

Monthly Operations Report

for the Municipality of Casselman's Water and
Wastewater Systems

April 2023



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	March 2023	Comments
Health & Safety			
Number of Incidents	0	●	
<i>Actual Result</i>		0	
Drinking Water			
Inspection Ratings (YTD)	100 %	●	
<i>Actual Result</i>		100 %	
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	0	●	
<i>Target Achieved</i>		0	
Wastewater			
Number of Non-Compliances	0	●	
<i>Actual Result</i>		0	
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	0	●	
<i>Target Achieved</i>		Y	
Preventive Maintenance			
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 water or wastewater systems.

The most recent MECP inspections are listed below:

Location	Inspector	Inspection Rating (%)	Date
Casselman Water	Jean-Francois Durocher	100	February 9, 2023
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 was re-accredited as the Operating Authority for Casselman’s Drinking Water System on January 24, 2023.

SECTION 6 - MAINTENANCE / CAPITAL / ADDED VALUE

Water Treatment & Distribution

- Responded to eighteen after-hours call-in alarms
- Managed operational issues at the WTP associated with filter turbidity, consecutive filter backwashes and pressure differential faults.
- Capital Controls in to replace faulty card in PLC for chlorine panel and diagnose issue with UV system. UV system power supply was damaged during power surges associated with the ice storm on April 5th. Replaced power supply.
- Installed pump in clearwell to improve water circulation. This will improve sample consistency to the plant analyzers.
- Excess ammonia in the raw water in late April caused issues with chlorination. Operated chlorine system in manual and made adjustments as needed to maintain proper residuals.
- OCWA’s Process Optimization Team (POTs) attended the WTP to perform tests on the raw water and observe facility processes.
- Stand posts and clean outs repaired at 36 Percy, 31 Percy, 264 Nature, 12 Albert, 29 Isabelle

Wastewater Treatment & Collection

- Responded to two after-hours call-in alarms
- Lagoon discharge continued throughout the month of April

Preventive Maintenance Plan (PMP) Work Order Summary

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

SECTION 7 – COMPLAINTS

Facility	Date	Description
		None to report

SECTION 8 – RECOMMENDATIONS / GENERAL COMMENTS

General

- 43 locates were completed in April.

Water Treatment & Distribution

- Capital/Major Maintenance projects approved for 2023 are underway.
- OCWA organized a meeting with the Walkerton Clean Water Centre to discuss water quality testing for the WTP. Pending approval from the Municipality, WCWC will prepare a proposal for testing services that will help support process optimization at the WTP as well as the ICIP funding project to address Manganese issues and THM formation in the drinking water system.

Wastewater Treatment & Collection

- Capital/Major Maintenance projects approved for 2023 are underway.

Appendix A

Performance Assessment Reports



**ONTARIO CLEAN WATER AGENCY
PERFORMANCE ASSESSMENT REPORT**

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

YEAR: 2023
WATER SOURCE: NATION RIVER
DESIGN CAPACITY: 3182 m3/d
WORKS NUM.: 210001219

MONTH	SYSTEM FLOWS (TREATED)			TREATED		DISTRIBUTION		RAW					TREATED					DISTRIBUTION				
	Total Flow (m³)	Avg. Flow (m³)	Max Day Flow (m³)	Min. Free Cl₂ Resid. (mg/L)	Max Free Cl₂ Resid. (mg/L)	Min Combined Cl₂ Resid. (mg/L)	Max Combined Cl₂ 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)	IH Avg. Turbidity (NTU)	IH Max. Turbidity (NTU)	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	NDMA (µg/L) quaterly
JAN	30,573	986	1259	1.10	2.49	1.00	2.26	8.30	8.40	242	0.12	0.20	0.22	0.33	3.00	3.20	224	0.07	0.18	53.75	32.13	< 0.0009
FEB	28,511	1018	1342	1.33	2.55	0.70	2.02	4.00	4.00	372	0.12	0.18	0.27	0.42	1.40	1.70	361	0.12	0.34	-	-	-
MAR	29,920	965	1223	1.38	2.37	1.01	2.00	4.60	4.60	330	0.16	0.19	0.26	0.35	2.00	2.00	329	0.06	0.09	-	-	-
APR	31,287	1043	1266	0.83	3.60	0.79	1.79	3.30	5.60	169	0.11	0.13	0.34	0.53	1.60	1.70	161	0.03	0.04	27.00	26.80	< 0.0009
MAY																						
JUN																						
JUL																						
AUG																						
SEP																						
OCT																						
NOV																						
DEC																						
TOTAL	120,291																					
AVG		1,003						5.05	5.65	278.25	0.13		0.27		2.00	2.15	268.75	0.07		40.38	29.46	0.0009
MAX			1,342		3.60		2.26					0.20		0.53					0.34			
MIN				0.83		0.70																
CRITERIA			3,182	CT		0.25	3.00													<100	<80	<0.009

MONTH	SYSTEM FLOWS (RAW)			ACTIFLO FILTER #1	ACTIFLO FILTER #2	Efficiency		TANK		TREATED						E. coli / Total Coliform / HPC (Number of Samples Collected)				RAW WATER			
	Total Flow (m³)	Avg. Day Flow (m³)	Max. Flow (m³)	Max. Flow Rate (L/min)	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Turbidity % < 0.3 NTU Filter #1	Turbidity % < 0.3 NTU Filter #2	Backwash TSS (mg/L)	Supernatant TSS (mg/L)	OL Avg. Turbidity (NTU)	OL Max. Turbidity (NTU)	Min UV Intensity (mJ/cm²)	Min UVT (%)	Safe		Adverse		Max. Count	Max. E.coli Count	
																		Treated	Distribution	Treated	Distribution		
JAN	38,963	1257	1790	2195	0.14	0.56	0.08	0.84	99.71	99.71	11	3	0.44	0.90	70	81	5	15	0	0	16200	66	
FEB	38,499	1375	1666	2149	0.15	0.34	0.10	0.29	99.97	99.97	3	6	-	-	65	87	4	12	0	0	1860	85	
MAR	38,816	1252	1606	2016	0.16	0.72	0.11	0.38	98.93	98.93	3	5	-	-	82	86	4	12	0	0	780	76	
APR	39,411	1314	1963	2086	0.18	0.81	0.14	0.71	97.00	98.39	3	11	-	-	96	86	4	12	0	0	19600	45	
MAY																							
JUN																							
JUL																							
AUG																							
SEP																							
OCT																							
NOV																							
DEC																							
TOTAL	155,688																17	51	0	0			
AVG		1,299			0.16		0.11		98.90	99.25	5.0	6.3	0.44										
MAX			1,963	2,195		0.81		0.84			11	11		0.90								19600	85
MIN															65.00	81.26							
CRITERIA			3,182	2,205		<1		<1	>95%	>95%				<5	>40								

COMMENTS: *Treated Water OL Turbidity - No reliable readings trended on SCADA from January 20th - 31th, February, March, April 2023
 ** Added Individual Filtter Efficiency Tracking in April 2023

**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: **2023**
 WATER COURSE: **NATION RIVER**
 DESIGN CAPACITY: **2,110 m³/d**
 FACILITY WORKS#: **110002201**

MONTH	RAW								EFFLUENT										
	Total Flow m ³	Avg Day Flow m ³	Max Day Flow m ³ /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 ³	Effluent Avg Flow m ³	Effluent Max Flow m ³ /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	48,260	1,557	2,167	175	167	240	36.8	4.10	131,702	4,248	4,906	7.6	12.0	15.80	0.36	19.5	7.1	0.09	2717
FEB	45,524	1,626	1,948	192	500	660	82.0	9.14	56,404	2,014	2,344	4.3	10.3	11.14	0.47	14.2	18.5	0.12	738
MAR	61,249	1,976	2,888	188	294	480	52.0	6.29	60,153	1,940	3,458	4.0	8.0	0.91	0.36	2.6	29.1	0.07	598
APR	69,141	2,305	3,316	191	97	156	33.3	3.73	106,114	3,790	4,734	3.3	5.8	0.72	0.51	2.4	15.8	0.07	20
MAY																			
JUN																			
JUL																			
AUG																			
SEPT																			
OCT																			
NOV																			
DEC																			
TOTAL	224,174								354,373										
AVG		1,866		186	265	384	51	5.82		2,998		4.8	9.0	7.1	0.4	9.69	17.61	0.09	1,018
MAX			3,316		500	660	82	9.14			4,906	7.6	12.0	15.8	0.5	19.54	29.05	0.12	2,717
CRITERIA						Fall Discharge			267,650	2,909									
A						Winter/Spring Dircharge			502,500	3,722	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	3.0	17.0	0.10	0.08	-	-	-	-
FEB	-	-	-	-	-	-	-	-
MAR	-	-	-	-	-	-	-	-
APR	3.5	136.0	0.06	0.33	2.8	19.0	0.20	0.10
MAY								
JUN								
JUL								
AUG								
SEPT								
OCT								
NOV								
DEC								
TOTAL								
AVG	3	77	0	0.2	3	19	0	0
MAX	3.5	136	0.1	0.33	2.75	19	0.2	0.1
CRITERIA								

COMPLIANCE

Comments:

*No Upstream Samples required to be collected when downstream sampling is not feasible (January 31, February, March)

**No Downstream samples were taken due to ice cover on the Nation River (January, February, March)

Appendix B

Work Order Summary Reports



Monthly Work Order Summary – April 2023

Casselman Drinking Water System

Description	Status	Work Type
Actuator (air) Inspection/Service (1y) 5971	COMP	PM
AHU Service (1y) 5971	APPR	PM
Analyzer Total Chlorine Inspection/Service (1m) 5971	COMP	PM
Chlorinator Service (1y) 5971	APPR	PM
Analyzer pH Inspection/Service (1m) 5971	COMP	PM
Analyzer Spectrophotometer Insp/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
Gear Drive Sludge Pump Service (6m) - 5971	APPR	PM
Generator Inspection (1m) 5971	COMP	PM
Meter Level Inspection/Service (3m) 5971	APPR	PM
Sensor Gas Monitor Insp (6m) 5971	APPR	PM
Pump Submersible ACTIFLO Inspection (3m) 5971	APPR	PM
PANEL ALARM/DIALER TEST (1m) - 5971	COMP	PM
UV Light Bank Insp/Service (1m) - 5971	COMP	PM
Annual Management Review (1y) -Casselman 5971	APPR	PM
Monthly H&S Equipment Check (1m) - 5971	COMP	PM
Quarterly H&S Equipment Check (3m) - 5971	COMP	PM
Client Reports (1m) - Casselman 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
Analyzer Turbidity Inspection/Service (1m) 1501	COMP	PM
Analyzer Chlorine Portable Verification Caroline (1m) 1555	COMP	PM
WISKI Monthly Review(1m) 5971	COMP	PM
CLEAR WELL , HIGH LIFT PUMP (1y) - 5971	APPR	PM
UV Sensor Reference Check/Calibration (1m) - 5971	APPR	PM
Workplace Inspection (1m) - 5971	COMP	OPER
Casselman WTP 5971 High Turb Activflo 1	COMP	CALL
Casselman WTP 5971 Transfer tank	COMP	CALL
Casselman WTP 5971 Double backwash waste process	COMP	CALL
Call Back - Casselman - 5971 - WTP - Back to back backwashes for filters, high level and filter 2	COMP	CALL
Call Back - Casselman - 5971 - WTP - Power outage, generator failure and SPS shutdown	INPRG	CALL
Call Back - Casselman - 5971 - WTP - High level, high pressure differential for filter 1	COMP	CALL
Call Back - Casselman - 5971 - WTP - High turbidity, high level and back to back backwashes	COMP	CALL

Monthly Work Order Summary – April 2023

Casselman Drinking Water System

Call Back - Casselman - 5971 - WTP - Back to back backwashes and filter 1 issues	COMP	CALL
Casselman - 5971 - WTP - Tower level radio and transfer pump issues	COMP	CALL
Call Out - Casselman - WT - 5971 - Actiflo Alarm-Backwash Issue	COMP	CALL
Call Out - Casselman - WT - 5971 - Transfer tank and radio issues	COMP	CALL
Call Out - Casselman - WT - 5971 - High level filter 1 and backwashes	COMP	CALL
Call Out - Casselman - WT - 5971 - Filter 1 and 2 issues	COMP	CALL
CI 5971 Casselman WTP - Actiflo & Chlorine Alarm	COMP	CALL
Call Back - Casselman - 5971 - WTP - High filtered water turbidity and low distribution chlorine	COMP	CALL
Call Back - Casselman - 5971 - WTP - High - high filtered water turbidity and filter 1 shut down	COMP	CALL
Call Back - Casselman - 5971 - WTP - Pressure differential fault and high turbidity for filter #2	COMP	CALL
Call Back - Casselman - 5971 - WTP - High filtered water turbidity filter #1 and backwash issues	COMP	CALL

Monthly Work Order Summary – April 2023
Casselman Wastewater Treatment & Collection System

Description	Status	Work Type
Generator Inspection (1m) SPS #1 1501	COMP	PM
Generator Inspection (1m) SPS #2 1501	COMP	PM
Generator Inspection (1m) SPS #3 1501	COMP	PM
Generator Inspection (1m) SPS #5 1501	COMP	PM
Generator Inspection (1m) SPS #6 1501	COMP	PM
Generator Inspection (1m) 1501	COMP	PM
Analyzer Turbidity Inspection/Service (1m) 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) 1501	COMP	PM
Monthly H&S Equipment Check (1m) - 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Bar Screen Inspection (1m) 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
Specific ECA - Bypass (3m) - 1501	COMP	PM
Quarterly H&S Equipment Check (1m) - 1501	COMP	PM
WISKI Monthly Review(1m) 1501	COMP	PM
Workplace Inspection (1m) - 1501	COMP	OPER
Casselman Sewage 1501 -No communications	COMP	CALL
Call Back - Casselman - 1501 - WWT - High level, low level and manifold low pressure,	COMP	CALL

Appendix C

Locate Summary



Casselman Monthly Locate Summary – April 2023

Description	Status	Work Type
Locate Casselman WDS 1553 - 20231318764 - 747 St Jean	COMP	OPER
Locate Casselman WDS 1553 - 202346734 - 711 + 713 Des Cedres	COMP	OPER
Locate Casselman WDS 1553 - 2023148110 - 95 Lafleche blvd	COMP	OPER
Locate Casselman WDS 1553 - 20231414286 - 95 Lafleche blvd	COMP	OPER
Locate Casselman WDS 1553 - 2023141451 - St Isidore	COMP	OPER
Locate Casselman WDS 1553 - 2023161740 - 640 St Isidore	COMP	OPER
Locate Casselman WDS 1553 - 2023150657 - 29 to 35 Isabelle St	COMP	OPER
Locate Casselman WDS 1553 - 2023150659 - 641 Principale St	COMP	OPER
Locate Casselman WDS 1553 - 2023154661 - 154 to 142 Laurier St	COMP	OPER
Locate Casselman WDS 1553 - 2023156566 - 394 + 398 Dore St	COMP	OPER
Locate Casselman WDS 1553 - 202357606 - Principale and HWY 417	COMP	OPER
Locate Casselman WDS 1553 - 2023157828 - Principale and HWY 417	COMP	OPER
Locate Casselman WDS 1553 - 20231512374 - 137 Argile St	COMP	OPER
Locate Casselman WDS 1553 - 20231512757 - 667 Des Epinettes	COMP	OPER
Locate Casselman WDS 1553 - 20231512764 - 55 Isabelle St	COMP	OPER
Locate Casselman WDS 1553 - 20231518652 - 745 St Joseph St	COMP	OPER
Locate Casselman WDS 1553 - 20231528648 - 48 to 44 Boileau St	COMP	OPER
Locate Casselman WDS 1553 - 2023164928 - Brebeuf and Laurier St	COMP	OPER
Locate Casselman WDS 1553 - 2023165169 - Laurier St	COMP	OPER
Locate Casselman WDS 1553 - 2023165418 - 140 Laurier St	COMP	OPER
Locate Casselman WDS 1553 - 2023168067 - 759 Principale St	COMP	CAP
Locate Casselman WDS 1553 - 2023167875 - 81 Lafleche blvd	COMP	CAP
Locate Casselman WDS 1553 - 2023157893 - HWY 417	COMP	CAP
Locate Casselman WDS 1553 - 20231510264 - 649 Conservation St	COMP	CAP
Locate Casselman WDS 1553 - 2023168781 - 669 Principale St	COMP	CAP
Locate Casselman WDS 1553 - 20231612364 - 47 Isabelle St	COMP	CAP
Locate Casselman WDS 1553 - 20231612421 - 26 Sarah St	COMP	CAP
Locate Casselman WDS 1553 - 20231618639 - Principale St	COMP	CAP
Locate Casselman WDS 1553 - 20231623695 - St Isidore St	COMP	CAP
Locate Casselman WDS 1553 - 20231412865 - 567 St Isidore	COMP	CAP
Locate Casselman WDS 1553 - 20231626623 - 663 Des Erables	COMP	CAP
Locate Casselman WDS 1553 - 20231626632 - 752 + 754 Levesque St	COMP	CAP
Locate Casselman WDS 1553 - 20231628412 - Laurier St	COMP	CAP
Locate Casselman WDS 1553 - 20231629613 - 730 St Isidore St	COMP	CAP

Casselman Monthly Locate Summary – April 2023

Locate Casselman WDS 1553 - 20231631159 - Sarah St	COMP	CAP
Locate Casselman WDS 1553 - 20231631470 - 505 Barrage St	COMP	CAP
Locate Casselman WDS 1553 - 2023179145 - 1 Gagne Cres	COMP	CAP
Locate Casselman WDS 1553 - 20231712210 - 524 Barrage St	COMP	CAP
Locate Casselman WDS 1553 - 20231715834 - 817 Principale St	COMP	CAP
Locate Casselman WDS 1553 - 20231712679 - 54 Laurier St	COMP	CAP
Locate Casselman WDS 1553 - 20231719903 - 51 Faucher Blvd	COMP	CAP
Locate Casselman WDS 1553 - 20231725449 - 832 Laval St	COMP	CAP
Locate Casselman WDS 1553 - 20231725540 - 59 Laurier St	COMP	CAP
Total		43