equipment, and 50 mm diameter discharge line connected to the pump house. The well house and its equipment have a daily capacity to deliver 328 m³ of potable water per day to the Huron Sands community.

The well house is equipped with a flow control valve, a chlorine pump, a chemical feed pump for iron sequestering, a chlorine contact watermain, on-line chlorine monitoring, alarm generation, data recorder and auto-dialer. A double throw manually operated transfer switch is available allowing the use of a portable generator during extended power outages.

The water from the well is pumped to a chlorine contact main (900 mm diameter x 6.1 metres long DR41 PVC) to provide adequate chlorine contact time at maximum flow and before the first consumer, complete with a sampling / service water connection feed back to the pump house. The distribution system is constructed with a combination of PVC piping with polyethylene services.

There is no elevated storage to maintain pressure and the system pressure is maintained using pressure tanks and the well pump.

The system has no fire hydrants and lacks the capacity to provide fire flows. Blow-offs are used for flushing purposes.

Disinfection is achieved on the Huron Sands well supply through the use of 6% sodium hypochlorite. In the well house, this chemical is added prior to the water entering the chlorine contact main at dosages high enough to achieve both primary and secondary disinfection objectives.

The chlorine dosages range varies with the chlorine demand of the raw water. The free chlorine residual is monitored at the point of entry to the distribution system, by an on-line chlorine analyzer, with a target residual of > 1.00 mg/L and < 1.30 mg/L.

The limiting factor regarding flow is chlorine contact time in the chlorine contact main. In order to meet the regulatory CT requirements (CT value > 3.0), increased flows beyond 3.8 L/s must have an adequate free chlorine residual to counter the decreased retention time in the chlorine contact watermain.

The treated water is monitored by an on-line chlorine analyzer.

Distribution piping typically ranges in size from 50 mm to 100 mm in diameter, and consists of PVC piping, with polyethylene service connections.

A 100 mm diameter discharge water main outside the pump house supplies treated water to the Huron Sands Estates Subdivision.

Typical system pressure ranges from 40 P.S.I to 60 P.S.I.

3.0 SUMMARY OF WATER QUALITY MONITORING

3.1 Water Treatment Equipment Operation and Monitoring as per Schedule 7, O. Reg. 170/03

3.1.1 Point of Entry Chlorine Residual

Chlorine residuals are continuously measured using a HACH CL17 online chlorine analyzer and verified for accuracy using a hand-held HACH pocket colorimeter.

Table 1 shows the monthly average of free chlorine residual values on the treated water at the point of entry.

3.1.2 Distribution Chlorine Residual

Chlorine residuals in the distribution system are checked using a HACH pocket colorimeter, 66 distribution chlorine residuals were recorded.

Table 1. – Treated and Distribution Chlorine Residuals for Huron Sands Drinking Water System

Date	Average Treated Chlorine Residual (mg/L)	Average Distribution Chlorine Residual (mg/L)
Jan	-	-
Feb	-	-
Mar	-	-
Apr	1.67	1.60
May	1.61	1.53
Jun	1.56	1.47
Jul	1.64	1.52
Aug	1.61	1.39
Sep	1.42	1.22
Oct	1.64	1.46
Nov	1.57	1.51
Dec	-	-
Average	1.59	1.46
Min	1.21	1.12
Max	2.27	1.89
# Samples	71	66

3.1.3 Turbidity

Turbidity is measured using a pocket turbidimeter.

Table 2 provides a summary of raw and treated turbidity results.

Table 2. – Raw and Treated Water Turbidities for Huron Sands Drinking Water System

Date	Average Raw Turbidity (NTU)	Average Treated Turbidity (NTU)
Jan	-	-
Feb	-	-
Mar	-	-
Apr	0.70	0.90
May	0.65	0.30
Jun	0.57	0.29
Jul	0.51	0.34
Aug	0.59	0.37
Sep	0.47	0.33
Oct	0.49	0.32
Nov	0.39	0.32
Dec	-	-
Average	0.55	0.40
Min	0.39	0.29
Max	0.70	0.90
# Samples	14	48

3.2 Microbiological Sampling as per Schedule 10, O. Reg. 170/03

3.2.1 Raw Water Samples

Raw water samples are taken every two weeks. A total of 18 samples were collected and analyzed for E. Coli and Total Coliforms. Each E. Coli and Total Coliform result obtained was 0 cfu/100 ml in the raw water.

Table 3 provides a summary of bacteriological results performed on the raw water.

Table 3. – Microbiological Results for Raw Water at Huron Sands Drinking Water System

Date	E. Coli			Total Coliform		
	# Samples	# Samples 0	# Samples ≥1	# Samples	# Samples 0	# Samples ≥1
Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	2	2	0	2	2	0
May	2	2	0	2	2	0
Jun*	4	4	0	4	4	0
Jul*	3	3	0	3	3	0
Aug	2	2	0	2	2	0
Sep	2	2	0	2	2	0
Oct	2	2	0	2	2	0
Nov	1	1	0	1	1	0
Dec	-	-	-	-	-	-
Total	18	18	0	18	18	0

3.2.2 Treated Water (Point of Entry) Samples

One treated water sample from the point of entry is taken every two weeks and analyzed for E.Coli, Total Coliforms and for Heterotrophic Plate Count (HPC). A total of 18 treated water samples were collected and analyzed for the above parameters. All samples were found to be safe. Each E. Coli and Total Coliform results from the treated water was 0 cfu/100 ml. The range of HPC results were 0 - <10 cfu/100 ml.

Table 4. provides a summary of all bacteriological results performed on treated water.

Table 4. – Microbiological Results for Point of Entry at Huron Sands Drinking Water System

Date	E. Coli			Total Coliform			HPC		
	# Samples	# Samples 0	# Samples ≥1	# Samples	# Samples 0	# Samples ≥1	# Samples	Safe	Deteriorating
Jan	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-
Apr	2	2	0	2	2	0	2	2	0
May	2	2	0	2	2	0	2	2	0
Jun	4	4	0	4	4	0	4	4	0
Jul	3	3	0	3	3	0	3	3	0
Aug	2	2	0	2	2	0	2	2	0
Sep	2	2	0	2	2	0	2	2	0
Oct	2	2	0	2	2	0	2	2	0
Nov	1	1	0	1	1	0	1	1	0
Dec	-	-	-	-	-	-	-	-	-
Total	18	18	0	18	18	0	18	18	0

3.2.3 Distribution Samples

Distribution samples are collected every two weeks and tested for E.Coli, Total Coliform and for Heterotrophic Plate Count (HPC). A total of 18 distribution samples were collected and analyzed for the above parameters. All E. Coli and Total Coliform results from the treated water were 0 cfu/100 ml. The range of HPC results were 0 - <10 cfu/100 ml.

Table 5 provides a summary of all bacteriological samples taken in the distribution system.

Table 5. – Microbiological Results for Huron Sands Distribution System

Date	E. Coli			Total Coliform			HPC		
	# Samples	# Samples 0	# Samples ≥1	# Samples	# Samples 0	# Samples ≥1	# Samples	Safe	Deteriorating
Jan	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-
Apr	2	2	0	2	2	0	2	2	0
May	2	2	0	2	2	0	2	2	0
Jun	4	4	0	4	4	0	4	4	0
Jul	3	3	0	3	3	0	3	3	0
Aug	2	2	0	2	2	0	2	2	0
Sep	2	2	0	2	2	0	2	2	0
Oct	2	2	0	2	2	0	2	2	0
Nov	1	1	0	1	1	0	1	1	0
Dec	-	-	-	-	-	-	-	-	-
Total	18	18	0	18	18	0	18	18	0

3.3 Chemical Sampling & Testing as per Schedule 13, O. Reg. 170/03

3.3.1 Inorganics

One treated water sample is taken every 60 months and tested for inorganics. The most recent samples for the Huron Sands Drinking Water System were collected on July 8, 2021 and submitted to the laboratory for analysis of inorganics as listed in Schedule 23. All parameters were found to be within compliance. Inorganics will be sampled and analyzed again on or before July 8, 2026.

Results from 2021 can be found in **Table 6**.

Table 6. – Schedule 23 Results for Huron Sands Drinking Water System

Parameter	Result (µg/L)	Maximum Allowable Concentration (µg/L)
Antimony	<0.09	6
Arsenic	4.1	10
Barium	31.6	1000
Boron	122	5000
Cadmium	<0.003	5
Chromium	0.20	50
Mercury	<0.01	1
Selenium	<0.04	10
Uranium	156	20

NOTE: New regulation standards changed in 2018 for Arsenic. The previous standard of 25µg/L changed to the new standard of 10µg/L. The last sample taken in 2021 was within compliance, the result was 4.1µg/L. The next sample is required before July 8, 2026.

Consideration and discussion of this parameter should be investigated..

3.3.2 Lead

Schedule 15.1 of Ontario Regulation 170/03 requires that samples be taken once between June 15 and October 15. The Maximum Allowable Concentration for Lead is 10 µg/L. In the previous lead sampling seasons, pH and alkalinity samples were taken on July 27, 2021.

Lead is scheduled to be sampled again between June 27, 2022 and October 27 2022.

2021 results can be found in **Table 7**.

Table 7. – Lead Sampling Program Results for Huron Sands Drinking Water System

	Lead (µg/L)	pH	Alkalinity (mg/L)
Jun-Oct	0.23	7.95	183

3.3.3 Organics

One treated water sample is taken every 60 months and tested for schedule 24 organic parameters. The most recent samples were collected on July 8, 2021. All parameters were found to be within compliance. Organics will be sampled and analyzed again on or before July 21, 2026.

2021 sample results can be found in **Table 8**.

Table 8. – Schedule 24 Results for Huron Sands Drinking Water System

Parameter	Result (µg/L)	Maximum Allowable Concentration (µg/L)
Benzene	<0.32	1
Carbon Tetrachloride	<0.17	2
1,2-Dichlorobenzene	<0.41	200
1,4-Dichlorobenzene	<0.36	5
1,1-Dichloroethylene	<0.33	14
1,2-Dichloroethane	<0.35	5
Dichloromethane	<0.35	50
Monochlorobenzene	<0.3	80
Tetrachloroethylene	<0.35	30
Trichloroethylene	<0.44	50
Vinyl Chloride	<0.17	1
Diquat	<1	70
Paraquat	<1	10
Glyphosate	<1	280
Polychlorinated Biphenyls	<0.04	3
Benzo(a)pyrene	<0.004	0.01
2,4-dichlorophenol	<0.15	900
2,4,6-trichlorophenol	<0.25	5
2,3,4,6-tetrachlorophenol	<0.20	100
Pentachlorophenol	<0.15	60
Alachlor	<0.02	5
Atrazine+N-dealkylated metabolites	<0.01	5
Atrazine	<0.01	-
De-ethylated atrazine	<0.01	-
Azinphos-methyl	<0.05	20
Carbaryl	<0.05	90
Carbofuran	<0.01	90
Chlorpyrifos	<0.02	90
Diazinon	<0.02	20
Dimethoate	<0.06	20
Diuron	<0.03	150
Malathion	<0.02	190
Metolachlor	<0.01	50
Metribuzin	<0.02	80
Phorate	<0.01	2
Prometryne	<0.03	1

Table 8 Continued

Parameter	Result (µg/L)	Maximum Allowable Concentration (µg/L)
Simazine	<0.01	10
Terbufos	<0.01	1
Triallate	<0.01	230
Trifluralin	<0.02	45
2,4-dichlorophenoxyacetic acid	<0.19	100
Bromoxynil	<0.33	5
Dicamba	<0.20	120
Diclofop-methyl	<0.40	9
MCPA	<0.00012	0.00012
Picloram	<1	190

3.3.4 Trihalomethanes and Haloacetic Acids

One distribution sample is taken every three months from a point in the distribution system and tested for Trihalomethanes (THMs) and Haloacetic Acids (HAAs). Samples were collected during the months of May, August and November. The Ontario Drinking Water Quality Standard (ODWQS) has set a Maximum Allowable Concentration (MAC) of 100 µg/L for THMs and it is expressed as a running annual average. The HAA MAC is 80µg/L. Huron Sands has THM relief.

In 2019, the average THM was found to be 10.33 µg/L, which is within compliance.

Refer to **Table 9** for the summary of THMs and HAAs results.

3.3.5 Nitrate & Nitrite

One treated water sample is taken every three months and tested for nitrate and nitrite. Samples were collected during the months of May, August and November. The Ontario Drinking Water Quality Standard (ODWQS) has set a Maximum Allowable Concentration (MAC) of 1 mg/L for nitrites and 10 mg/L for nitrates. The results were found to be within compliance.

Refer to **Table 9**.

Table 9. – Nitrate, Nitrite, THM and HAA Results at Huron Sands Drinking Water System

Date	Nitrate		Nitrite		THMs 2019		HAAs	
	# Samples	Result (mg/L)	# Samples	Result (mg/L)	# Samples	Result (µg/L)	# Samples	Result (µg/L)
May 18	1	<0.006	1	<0.003	1	7.0	1	<5.3
Aug 10	1	<0.006	1	<0.003	1	11	1	11.4
Nov 9	1	<0.006	1	<0.003	1	13	1	<5.3
Total	3		3		3		3	
Average		<0.006		<0.003		10.33		7.33
Maximum		<0.006		<0.003		13		11.4

3.3.6 Sodium

One water sample is collected every 60 months and tested for Sodium. O. Reg 170/03 has set a Maximum Acceptable concentration (MAC) of 20 mg/L for Sodium which requires the Medical Office of Health be notified if the concentration exceeds the MAC. These samples were last collected on June 24, 2021 and July 15, 2021 and were found to be 28.3 mg/L and 26.3 mg/L respectively, which is *over the MAC* and requires notice to the Health Unit. Huron Perth Public Health has prepared a notice regarding high sodium levels in drinking water. More information can be found at <http://www.acwtownship.ca/wordpress/wp-content/uploads/2013/09/HuronSands.pdf>. The next water sample for Sodium will be collected and analyzed on or before July 15, 2026.

3.3.7 Fluoride

One water sample is collected at least once in every 60 months and tested for Fluoride. The Ontario Drinking Water Quality Standards (ODWQS) have set a MAC of 1.5 mg/L. On August 22, 2017 and August 25, 2017 a sample was collected for this analysis. The first sample was found to have a concentration of 2.13 mg/L and the second set came back at 2.19 mg/L, which are both greater than the MAC. This is due to high levels of naturally occurring fluoride in the aquifer.

For more information see: <http://www.acwtownship.ca/wordpress/wp-content/uploads/2013/09/HuronSands.pdf>.

The next water sample for Fluoride will be collected and analyzed on or before *August 22, 2022*.

4.0 WATER AND CHEMICAL USAGE

4.1 Chemical Usage

From January 1, 2021 to December 31, 2021. 11.68 kg of Sodium Hypochlorite was used to ensure proper disinfection in the distribution system with an average dosage of 4.85 mg/L. 70.57 kg of Sodium Silicate was used in 2021 to reduce the concentration of dissolved iron.

Refer to **Table 10**.

Table 10. – Chemical Usage at Huron Sands Drinking Water System

Date	Sodium Hypochlorite		Sodium Silicate
	Usage (kg)	Average Dosage (mg/L)	Usage (kg)
Jan	-	-	-
Feb	-	-	-
Mar	-	-	-
Apr	0.89	5.19	4.98
May	1.40	4.81	10.26
Jun	2.86	4.76	10.02
Jul	1.86	4.59	13.34
Aug	1.64	4.13	9.20
Sep	1.43	5.39	8.17
Oct	1.59	5.39	8.40
Nov	1.07	4.50	6.20
Dec	--	--	--
Total	11.68		70.57
Average	1.46	4.85	8.82

4.2 Annual Flows

A summary of the water supplied to the distribution system is provided in **Table 11**. This Table provides a breakdown of the monthly flow provided to the distribution system.

Flow meters were calibrated on June 7, 2021 by Iconix and were found to be acceptable.

Table 11. – Treated Water Flows for Huron Sands Drinking Water System

Date	Average Daily Flow (m ³)	Maximum Daily Flow (m ³)	Total Monthly Flow (m ³)
Jan	-	-	-
Feb	-	-	-
Mar	-	-	-
Apr	8.76	24	219
May	10.03	18	311
Jun	13.59	24	394
Jul	13.61	19	422
Aug	12.81	19	397
Sep	9.50	16	285
Oct	10.00	13	290
Nov	15.80	42	237
Dec	--	--	--
Average	11.76		319
Max		42	422
Total			2555

5.0 IMPROVEMENTS TO SYSTEM AND ROUTINE AND PREVENTATIVE MAINTENANCE

The following summarizes water system improvements for the Huron Sands Drinking Water System:

- Three Pressure tanks were replaced on April 5th.
- New starter control box installed
- “Watchdog timer” was installed to send alarm to remind to view trending in May

6.0 MINISTRY OF THE ENVIRONMENT INSPECTIONS AND REGULATORY ISSUES

The Huron Sands Drinking Water System was inspected by the Ministry of Environment, Conservation and Parks on November 23, 2021 by Ron Burrell. We have not received the results yet.

There was 1 Instance of adverse water quality:

AWQI #154398 - Sodium Exceedance, letter from HPPH sent to users about the naturally occurring Sodium in the water and its health effects.

There were 4 PBWN:

- System was started March 5th, PBWN was released April 15th
- June 18th, due to a loss of pressure from a power outage released June 25th.
- July 16th, due to Electrical issues.
- September 8th, due to a loss of pressure from multiple power outages released September 13.

7.0 MECP Regulatory Changes

- Proposed amendments to drinking water operator and water quality analyst certification regulations have been issued to address the impacts of emergencies. These include:
 - allowing the Ministry to act quickly to ensure the Province’s drinking water is protected during an emergency
 - extending Operator certificates and allowing certain qualified but non-certified staff to temporarily maintain system operations, and would only be enacted during an emergency
 - allowing temporary relief from training and certification requirements

This proposal has been registered with the Environmental Registry of Ontario and the consultation process was closed on July 2, 2021. The outcome of this proposal is expected to be published in 2022.

- Proposed updates to the Director’s Directions - Minimum Requirements for Operational Plans - May 2021. The Director’s Directions have updated the following:
 - Content Requirements - all referenced documents will be considered part of the Operational Plan.
 - Procedures for version control - version number and revision date is to be embedded in every electronic copy, and recorded on every page of any physical copy
 - Completed copy of Subject System Description Form in Schedule “C” of the Director’s Directions
 - Operational Plans are to be submitted to the Director electronically
 - Retention of Operational Plans - Operational Plans that were the subject of an audit by an auditor for the accreditation body shall be retained for a minimum of 10 years
 - Public Disclosure of Operational Plans - shall be made available for viewing by the public either electronically (website) or at the principal place of business, but not in a manner that would threaten the safety, health or quality of the drinking water, or create significant prejudice with the contractual obligations of the Operating Authority or other organization.
 - Operational Plans shall be updated to meet the requirements of the Director’s Directions no later than April 1, 2022.



Report Date: March 15, 2022

Huron Sands Drinking Water System – 2021 Compliance Summary

This document is a compliance summary for the Huron Sands water supply for the year 2021 as per Reg. 170/03 Schedule 22. A full summary of the water system's test results, flows and significant activities was submitted in the Annual Report. The system was in operation between April 10 and November 16, 2021.

System Description

The Huron Sands water system is characterized as a “secure ground water” system and is classified as a small municipally owned water system. The well house and its equipment have a daily maximum capacity to deliver 328.3 cubic meters of potable water per day to the Huron Sands recreational community.

The current water source is a secure deep bedrock well. The production well is located approximately 10 meters south east of the well house.

This production well was drilled in 2001. The piping and well pump were installed in 2002.

The well house is equipped with a well pump, chlorinators, a chlorine contact main, online monitoring and alarm generation to an Autodialer.

The attached distribution system is constructed of a combination of PVC piping with polyethylene services.

There is no elevated storage to maintain pressure and the system pressure is maintained using pressure tanks and the well pump.

The system has no hydrants and lacks the capacity to provide fire flows.

Chemicals Fed

Disinfectant

Disinfection was achieved on the Huron Sands well supply through the use of 12% sodium hypochlorite.

In the well house, this chemical was added prior to the water entering the chlorine contact reservoir at dosages high enough to achieve both primary and secondary disinfection objectives.

The average chlorine dosages ranged from 2.15 mg/L to 5.39 mg/L, varying with the chlorine demand of the raw water.

The free chlorine residual was monitored at the point of entry to the distribution system with a target residual of 1.00 mg/L. The average for Huron Sands was 1.46 mg/L.



Iron Sequestering

The well water at Huron Sands has iron levels higher than what is considered aesthetically acceptable. The well house provides chemically assisted iron sequestering. The chemical used in 2021 was sodium silicate. This chemical was fed prior to the chlorine contact main.

A full summary of dosages and chemicals used can be found on **Table 10** on page 17 of the Annual Report.

Flows

The Huron Sands well supply has a PTTW (permit to take water) #0624-C3KJLA which allows 328.3 cubic meters per day to be pumped from the well. This permit expires on June 1, 2031. This limit was not exceeded in 2021. The system was prepared for start-up March 5, 2021. The system was shut down for the season on November 16, 2021. A full summary of the flows can be found on **Table 11** on page 18 of the Annual Report.

The Drinking Water Works Permit (DWWP) #080-206 Issue #4 for the Huron Sands Drinking Water System was issued on June 19, 2020. The maximum total daily flow is 328 cubic meters per day and the maximum instantaneous flow is 3.8 liters per second.

The maximum daily flow in 2021 was 42 cubic meters or 12.80% of the allowable limit.

The 2021 average daily flow was 11.26 cubic meters or 3.43% of the allowable limit.

The limiting factor regarding flow is chlorine contact time in the chlorine contact main. In order to meet the regulatory CT requirements, increased flows beyond 3.8 liters per second must have an increased free chlorine residual to counter the decreased retention time in the chlorine contact main.

The combination of maximum flows through the chlorine contact main and minimum free chlorine residuals exiting the contact main did not exceed limitations in 2021 as recorded by the flow meter and the on-line chlorine analyzer.

Precautionary Boil Water Notices

There were four Precautionary Boil Water Notice (PBWN) placed on the Huron Sands system in 2021:

- March 5rd – System start-up (released April 15)
- June 18st – Power outage (released June 25)
- July 16th – Electrical issues (released Oct. 30)
- Sept. 8th – Multiple Power outages (released Sept 17)
- Nov 13th - Planned Power outage - *not released as was being shut down* (was missed on the Annual Report)

Boil Water Advisory

There were no Boil Water Advisories issued by the Huron Perth Public Health (HPPH) on the Huron Sands water system in 2021.



Annual Ontario Ministry of the Environment Inspection

The Huron Sands Drinking Water System was inspected by the Ministry of the Environment, Conservation and Parks (MECP) on November 4, 2021. There were no non-compliances and the rating is pending.

Adverse Water Quality Incidents

There were no instances of adverse water quality.

Exceedances

Fluoride

O. Reg. 169/03 the Ontario Drinking Water Standard has a MAC (maximum allowable concentration) of 1.5 mg/L for fluoride.

The water from the Huron Sands well is monitored every 5 years for fluoride. It has naturally occurring levels that can exceed 1.5 mg/L.

As required by O. Reg. 170/03 Schedule 13 Section 13.9, an AWQI (adverse water quality incident) is filed every 60 months. This was done on August 22, 2017 both samples are above the MAC. This is due to high levels of the naturally occurring fluoride. The next sample is due in August 2022.

August 22, 2017 – 2.13 mg/L

August 25, 2017 – 2.19 mg/L

Sodium

O. Reg. 169/03 the Ontario Drinking Water Standard has a MAC (maximum allowable concentration) of 20 mg/L for sodium.

The water from the Huron Sands well is monitored every 5 years for sodium. It has naturally occurring levels that can exceed 20 mg/L.

As required by O. Reg. 170/03 Schedule 13 Section 13.9, an AWQI (adverse water quality incident) is filed every 60 months if required. The last sample was taken on June 24, 2021 and July 15, 2021 and were found to be 28.3 mg/L and 26.3 mg/L respectively, which is *over the MAC* and requires notice to the Health Unit. Huron Perth Public Health has prepared a notice regarding high sodium levels in drinking water. More information can be found at. The next sample is due in June 2026.



Infrastructure Assessment

Regular contact is maintained with ACW's representative. The JobsPlus program is continually updated with preventative and corrective maintenance issues. A complete summary can be forwarded to the client upon their request. Through regular communication between the operating authority and the client, capital items are discussed. A list of capital items and concerns for 2021 was forwarded to ACW's representative in November 2020.

The annual Management Review was conducted by the operating authority on Nov. 8, 2021 as per the DWQMS requirement in Element 14. These regular discussions between the client and the operating authority for this water system are continued throughout the year by emails, phone calls, and meetings as per the requirements of Element 15 of the DWQMS.

The last Internal Audit was completed on November 16, 2021 and the last Risk Assessment was completed December 31, 2021. An external surveillance was conducted by SAI GLOBAL on August 16, 2021. An Emergency Response Exercise was conducted by the Municipality in September 2021, but Veolia was not asked to participate. Veolia utilized a break-in and theft event to conduct a tabletop After Action Report in November 2021.

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