

# Monthly Operations Report

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for the Municipality of Casselman's Water and  
Wastewater Systems

February 2022



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**

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## SECTION 1 – MONTHLY OPERATIONS REPORT CARD

### Operations and Compliance Reliability Indices

Legend					
✓	●	▲	✗	Y/N	N/A
Achieved	On Target	Caution	Not Achieved	Yes/No	Not Applicable

	Target	February 2022	Comments
<b>Health &amp; Safety</b>			
Number of Incidents	0	●	
<i>Actual Result</i>		0	
<b>Drinking Water</b>			
Inspection Ratings (YTD)	100 %	N/A	
<i>Actual Result</i>		N/A	
AWQI's	0	●	
<i>Actual Result</i>		0	
Number of Non-Compliances	0	●	
<i>Actual Result</i>		0	
Number of Water Main Breaks	0	●	
<i>Actual Result</i>		0	
Number of Complaints	0	●	
<i>Actual Result</i>		0	
Water Main Flushing	N/A	N/A	
<i>Target Achieved</i>		N/A	
<b>Wastewater</b>			
Number of Non-Compliances	0	✗	Effluent E. Coli non-compliance reported for February
<i>Actual Result</i>		1	
Number of Bypasses	0	●	
<i>Actual Result</i>		0	
Number of Sanitary Sewer Back-ups	0	●	
<i>Actual Result</i>		0	
Sanitary Collection System Flushing	N/A	N/A	
<i>Target Achieved</i>		N/A	
<b>Preventive Maintenance</b>			
Work Orders Completed	>95%	●	
<i>Target Achieved</i>		Y	

## SECTION 2 – FACILITY LISTING

### Water Treatment & Distribution

Facility	Type
5971 - Casselman Water Treatment Plant	1 WTP (Actiflo Process)
1553 - Casselman Water Distribution System	1 Water Storage Tower + Water Distribution System

### Wastewater Treatment & Collection

Facility	Type
1501 - Casselman Wastewater Treatment Plant	3 Facultative Lagoon Cells 1 MBBR (Moving Bed Biofilm Reactor)
5976 - Casselman Wastewater Collection System	6 Sewage Pumping Stations + Wastewater Collection System

## SECTION 3 – COMPLIANCE

There were no compliance issues to report for Casselman’s Drinking Water System.

One non-compliance was reported for the wastewater treatment system:

Parameter	ECA Limit	Reporting Period	Corrective Action	Status
<i>E. coli</i> in effluent	200 cfu/100 mL (monthly geometric mean)	February 2022	Slowed flow through MBBR	Complete

*For details, please refer to the non-compliance notification submitted to MECP, attached in Appendix D.*

The most recent MECP inspections are listed below:

Location	Inspector	Inspection Rating (%)	Date
Casselman Water	Jean-Francois Durocher	unknown – not reported yet	March 10, 2022
Casselman Sewage	<i>*OCWA has no recent sewage system inspections on file.</i>		

There are no outstanding actions required from any recent MECP inspections.

## **SECTION 4 – FACILITY PERFORMANCE**

Please see the Water & Wastewater Performance Assessment Reports attached in Appendix A.

## **SECTION 5 – DRINKING WATER QUALITY MANAGEMENT SYSTEM (DWQMS)**

OCWA received accreditation for Casselman’s Drinking Water System in August 2019.

The 2021 Surveillance Audit was conducted by SAI Global on July 23, 2021. There were no non-conformances identified. One Opportunity for Improvement (OFI) was noted in the report for Element 19 regarding the timing of the annual internal audit, suggesting that it be completed prior to the external audit in each year.

## **SECTION 6 - MAINTENANCE / CAPITAL / ADDED VALUE**

### Water Treatment & Distribution

- 10 locates completed in February
- Low lift motor sent for repair
- Polymer motor repaired and re-installed
- Installed new water heater at WTP
- Responded to six call-in alarms

### Wastewater Treatment & Collection

- Replaced toilet at SPS #1
- Responded to three call-in alarms

### Preventive Maintenance Plan (PMP) Work Order Summary

All required work orders were completed. Please refer to the summary reports attached in Appendix B.

Equipment in the wastewater treatment and collection system needs to be tagged and work orders created in order to complete the PMP. This work is expected to be complete by the end of the summer.

### **SECTION 7 – COMPLAINTS**

Facility	Date	Description
None to Report		

### **SECTION 8 – RECOMMENDATIONS / GENERAL COMMENTS**

#### General

- OCWA is working on a water and wastewater capacity assessment for the Municipality.

#### Water Treatment & Distribution

- Due to Covid-19, staff practiced social distancing and took extra precautions disinfecting common areas on a daily basis and limited access to outside contractors.

#### Wastewater Treatment & Collection

- Substantial completion for the MBBR system has not yet been reached.
- Wastewater sampling as part of Queen’s University’s Covid sampling program continued in February.
- The sanitary system CLI ECA application has been submitted to MECP.

# Appendix A

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## Performance Assessment Reports



**ONTARIO CLEAN WATER AGENCY  
PERFORMANCE ASSESSMENT REPORT**

**MUNICIPALITY:** MUNICIPALITY OF CASSELMAN  
**PROJECT:** CASSELMAN DRINKING WATER SYSTEM  
**WORKS NUM.:** 210001219  
**DESCRIPTION:** SURFACE WATER TREATMENT PLANT  
CHEMICALLY ASSISTED FILTRATION

**YEAR:** 2022  
**WATER SOURCE:** NATION RIVER  
**DESIGN CAP.:** 3182 m3/d

MONTH	SYSTEM FLOWS (TREATED)			TREATED		DISTRIBUTION		RAW					TREATED					DISTRIBUTION	
	Total Flow (m <sup>3</sup> )	Avg. Flow (m <sup>3</sup> )	Max Day Flow (m <sup>3</sup> )	Min. Free Cl <sub>2</sub> Resid. (mg/L)	Max Free Cl <sub>2</sub> Resid. (mg/L)	Min Combined Cl <sub>2</sub> Resid. (mg/L)	Max Combined Cl <sub>2</sub> Resid. (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Total Hardness (mg/L)	Average Manganese (mg/L)	Max Manganese (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Total Hardness (mg/L)	Average Manganese (mg/L)	Max Manganese (mg/L)	THM (µg/L) quaterly	HAA (µg/L) quaterly
JAN	30632	988	1389	0.96	2.60	1.08	2.48	6.00	6.00	398.00	0.10	0.12	3.30	3.30	401.00	0.09	0.72	58.00	41.30
FEB	28433	1015	1367	0.78	2.60	1.06	2.37	3.60	4.70	478.00	0.18	0.90	2.00	2.50	480.00	0.08	0.14	-	-
MAR								7.30	9.70	138.00			3.70	4.20	287.00				
APR																			
MAY																			
JUN																			
JUL																			
AUG																			
SEP																			
OCT																			
NOV																			
DEC																			
TOTAL	59,065																		
AVG		1,002						5.63	6.80	338.00	0.14		3.00	3.33	389.33	0.09		58.00	41.30
MAX			1,389		2.60		2.48					0.90					0.72		
MIN				0.78		1.06													
CRITERIA			<b>3,182</b>	<b>CT</b>		<b>0.25</b>	<b>3.00</b>											<b>&lt;100</b>	<b>&lt;80</b>

MONTH	SYSTEM FLOWS (RAW)			ACTIFLO FILTER #1		ACTIFLO FILTER #2		Efficiency	FILTER	TREATED			E. coli / Total Coliform / HPC (Number of Samples Collected)				RAW WATER	
	Total Flow (m <sup>3</sup> )	Avg. Day Flow (m <sup>3</sup> )	Max. Flow (m <sup>3</sup> )	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Turbidity % < 0.3 NTU	Backwash SS (mg/L)	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Min UV Intensity (mJ/cm <sup>2</sup> )	Safe		Adverse		Max. Count	Max. Count
													Treated	Distribution	Treated	Distribution		
JAN	38152	1231	1618	0.07	0.38	0.35	0.80	99.97	<3	0.37	0.60	61.00	5	15	0	0	140	38
FEB	34681	1239	1686	0.08	0.24	0.06	0.69	99.93	7	0.61	0.98	70.00	4	12	0	0	17600	117
MAR									3									
APR																		
MAY																		
JUN																		
JUL																		
AUG																		
SEP																		
OCT																		
NOV																		
DEC																		
TOTAL	72,833												9	27	0	0		
AVG		1,235		0.08		0.21		99.95	3.8	0.49								
MAX			1,686		0.38		0.80		7		0.98						17600	117
MIN												61.00						
CRITERIA			<b>3,182</b>		<b>&lt;1</b>		<b>&lt;1</b>	<b>&gt;95%</b>			<b>&lt;5</b>	<b>&gt;40</b>						

COMMENTS:



## ONTARIO CLEAN WATER AGENCY PERFORMANCE ASSESSMENT REPORT

OWNER: **MUNICIPALITY OF CASSELMAN**  
 PROJECT: **CASSELMAN WASTEWATER TREATMENT SYSTEM**  
 ECA NUM.: **8160-BAHPRF**  
 DESCRIPTION: **MOVING BED BIOLOGICAL REACTOR (MBBR) TREATMENT LAGOON**

YEAR: **2022**  
 WATER COURSE: **NATION RIVER**  
 DESIGN CAPACITY: **3,500 m<sup>3</sup>/d**  
 FACILITY WORKS#: **110002201**

MONTH	RAW								EFFLUENT										
	Total Flow m <sup>3</sup>	Avg Day Flow m <sup>3</sup>	Max Day Flow m <sup>3</sup> /d	Avg Alum Dosage (mg/L)	Avg Raw BOD5 (mg/L)	Avg Raw TSS (mg/L)	Avg. Raw TKN (mg/L)	Avg Raw TP (mg/L)	Effluent Flow m <sup>3</sup>	Effluent Avg Flow m <sup>3</sup>	Effluent Max Flow m <sup>3</sup> /d	Avg CBOD5 (mg/L)	Avg TSS (mg/L)	Avg TAN (mg/L)	Avg TP (mg/L)	Avg TKN (mg/L)	Avg Nitrate (mg/L)	Avg Nitrite (mg/L)	E. coli (cfu/100 mL)
JAN	33,727	1,088	1,355	134	166	300	79.3	8.86	76,800	2,477	3,120	4	16	9.0	0.2	-	10.5	1.3	897.1
FEB	33,078	1,181	1,281	142	247	530	79.8	8.30	40,171	1,435	1,440	4	12	9.2	0.4	18.7	18.6	0.7	857.6
MAR																			
APR																			
MAY																			
JUN																			
JUL																			
AUG																			
SEPT																			
OCT																			
NOV																			
DEC																			
TOTAL	66,805								116,971										
AVG		1,135		138	207	415	80	8.58		1,956		4	14	9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MAX			1,355		247	530	80	9			0	4.14	15.86	9.18	0.42	18.7	18.62	0	897.1
CRITERIA											5,000								

**COMPLIANCE** YES

MONTH	UPSTREAM				DOWNSTREAM*			
	Avg CBOD5 (mg/L)	Avg TSS (mg/L)	Avg TAN (mg/L)	Avg PHOS. (mg/L)	Avg CBOD5 (mg/L)	Avg TSS (mg/L)	Avg TAN (mg/L)	Avg PHOS. (mg/L)
JAN	4.60	11.60	4.86	0.22	-	-	-	-
FEB	3.00	7.00	0.64	0.07	-	-	-	-
MAR								
APR								
MAY								
JUN								
JUL								
AUG								
SEPT								
OCT								
NOV								
DEC								
TOTAL								
AVG	4	9	3	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MAX	4.6	11.6	4.86	0.22	0	0	0	0
CRITERIA								

**Comments:**

\*No Downstream samples were taken due to ice cover on the Nation River (Jan - Feb)

**COMPLIANCE**

# Appendix B

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## Work Order Summary Reports



## Monthly Work Order Summary – February 2022

### Casselman Drinking Water System

Description	Status	Work Type
Analyzer Chlorine Inspection/Service (1m) 5971	COMP	PM
Analyzer Chlorine Free Insp/Service (1m) - 5971	COMP	PM
Analyzer pH Inspection/Service (1m) 5971	COMP	PM
Analyzer Turbidity Inspection/Service (1m) 5971	COMP	PM
Blower Centrifugal Inspection/Service (1m) 5971	COMP	PM
Air Compressor Inspection/Service (1m) 5971	COMP	PM
Dryer Air Service (1m) - 5971	COMP	PM
Generator Inspection (1m) 5971	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 5971	COMP	PM
UV Light Bank Insp/Service (1m) - 5971	COMP	PM
Workplace Inspection (1m) - 5971	COMP	PM
Monthly H&S Equipment Check (1m) - 5971	COMP	PM
UVT Sensor Checks/Calibration (1m) - 5971	COMP	PM
Pump Diaphragm Coagulant Route Inspection/Service (1m) 5971	COMP	PM
Pump Diaphragm Polymer Route Inspection/Service (1m) 5971	COMP	PM
Pump Diaphragm Sodium Hydroxide Route Inspection/Service (1m) 5971	COMP	PM
Pump Diaphragm Ammonium Sulphate Route Inspection/Service (1m) 5971	COMP	PM
Pump Diaphragm Potassium Permanganate Route Inspection/Service (1m) 5971	COMP	PM
ci 21h45 for actiflow 1 latch alarm due to back to back BW 5971	COMP	CALL
Install new electrical water Heater and Repair toilet flushing valve	COMP	CORR
Locate Casselman WDS 1553 -340 Doré 2022044940	COMP	OPER
Locate Casselman WDS 1553 -49 Isabelle 2022049810	APPR	OPER
Locate Casselman WDS 1553 -95 Lafleche 2022061241	COMP	OPER
Locate Casselman WDS 1553 -Consevation st 2022067226	COMP	OPER
Locate Casselman WDS 1553 -206 Argile 2022069722	COMP	OPER
Locate Casselman WDS 1553 - Doré st 2022069796	COMP	OPER
ci 10ham for actiflow 1 latch alarm due to high ntu BW unit 5971	COMP	CALL
Backwash tank high level	COMP	CALL
Analyzer Total Chlorine Inspection/Service (1m) 5971	COMP	PM
Analyzer Total Chlorine Inspection/Service (1m) 5971	COMP	PM
Repair polymer motor	COMP	PM
UV Sensor Reference Check/Calibration (1m) - 5971	COMP	PM
CI 21:00-22:00 Low level clearwell 5971	COMP	CALL
Locate Casselman WDS 1553 -705 Des Cedres 2022083186	COMP	OPER
CI @ 5:45 Actiflo #2 High settled water turbidity, Cass WTP, 5971	COMP	CALL
low lift one failed to run, remove motor and sent to PME for repair 5971	COMP	CORR
CI @ 17:05 Actiflo #2 high Filter turbidity, Cass wtp, 5971	COMP	CALL
Polymer motor P-801	COMP	CORR
Locate Casselman WDS 1553 -204 Nature 2022091688	COMP	OPER
Locate Casselman WDS 1553 -821 Principale 2022080848	COMP	OPER
Locate Casselman WDS 1553 -705 Des Cedres 2022083186	COMP	OPER

**Monthly Work Order Summary – February 2022**  
**Casselman Wastewater Treatment & Collection System**

<b>Description</b>	<b>Status</b>	<b>Work Type</b>
Install new toilet at SPS 1	COMP	CORR
CM01 Non Compliance Casselman Lagoon E. coli January Discharge	COMP	OPER
CI 21:45-22:30 SPS #5 Pump #1 Low Outflow 1501	COMP	CALL
Call In - Miltronics Loss of Echo SPS 6	COMP	CALL
Call In - Low Pump Flow SPS 5	COMP	CALL

# Appendix C

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## Locate Summary



## Casselman Monthly Locate Summary – February 2022

Description	Status	Work Type
Locate Casselman WDS 1553 - 340 Doré 2022044940	COMP	OPER
Locate Casselman WDS 1553 - 49 Isabelle 2022049810	COMP	OPER
Locate Casselman WDS 1553 - 95 Lafleche 2022061241	COMP	OPER
Locate Casselman WDS 1553 - Consevation st 2022067226	COMP	OPER
Locate Casselman WDS 1553 - 206 Argile 2022069722	COMP	OPER
Locate Casselman WDS 1553 - Doré st 2022069796	COMP	OPER
Locate Casselman WDS 1553 - 705 Des Cedres 2022083186	COMP	OPER
Locate Casselman WDS 1553 - 204 Nature 2022091688	COMP	OPER
Locate Casselman WDS 1553 - 821 Principale 2022080848	COMP	OPER
Locate Casselman WDS 1553 - 705 Des Cedres 2022083186	COMP	OPER
Total		10

# Appendix D

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## Non-Compliance Notification to MECP



March 10, 2022

**Jean-Francois Durocher**

Senior Environmental Officer  
 Ministry of the Environment, Conservation and Parks  
 Cornwall Area Office  
 (613) 363-5149  
[Jean-francois.durocher@ontario.ca](mailto:Jean-francois.durocher@ontario.ca)

**Subject: Casselman Lagoon – Notification of Non-Compliance**

This letter provides written notification of non-compliance with the effluent limit for *E. coli* outlined in Condition 6(1) of ECA #8160-BAHPRF. This letter confirms the verbal notification of non-compliance provided by OCWA to the Ontario Ministry of the Environment, Conservation and Park’s Spills Action Centre on March 9, 2022 (Reference #1622-CCCLY3).

The following effluent parameter was exceeded:

Parameter	Date	Type of Limit	Type of Sample	Result (cfu/100mL)	ECA Limit (cfu/100mL)
<i>E. coli</i>	February 2022	Monthly Geometric Mean	Grab	857.6	200

Weekly samples collected during the month of February produced results of 390 cfu/100mL, 510 cfu/100mL, 850 cfu/100mL and 3200 cfu/100mL. Samples of influent to the MBBR were also collected in February. The results demonstrate that *E. coli* is reduced as wastewater moves through the treatment process, however the effluent results still exceeded the limit prescribed in the ECA. In an attempt to remediate the issue, we have ceased the discharge and we are currently recirculating the effluent through the treatment system. The discharge will be restarted once the effluent results are improved.

All other effluent parameters analyzed in February were within compliance

If you have any questions or concerns, please do not hesitate to contact me at (613) 448-3098.



Sincerely,



Caroline Lamarche  
Process & Compliance Technician  
OCWA, Nation Valley Cluster

Cc: Pierre-Paul Beauchamp, Director of Public Works, Municipality of Casselman  
Dawn Crump, Senior Operations Manager, OCWA  
Stephane Barbarie, Safety, Process and Compliance Manager (A), OCWA