



February 22, 2022

The Corporation of the Municipality of Huron East
72 Main St. S
P.O. Box 610
Seaforth, ON
N0K 1W0

Attention: Brad McRoberts, CAO

**RE: Vanastra Booster System
2021 Annual Report**

Dear Brad,

Please find attached the 2021 Annual Operations Report for the Vanastra Water System, in accordance with Section 11(1) of O. Reg. 170/03. This report covers the period from January 1 to December 31 and meets the requirement of being prepared by February 28 of this year.

Please ensure that a copy of this report is given, without charge, to every person who requests a copy. In addition, please make certain that effective steps are taken to advise residents that copies of the report are available, and of how a copy can be obtained.

As per Schedule 22 of O. Reg. 170/03, please ensure that at least a copy of the Summary Report is given to the members of municipal council no later than March 31, 2022.

Finally, please ensure that a letter is sent to Jacobs verifying that this report has been received and accepted by Council.

If you have any questions regarding the report, we would be pleased to address them and you should contact the undersigned accordingly.

Sincerely,

Jacobs (OMI Canada Inc.)

A handwritten signature in black ink, appearing to read "Lucas Egli", written over a horizontal line.

Lucas Egli

Project Manager/Overall Responsible Operator (ORO)
Huron East Project
519 955 2746

cc. B. Mills, Municipality of Huron East;

2021 ANNUAL REPORT FOR WATER SYSTEMS

Part 1 – ANNUAL REPORT (as required by O. Reg. 170/03, Section 11)

Drinking-Water System Number:	210001585
Drinking-Water System Name:	Vanastra Water Works
Drinking-Water System Owner:	The Corporation of the Municipality of Huron East
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1-December 31, 2021

Complete if your Category is Large Municipal Residential or Small Municipal Residential	Complete for all other Categories
Does your Drinking-Water System serve more than 10,000 people? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number of Designated Facilities served: N/A
Is your annual report available to the public at no charge on a web site on the Internet? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Did you provide a copy of your annual report to all Designated Facilities you serve? <input type="checkbox"/> Yes <input type="checkbox"/> No
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. Town Office 72 Main St. S. Seaforth, ON	Number of Designated Facilities served: N/A Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? <input type="checkbox"/> Yes <input type="checkbox"/> No

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
N/A	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Indicate how you notified system users that your annual report is available, and is free of charge.

<input checked="" type="checkbox"/> Public access/notice via the web	<input checked="" type="checkbox"/> Public access/notice via Government Office	<input type="checkbox"/> Public access/notice via a newspaper
<input type="checkbox"/> Public access/notice via Public Request	<input type="checkbox"/> Public access/notice via a Public Library	<input type="checkbox"/> Public access/notice via a Public Library

Water Distribution System Class 2 Including 1 Underground Reservoir and Booster Station

The underground single cell reservoir is located at #12,5th Ave, Vanastra. It has a capacity of 1135 m³. 3 electric distribution high lift pumps are located on this site. Pumps #1 & #2 are rated at 11.6 L/s at 48.8 m TDH and pump #3 is rated at 105L/s at 25 m TDH. There are two sodium hypochlorite pumps that are able increase the incoming chlorine when needed. This pumphouse is equipped with a 125 kW generator with an automatic transfer switch for backup power. The village of Vanastra receives treated drinking water from the Municipality of Central Huron.

List all water treatment chemicals used over this reporting period
12% Sodium hypochlorite solution

Please provide a brief description and a breakdown of monetary expenses incurred
N/A

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre					
Incident Date	Parameter	Result	Units	Corrective Action	Corrective Action Date
N/A					

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period					
	Number of Samples	Range of E.Coli Results (min #) - (max #)	Range of Total Coliform Results (min #) - (max #)	Number of HPC Samples	Range of HPC Results (min #) - (max #)
Raw	N/A	N/A	N/A	N/A	N/A
Treated	52	0	0	52	<10-110
Distribution	104	0	0	52	<10-10

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report			
	Number of Grab Samples	Range of Results (min #) – (max #)	Units
Turbidity	N/A	N/A	NTU
Chlorine	8760	0.58-3.06	mg/L
Fluoride (If the DWS provides fluoridation)	N/A		

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument				
Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
None				

Summary of Inorganic parameters tested during this reporting period or the most recent sample results. Note: Inorganic parameters are sampled by the Municipality of Central Huron.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	N/A			
Arsenic	N/A			
Barium	N/A			
Boron	N/A			
Cadmium	N/A			
Chromium	N/A			
Haloacetic Acids (HAA). <i>Running Annual Average</i>	Q1 – Q4 2021	<5.3	ug/L	No
Lead-sampling conducted by the Municipality of Huron East; see summary below				
Mercury	N/A			
Selenium	N/A			
Sodium	N/A			
Uranium	N/A			
Fluoride	N/A			
Nitrite	N/A			
Nitrate	N/A			
Nitrite	N/A			
Nitrate	N/A			
Nitrite	N/A			
Nitrate	N/A			
Nitrite	N/A			
Nitrate	N/A			

Summary of Lead Results*

Sampling Period	Range of Results (µg/L)	Non-residential	Distribution	Adverse Incidents?
Dec-15-20-Apr-15-21	0.44-10.1	N/A	2	Yes
Jun-15-21-Oct-15-21	0.14-0.17	N/A	2	No

Summary of Organic parameters tested during this reporting period or the most recent sample results. Note: Organic parameters are sampled by the Municipality of Central Huron.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	N/A			
Atrazine	N/A			
Atrazine + N-dealkylated metabolites	N/A			
Azinphos-methyl	N/A			
Benzene	N/A			
Benzo(a)pyrene	N/A			
Bromoxynil	N/A			
Carbaryl	N/A			
Carbofuran	N/A			
Carbon Tetrachloride	N/A			
Chlorpyrifos	N/A			

Summary of Organic parameters tested during this reporting period or the most recent sample results. Note: Organic parameters are sampled by the Municipality of Central Huron.				
Diazinon	N/A			
Dicamba	N/A			
1,2-Dichlorobenzene	N/A			
1,4-Dichlorobenzene	N/A			
1,2-Dichloroethane	N/A			
1,1-Dichloroethylene (vinylidene chloride)	N/A			
Dichloromethane	N/A			
2,4 Dichlorophenol	N/A			
2,4-Dichlorophenoxy acetic acid (2,4-D)	N/A			
Diclofop-methyl	N/A			
Dimethoate	N/A			
Diquat	N/A			
Diuron	N/A			
Glyphosate	N/A			
Desethyl atrazine	N/A			
Lorpyrifos	N/A			
Malathion	N/A			
Metolachlor	N/A			
MCPA	N/A			
Metribuzin	N/A			
Monochlorobenzene	N/A			
Paraquat	N/A			
Pentachlorophenol	N/A			
Phorate	N/A			
Picloram	N/A			
Polychlorinated Biphenyls(PCBs)	N/A			
Prometryne	N/A			
Simazine	N/A			
THM (NOTE: show latest annual average)	Q1-Q4 2021	13.2	µg/L	No
Terbufos	N/A			
Tetrachloroethylene	N/A			
2,3,4,6-Tetrachlorophenol	N/A			
Triallate	N/A			
Trichloroethylene	N/A			
2,4,6-Trichlorophenol	N/A			
Trifluralin	N/A			
Vinyl Chloride	N/A			

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.				
Parameter	Sample Date	Result Value	Unit of Measure	ODWS Criteria
None				

Part 2 – SUMMARY REPORT (as required by O. Reg. 170/03, Schedule 22)

Non – Compliance with Legislations, Regulations, Approvals & Orders

During this period, the Facility was operated in full compliance with the Act, the regulations and the Facility's approval, save and except for the following:

Requirement	Description	Measures to Correct the Failure
There was one incident of regulatory non-compliance in 2021.	The operating authority failed to fill out a Form 2 (Record of Minor Modification) during the installation of a second chlorine injection point.	Operations staff were made aware of the requirements of modifying the treatment process. A brief meeting was held and a staff sign off sheet was created. No further actions required by the Ministry.

System Capability Assessment		
Monthly Raw Water Taking (m ³ /d):		
Month	Average Flow	Maximum Flow
January	199	240
February	228	492
March	204	272
April	201	263
May	270	822
June	204	269
July	184	245
August	177	224
September	178	231
October	241	800
November	170	222
December	168	200
AVERAGE	202	357
MAXIMUM	270	822
SYSTEM CAPACITY	N/A	N/A
% CAPACITY	N/A	N/A
Total Annual Flow: 73 713 m³		