Monthly Operations Report

for the Municipality of Casselman's Water and Wastewater Systems

March 2022



Table of Contents

Section 1 - Monthly Operations Report Card

Section 2 - Facility Listing

Section 3 - Compliance

Section 4 - Facility Performance

Section 5 - Drinking Water Quality Management System (DWQMS)

Section 6 - Maintenance / Capital / Added Value

Section 7 - Complaints

Section 8 - Recommendations / General Comments

Appendices

Appendix A – Performance Assessment Reports

Appendix B – Work Order Summary Report

Appendix C – Locate Summary

Appendix D – Non-Compliance Notification to MECP

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	March 2022	Comments
Health & Safety			
Number of Incidents	0	•	
Actual Result		0	
Drinking Water			
Inspection Ratings (YTD)	100 %	N/A	
Actual Result		N/A	
AWQI's	0	•	
Actual Result		0	
Number of Non-Compliances	0	•	
Actual Result		0	
Number of Water Main Breaks	0		
Actual Result		0	
Number of Complaints	0		
Actual Result	1	0	
Water Main Flushing	N/A	N/A	
Target Achiev	ed	N/A	
Wastewater			
Number of Non-Compliances	0	×	Effluent E. Coli non-compliance reported for March
Actual Result	A	1	
Number of Bypasses	0	•	
Actual Result		0	
Number of Sanitary Sewer Back-ups	0	•	
Actual Result		0	
Sanitary Collection System Flushing	N/A	N/A	
Target Achiev	ed	N/A	
Preventive Maintenance			
Work Orders Completed	>95%		
Target Achiev	ed	Υ	

SECTION 2 – FACILITY LISTING

Water Treatment & Distribution

Facility	Туре
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	Туре
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
E. coli in effluent	200 cfu/100 mL (monthly geometric mean)	March 2022	Treatment upgrade was not designed for disinfection.	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	100	March 10, 2022
Casselman Sewage	*OCWA has no recent	sewage system inspections	s on file.

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

Responded to eleven call-in alarms

Wastewater Treatment & Collection

- Responded to seven 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
Sewage Lagoon	March 23	On March 19-20 high winds blew foam from the MBBR onto private property. Reduced MBBR aeration to reduce foaming. Resident will call back if the issue occurs again.

SECTION 8 – RECOMMENDATIONS / GENERAL COMMENTS

<u>General</u>

- 53 locates complete in March
- 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. Performance test at full hydraulic capacity to take place in April.
- Wastewater sampling as part of Queen's University's Covid sampling program continued in March.

Appendix A

Performance Assessment Reports



ONTARIO CLEAN WATER AGENCY PERFORMANCE ASSESSMENT REPORT

MUNICIPALITY:
PROJECT:
DESCRIPTION:

MUNICIPALITY OF CASSELMAN
CASSELMAN DRINKING WATER SYSTEM
SURFACE WATER TREATMENT PLANT
CHEMICALLY ASSISTED FILTRATION

 YEAR:
 2022

 WATER SOURCE:
 NATION RIVER

 DESIGN CAPACITY:
 3182 m3/d

 WORKS NUM.:
 210001219

	SYSTEM	FLOWS (T	REATED)	TREA	ATED	DISTRI	BUTION			RAW					TREATED			DISTRI	BUTION
MONTH	Total Flow	Avg. Flow	Max Day Flow	Min. Free Cl ₂ Resid.	Max Free Cl ₂ Resid.	Min Combined Cl2 Resid.	Max Combined Cl2 Resid.	Dissolved Organic Carbon	Total Organic Carbon	Total Hardness (mg/L)	Average Manganese (mg/L)	Max Manganese (mg/L)	Dissolved Organic Carbon	Total Organic Carbon	Total Hardness (mg/L)	Average Manganese (mg/L)	Max Manganese (mg/L)	THM (μg/L) quaterly	HAA (μg/L) quaterly
	(m ³)	(m ³)	(m ³)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)				(mg/L)	(mg/L)			, ,		
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	31167	1005	1296	1.32	2.70	0.50	2.61	7.30	9.70	138.00	0.17	0.72	3.70	4.20	287.00	0.12	0.58	-	-
APR																			
MAY																			
JUN																			
JUL																			
AUG																			
SEP																			
OCT																			
NOV																			
DEC																			
TOTAL	90,232																		
AVG		1,003						5.63	6.80	338.00	0.15		3.00	3.33	389.33	0.10		58.00	41.30
MAX			1,389		2.70		2.61					0.90					0.72		
MIN				0.78		0.50							•						
CRITERIA			3,182	CT		0.25	3.00											<100	<80

	SYSTE	M FLOWS ((RAW)	ACTIFLO I	FILTER #1	ACTIFLO	FILTER #2	Efficiency	FILTER		TREATED			coli / Total (RAW V	VATER
MONTH	Total	Avg. Day	Max.	Avg.	Max.	Avg.	Max.	Turbidity	Backwash	Avg.	Max.	Min UV		mber of San			Coliform	E.coli
MONTH	Flow	Flow	Flow	Turbidity	Turbidity	Turbidity	Turbidity	% < 0.3	SS	Turbidity	Turbidity	Intensity	S	afe	Adv	erse	Max.	Max.
	(m ³)	(m ³)	(m ³)	(NTU)	(NTU)	(NTU)	(NTU)	NTU	(mg/L)	(NTU)	(NTU)	(mJ/cm ²)	Treated	Distribution	Treated	Distribution	Count	Count
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	37198	1200	1546	0.11	0.39	0.07	0.78	99.85	3	0.53	0.94	67.00	4	12	0	0	180	51
APR																		
MAY																		
JUN																		
JUL																		
AUG																		
SEP																		
OCT																		
NOV																		
DEC																		
TOTAL	110,032												13	39	0	0		
AVG		1,223		0.09		0.16		99.92	3.8	0.50								
MAX			1,686		0.39		0.80		7		0.98						17600	117
MIN												61.00						
CRITERIA			3,182		<1		<1	>95%			<5	>40						

ONTARIO CLEAN WATER AGENCY PERFORMANCE ASSESSMENT REPORT

OWNER: <u>MUNICIPALITY OF CASSELMAN</u>

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 m³/d FACILITY WORKS#: 110002201

				RA										EFFLUENT					
MONTH	Total	Avg Day	Max Day	Avg Alum			Avg. Raw	Avg Raw	Effluent	Effluent	Effluent	Avg	Avg	Avg	Avg	Avg	Avg	Avg	E. coli
WONTH	Flow	Flow	Flow	Dosage	BOD5	TSS	TKN	TP	Flow	Avg Flow	Max Flow	CBOD5	TSS	TAN	TP	TKN	Nitrate	Nitrite	(cfu/100
	m^3	m ³	m ³ /d	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	m ³	m³	m³/d	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	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	65,061	2,099	3,300	155	198	385	33.5	3.11	43,676	1,506	2,698	6	8	11.2	0.5	14.5	17.0	0.1	600.0
APR																			
MAY																			
JUN																			
JUL																			
AUG																			
SEPT																			
OCT																			
NOV																			
DEC																			
TOTAL	131,866								160,647										
AVG		1,456		144	204	405	64	6.76		1,806		5	12	10	0.4	17	15	0.7	785
MAX			3,300		247	530	80	9			3,120	6	15.86	11.22	0.48	18.7	18.62	0	897.1
CRITERIA											5,000							•	
COMPLIAN	ICE										VEC								
COMPLIAN	NCE										YES								

		UPST	REAM			DOWNS	TREAM*	
MONTH	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg
WONTH	CBOD5	TSS	TAN	PHOS.	CBOD5	TSS	TAN	PHOS.
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
JAN	4.60	11.60	4.86	0.22	-	-	-	-
FEB	3.00	7.00	0.64	0.07	-	-	-	-
MAR	3.00	102.25	0.12	0.22	-	-	-	-
APR								
MAY								
JUN								
JUL								
AUG								
SEPT								
OCT								
NOV								
DEC								
TOTAL								
AVG	4	40	2	0.2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MAX	4.6	102.25	4.86	0.22	0	0	0	0
CRITERIA								
		-	-	-		-	-	
COMPLIA!	NCE							

Comments:

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

Appendix B

Work Order Summary Reports



Monthly Work Order Summary – March 2022 Casselman Drinking Water System

Description	Status	Work Type
Analyzer Total Chlorine Inspection/Service (1m) 5971	COMP	PM
Analyzer pH Inspection/Service (1m) 5971	COMP	PM
Analyzer Turbidity Inspection/Service (1m) 5971	COMP	PM
Drive VFD Inspection (6m) 5971	APPR	PM
Blower Centrifugal Inspection/Service (1m) 5971	СОМР	PM
Air Compressor Inspection/Service (1m) 5971	СОМР	PM
Dryer Air Service (1m) - 5971	COMP	PM
Generator Inspection (1m) 5971	COMP	PM
Mixer Chemical Inspection (3m) 5971	APPR	PM
PANEL ALARM/DIALER TEST (1m) - 5971	СОМР	PM
Relief Valve UV Room Inspection (3m) 5971	APPR	OPER
Transformer Air Service (3y) - 5971	APPR	PM
UV Light Bank Insp/Service (1m) - 5971	BUSCOMP	PM
Workplace Inspection (1m) - 5971	СОМР	PM
Monthly H&S Equipment Check (1m) - 5971	СОМР	PM
UVT Sensor Checks/Calibration (1m) - 5971	СОМР	PM
Pump Diaphragm Coagulant Route Inspection/Service (1m) 5971	СОМР	PM
Pump Diaphragm Polymer Route Inspection/Service (1m) 5971	СОМР	PM
Pump Diaphragm Sodium Hydroxide Route Inspection/Service (1m) 5971	СОМР	PM
Pump Diaphragm Ammonium Sulphate Route Inspection/Service (1m) 5971	СОМР	PM
Pump Diaphragm Potassium Permanganate Route Inspection/Service (1m) 5971	СОМР	PM
Analyzer Turbidity Inspection/Service (1m) 1501	СОМР	PM
ci 20h for actiflow2 high ntu actiflow 1 BW failed 5971	СОМР	CALL
ci at 12h for actiflow1 high ntu due to BW on actiflow 2 5971	СОМР	CALL
CM05 Casselman MECP Inspection, 5971	СОМР	OPER
Casselman Water Plant 5971- PH probe replacement	APPR	CAP
High free/Low combined at ps#1	СОМР	CALL
High cl2 free on combined.	COMP	CALL
Annual Risk Assessment (1y) - 5971	APPR	PM
UV Sensor Reference Check/Calibration (1m) - 5971	СОМР	PM
CI 11:00-13:00 High Free Cl2 alarm 5971	СОМР	CALL
CI 16:15-18:00 Actiflo #1 and #2 High Settle NTU 5971	СОМР	CALL
CI 8:00-9:30 High level backwash tank 5971	СОМР	CALL
CI 14:45-16:00 Actiflo #2 Recirculating pump low pressure 5971	BUSCOMP	CALL
CI 15:00-17:00 Actiflo #2 Pre-filtration fault 5971	BUSCOMP	CALL
Casselman 5971 lab supplies	APPR	OPER
CI @ 20:30 UV Transmittance CASS WTP, 5971	COMP	CALL
Casselman 5971 Water Testing Equipment	APPR	CAP
CI @ 19:45 Waste Process Alarm CASS WTP 5971	СОМР	CALL

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

Description	Status	Work Type
Generator Inspection (1m) 1501	COMP	PM
Analyzer Turbidity Inspection/Service (1m) 1501	COMP	PM
CI 13:00-14:00 Alum bld Multismart PLC communication fault 1501	COMP	CALL
CI 4:30-6:00 SPS #2,#5 and #6 communication fault 1501	COMP	CALL
CI @ 23:45 Comm failure Cass WWTP, 1501	COMP	CALL
CI@ 5:40 Communication Alarm, CASS WWTP 1501	COMP	CALL
CI @ 00:40 Alum Bldg comm fail, CASS WWTP, 1501	COMP	CALL
CI @ 5:00 Communication fail SPS #5, CASS sewage 1501	COMP	CALL
Casselman sewage alumbidg multismart plc comm failed 1501	COMP	CALL

Appendix C

Locate Summary



Casselman Monthly Locate Summary – March 2022

Description	Status	Work
Locate Casselman WDS 1553 - Conservation 20220910525	COMP	Type OPER
	COIVIE	OPER
Locate Casselman WDS 1553 - 27 Sarah2022099598	COMP	OPER
Locate Casselman WDS 1553 - 5 Sarah 2022099550	COMP	OPER
Locate Casselman WDS 1553 -823 Princip 2022101942	COMP	OPER
Locate Casselman WDS 1553 -Sarah st 2022101970	COMP	OPER
Locate Casselman WDS 1553 -901 Principale 2022109459	COMP	OPER
Locate Casselman WDS 1553 -626 Principale 20221013458	COMP	OPER
Locate Casselman WDS 1553 -626 Principale 20221013634	COMP	OPER
Locate Casselman WDS 1553 -821 Principale 2022110108	СОМР	OPER
Locate Casselman WDS 1553 -137 Argile 2022112809	COMP	OPER
Locate Casselman WDS 1553 -541 Barrage 2022114208	COMP	OPER
Locate Casselman WDS 1553 -25-29 Sarah 2022115185	COMP	OPER
Locate Casselman WDS 1553 -Conservation st 20221111679	COMP	OPER
Locate Casselman WDS 1553 -145 Argile 2022103112	COMP	OPER
Locate Casselman WDS 1553 - 145 Argile St 2022129398	COMP	OPER
Locate Casselman WDS 1553 - Principale St (County Rd 3) 2022129366	COMP	OPER
Locate Casselman WDS 1553 - 1 Industrial St 20221218422	COMP	OPER
Locate Casselman WDS 1553 - 529 and 533 Barrage St 20221219869	COMP	OPER
Locate Casselman WDS 1553 - 512 Barrage St 20221219861	COMP	OPER
Locate Casselman WDS 1553 - 20221219857 504 Barrage St	COMP	OPER
Locate Casselman WDS 1553 - 20221219842 508 Barrage St.	COMP	OPER
Locate Casselman WDS 1553 - 20221219834 517 Barrage St	COMP	OPER
Locate Casselman WDS 1553 - 20221219822 521 and 525 Barrage St	СОМР	OPER
Locate Casselman WDS 1553 - 20221217547 Conservation St locate	СОМР	OPER
Locate Casselman WDS 1553 - 20221217591 Conservation St	СОМР	OPER
Locate Casselman WDS 1553 - 2022122449 745 Brebeuf St.	СОМР	OPER
Locate Casselman WDS 1553 - 2022125184 76 Laurier St.	СОМР	OPER
Locate Casselman WDS 1553 - 2022125200 150 Laurier St	СОМР	OPER
	l .	l

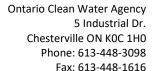
Casselman Monthly Locate Summary – March 2022

Locate Casselman WDS 1553 - 2022125226 738 St. Jean st	СОМР	OPER
Locate Casselman WDS 1553 - 20221216093 823 Principale St	COMP	OPER
Locate Casselman WDS 1553 - 20221216195 9 to 13 Sarah St.	COMP	OPER
Locate Casselman WDS 1553 - 20221218250 686 Dollard St.	COMP	OPER
Locate Casselman WDS 1553 - 20221219566 722 St. Joseph	COMP	OPER
Locate Casselman WDS 1553 - 2022135704 529 and 533 Barrage St	COMP	OPER
Locate Casselman WDS 1553 - 20221310982 529 Barrage St	COMP	OPER
Locate Casselman WDS 1553 - 20221219546 721 St. Joseph	COMP	OPER
Locate Casselman WDS 1553 - 2022135839 750 St Jean	COMP	OPER
Locate Casselman WDS 1553 - 2022131345 758 Brebeuf	COMP	OPER
Locate Casselman WDS 1553 - 20221318338 688 St. Isidore	COMP	OPER
Locate Casselman WDS 1553 - 2022135781 317 to 325 Dore St	СОМР	OPER
Locate Casselman WDS 1553 - 2022137857 300 to 308 Dore St	СОМР	OPER
Locate Casselman WDS 1553 - 2022137787 401 Dore St.	СОМР	OPER
Locate Casselman WDS 1553 - 20221313745 9 Vanessa	COMP	OPER
Locate Casselman WDS 1553 - 20221320459 HWY 417	COMP	OPER
Locate Casselman WDS 1553 - 20221317714 HWY 417	COMP	OPER
Locate Casselman WDS 1553 - 20221320617 HWY 417	COMP	OPER
Locate Casselman WDS 1553 - 20221320579 HWY 417	COMP	OPER
Locate Casselman WDS 1553 - 2022144121 136 Argile St.	COMP	OPER
Locate Casselman WDS 1553 - 2022144157 144 Argile St.	COMP	OPER
Locate Casselman WDS 1553 - 20221317949 823 and 821 Principale st.	СОМР	OPER
Locate Casselman WDS 1553 - 20221415468 536 Barrage St.	СОМР	OPER
Locate Casselman WDS 1553 - 2022140813 329 Dore St.	СОМР	OPER
Locate Casselman WDS 1553 - 2022129366 Principale St. and Sarah St.	COMP	OPER
Total		53

Appendix D

Non-Compliance Notification to MECP







April 13, 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

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 April 13, 2022 (Reference #2487-CDFPU5).

The following effluent parameter was exceeded:

Parameter	Date	Type of Limit	Type of Sample	Result (cfu/100mL)	ECA Limit (cfu/100mL)
E. coli	March 2022	Monthly Geometric Mean	Grab	600	200

Effluent samples collected during the month of March contained 400 cfu/100 mL and 900 cfu/100 mL of *E. Coli*. Only two samples were collected in March as no discharge occurred between March 5th and 17th while the effluent was being recirculated through the treatment system. Samples of influent to the MBBR were also collected in March. 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. The Casselman lagoon and MBBR treatment system was not designed with a disinfection capability, and therefore, cannot completely eliminate *E. coli* in the final effluent.

All other effluent parameters analyzed in March were within compliance

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



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Ontario Clean Water Agency 5 Industrial Dr. Chesterville ON KOC 1H0 Phone: 613-448-3098

Fax: 613-448-1616

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