

Monthly Operations Report

for the Municipality of Casselman's Water and
Wastewater Systems

January 2023



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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A decorative graphic in the bottom right corner of the page. It features a light blue sun with a semi-circular arc at the top and three wavy horizontal bands below it, representing water or waves. The graphic is partially cut off by the right edge of the page.

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	January 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	✗	WWTP effluent TAN
<i>Actual Result</i>		1	
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 drinking water system.

One non-compliance was reported for Casselman’s wastewater treatment system. The monthly average concentration of total ammonia nitrogen (TAN) in effluent discharged from the WWTP during the month of January exceeded the limit specified in the ECA:

Parameter	Date	Type of Limit	Type of Sample	Result (mg/L)	ECA Limit (mg/L)
Total Ammonia Nitrogen (TAN)	January 2023	Monthly Average Effluent Concentration	Grab	15.8	12.0

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

The most recent MECP inspections are listed below:

Location	Inspector	Inspection Rating (%)	Date
Casselman Water	Jean-Francois Durocher	100	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 was re-accredited as the Operating Authority for Casselman’s Drinking Water System on January 24, 2023. The Certificate of Accreditation from SAI Global can be found attached in Appendix D.

SECTION 6 - MAINTENANCE / CAPITAL / ADDED VALUE

Water Treatment & Distribution

- Responded to eight after-hours call-in alarms
- New water recirculation pump installed on chlorine analyzer at the WTP
- Hydrant repaired at the corner of Principale St. & Concession Rd. 700

Wastewater Treatment & Collection

- Responded to four after-hours call-in alarms
- Heaters repaired at SPS #1 and SPS #6
- Cleaned blockage out of auger at SPS #1

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

- 11 locates were completed in January.

Water Treatment & Distribution

- Approval was received from the Municipality to proceed with OCWA's 2023 recommendations for Capital & Major Maintenance work at the end of January 2023.

Wastewater Treatment & Collection

- Wastewater sampling as part of Queen's University's Covid sampling program continued in January.
- The auger at SPS #1 plugged due to an accumulation of non-flushable materials entering the collection system. Suggest educating residents about materials that should not be flushed down the drain. Emailed OCWA's 'Protect your Pipes' materials to the Municipality as well as links to OCWA's 'I Don't Flush' campaigns on Twitter (<https://twitter.com/IDontFlushNews>) and Facebook (<https://www.facebook.com/idontflush>).

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 (m ³)	Avg. Flow (m ³)	Max Day Flow (m ³)	Min. Free Cl ₂ Resid. (mg/L)	Max Free Cl ₂ Resid. (mg/L)	Min Combined Cl ₂ Resid. (mg/L)	Max Combined Cl ₂ 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	NDMA (µg/L) quaterly
JAN	30573	986	1259	1.10	2.66	1.00	2.26	8.30	8.40	242	0.12	0.20	3.00	3.20	224	0.07	0.18	53.75	32.13	<0.009
FEB																				
MAR																				
APR																				
MAY																				
JUN																				
JUL																				
AUG																				
SEP																				
OCT																				
NOV																				
DEC																				
TOTAL	30,573																			
AVG		986						8.30	8.40	242.00	0.12		3.00	3.20	224.00	0.07		53.75	32.13	#DIV/0!
MAX			1,259		2.66		2.26										0.18			
MIN				1.10		1.00														
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 (m ³)	Avg. Day Flow (m ³)	Max. Flow (m ³)	Max. Flow Rate (L/min)	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Turbidity % < 0.3 NTU	Backwash TSS (mg/L)	Supernatant TSS (mg/L)	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Min UV Intensity (mJ/cm ²)	Min UVVT (%)	Safe		Adverse		Max. Count	Max. Count	
																Treated	Distribution	Treated	Distribution			
JAN	38963	1257	1790	2149	0.14	0.56	0.08	0.84	99.71	11	3	0.44	0.90	70	81	5	15	0	0	16200	66	
FEB																						
MAR																						
APR																						
MAY																						
JUN																						
JUL																						
AUG																						
SEP																						
OCT																						
NOV																						
DEC																						
TOTAL	38,963															5	15	0	0			
AVG		1,257			0.14		0.08		99.71	11.0	3.0	0.44										
MAX			1,790			0.56		0.84		11	3		0.90								16200	66
MIN														70.00								
CRITERIA			3,182	2,205		<1		<1	>95%				<5	>40								

COMMENTS: *Treated Water Turbidity - No readings trended on SCADA from January 20th - 31th, 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	15.8	0.36	19.5	7.1	0.1	2717
FEB																			
MAR																			
APR																			
MAY																			
JUN																			
JUL																			
AUG																			
SEPT																			
OCT																			
NOV																			
DEC																			
TOTAL	48,260								131,702										
AVG		1,557		175	167	240	37	4.10		4,248		8	12	16	0.4	20	7	0.1	2,717
MAX			2,167		167	240	37	4			4,906	8	12	16	0	20	7	0	2,717
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	3.0	17.0	0.10	0.08	-	-	-	-
FEB								
MAR								
APR								
MAY								
JUN								
JUL								
AUG								
SEPT								
OCT								
NOV								
DEC								
TOTAL								
AVG	3	17	0	0.1	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MAX	3	17	0.1	0.08	0	0	0	0
CRITERIA								
COMPLIANCE								

Comments:

*No Upstream Samples required to be collected when downstream sampling is not feasible (January 31)
 **No Downstream samples were taken due to ice cover on the Nation River (January)

Appendix B

Work Order Summary Reports



Monthly Work Order Summary – January 2023 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
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	APPR	PM
Meter Level Inspection/Service (3m) 5971	COMP	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
Workplace Inspection (1m) - 5971	COMP	OPER
Monthly H&S Equipment Check (1m) - 5971	COMP	PM
Quarterly H&S Equipment Check (1m) - 5971	APPR	PM
Client Reports (1m) - Casselman 5971	COMP	PM
UVT Sensor Checks/Calibration (1m) - 5971	APPR	PM
Pump Diaphragm Coagulant Route Inspection/Service (1m) 5971	COMP	PM
Pump Diaphragm Polymer Route Inspection/Service (1m) 5971	APPR	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
Casselman wtp-5971 double backwash	COMP	CALL
Casselman wtp-5971 backwash tank	COMP	CALL
Casselman wtp-5971 Raw water valve	COMP	CALL
5971 - Casselman WTP - high settled effluent turbidity	COMP	CALL
5971 - Casselman WTP - high filter effluent turbidity	COMP	CALL
Casselman 5971 Low lift pump rebuild	APPR	CAP
Casselman 5971 Activflo 1and 2 valve install for turb analyzers	APPR	CAP
Capital Program issues with PLC Casselman wtp 5971	COMP	CAP
Casselman 5971 WTP - High turbidity and issues with acitflo #1 and #2	COMP	CALL
Capital Filter For Chlorine Analyzer Casselman WPT 5971	COMP	CAP
Casselman 5971 WTP - Very high backwash tank and filter 1 backwash issues	COMP	CALL
UV Sensor Reference Check/Calibration (1m) - 5971	COMP	PM
Casselman 5971 Actiflo Alarm-Backwash Issue	COMP	CALL

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

Description	Status	Work Type
WSER Monitoring Report (1y) - Nation Valley Compliance	COMP	PM
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
Casselman 1501 Generator Inspection (1m) Lagoon	COMP	PM
Analyzer Turbidity Inspection/Service (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
Casselman SPS 5 - ALARM/DIALER TEST (1m) - 1501	COMP	PM
Casselman SPS 6 - ALARM/DIALER TEST (1m) - 1501	COMP	PM
Casselman SPS 3 - ALARM/DIALER TEST (1m) - 1501	COMP	PM
Casselman SPS 2 - ALARM/DIALER TEST (1m) - 1501	COMP	PM
Casselman SPS 5 - ALARM/DIALER TEST (1m) - 1501	COMP	PM
Casselman SPS 1 - ALARM/DIALER TEST (1m) - 1501	COMP	PM
Casselman Lagoon ALARM/DIALER TEST (1m) - 1501	COMP	PM
Specific ECA - Bypass (3m) - 1501	COMP	PM
Workplace Inspection (1m) - 1501	COMP	OPER
Quarterly H&S Equipment Check (1m) - 1501	COMP	PM
Casselman 1501 WWT - Pumps unavailable and Low level at SPS 6	COMP	CALL
Casselman 1501 - Low level SPS1 no flow	COMP	CALL
Capital Sps1 Auger Blocked Casselman Sewage 1501	COMP	CAP
Lagoon Blower fault	COMP	CALL
Low Room Temp SPS 6	COMP	CALL

Appendix C

Locate Summary



Casselman Monthly Locate Summary – January 2023

Description	Status	Work Type
Locate Casselman WDS 1553 - 2022523484 - 656 Dollard St	COMP	OPER
Locate Casselman WDS 1553 - 2023021819 - St Isidore Rd	COMP	OPER
Locate Casselman WDS 1553 - 2023024725 - Aurele Rd	COMP	OPER
Locate Casselman WDS 1553 - 2023024782 - 284 Nature St	COMP	OPER
Locate Casselman WDS 1553 - 2023024734 - 280 Nature St	COMP	OPER
Locate Casselman WDS 1553 - 2023024839 - 695 St Isidore	COMP	OPER
Locate Casselman WDS 1553 - 2023027756 - Principale and Filion	COMP	OPER
Locate Casselman WDS 1553 - 2023029632 - 140 Laurier	COMP	OPER
Locate Casselman WDS 1553 - 2023040453 - 31 Industrial	COMP	OPER
Locate Casselman WDS 1553 - 2023044037 - Aurele Rd	COMP	OPER
Locate Casselman WDS 1553 - 2023049284 - Zakari St	COMP	OPER
Total		11

Appendix D

Certificate of Accreditation





CERTIFICATE OF ACCREDITATION

This is to certify that the following operating authority.

The Ontario Clean Water Agency (OCWA)

2085 Hurontario St., 5th Floor, Mississauga, Ontario L5A 4G1 Canada

operates a Drinking Water System on behalf of

The Village of Casselman

Ontario Clean Water Agency

P.O. Box 710, 832 Laval Street, Casselman, Ontario K0A 1M0 Canada

Refer to Attachment to Certificate of Accreditation dated January 24, 2023 for additional drinking water systems

which conforms with the requirements of

DRINKING WATER QUALITY MANAGEMENT STANDARD VERSION 2 - 2017

for the following scope of accreditation

Full Scope - Entire DWQMS

Certificate No.: CERT-0149051
File No.: 1702443
Issue Date: January 24, 2023

Original Certification Date: November 19, 2018
Certification Effective Date: January 23, 2023

Calin Moldovean
President, Business Assurance
SAI Global Assurance



DWQMS 2017

ATTACHMENT TO CERTIFICATE OF ACCREDITATION

These sites are accredited under Certificate No: CERT-0149051 issued on January 24, 2023

File No.

Effective Date

1702443

**The Village of Casselman
Ontario Clean Water Agency**
P.O. Box 710, 832 Laval Street, Casselman, Ontario K0A 1M0
Canada

January 23, 2023

Drinking Water Systems

Site No.

Site Name

1702447

Casselman Drinking Water System

Appendix E

Non-Compliance Notification to MECP



February 16, 2023

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 concentration limit for Total Ammonia Nitrogen specified in Section 6(1) of ECA #8160-BAHPRF. This written notice 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 February 16, 2023 (Reference #1-2NKT1U).

The following effluent parameter was exceeded:


Parameter	Date	Type of Limit	Type of Sample	Result (mg/L)	ECA Limit (mg/L)
Total Ammonia Nitrogen (TAN)	January 2023	Monthly Average Effluent Concentration	Grab	15.8	12.0

Five effluent samples were collected during the month of January. Five lagoon Cell #C samples were also collected. The influent to the MBBR results in comparison to the effluent results demonstrate that the Total Ammonia Nitrogen is being reduced by the MBBRs. Unfortunately, the reduction of TAN was not sufficient to fall below the limit prescribed in the ECA. The very cold weather and ice cover on the lagoon reduces the activity of nitrifying bacteria thereby diminishing the MBBRs treatment capacity for removing TAN. To help the treatment process, the flow through the MBBRs was lowered on January 23rd as well as on January 31st. The warmer weather and the reduced flow should help with the Total Ammonia Nitrogen removal in February.

It should be noted that all other effluent parameters remained below the ECA limits for the month of January. A complete listing of the effluent sample results can be found in the PAR, attached.

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

Sincerely,





Ontario Clean Water Agency
5 Industrial Dr.
Chesterville ON K0C 1H0
Phone: 613-448-3098
Fax: 613-448-1616

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
Vanessa Greatrix, Safety, Process and Compliance Manager, OCWA

2023 - CASSELMAN WWTP EFFLUENT SAMPLING MONTHLY AVERAGES COMPLIANCE LIMITS

MONTH	DATE	CBOD ₅ (mg/L)	TSS (mg/L)	TP (mg/L)	NH3 (mg/L)	E. Coli (CFU/100ml)	H S (mg/L)
January	03-Jan-23	13	18	0.29	13	1400	n/a
	09-Jan-23	6	10	0.27	10.1	4400	n/a
	16-Jan-23	6	12	0.24	13.3	1900	n/a
	23-Jan-23	5	14	0.7	23.5	8000	n/a
	31-Jan-23	8	6	0.3	19.1	1580	n/a
	Monthly Average	7.6	12	0.36	15.80	2716.5	n/a
	Compliant?	YES	YES	YES	NO	YES	YES