

Carleton Place Wastewater System

2021 Annual Report

January 1, 2021 – December 31, 2021

Prepared By



This report has been prepared to meet the requirements set out in the facility Certificate of Approval #5001-7FZT4A issued October 03, 2008.

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Compliance Report Card

Compliance Event	# of Events	Details
Environment Canada Inspection	0	No Inspections during the reporting period
Ministry of Environment Inspections	0	No Inspections during the reporting period
Ministry of Labour Inspections	0	No Inspections during the reporting period
Effluent Parameter Exceedances	1	1 Parameter Exceedances during the reporting period
Non-Compliance	1	1 Non Compliances during the reporting period
Bypass/Overflows/Diversions	1	1 Diversion during the reporting period
Community Complaints	1	1 Community Complaints during the reporting period
Spills	1	1 Spill during the reporting period

System/Process Description

The Carleton Place Water Pollution Control Plant (WPCP) is a conventional activated sludge plant with anaerobic digestion. The plant consists of a grit removal system, two primary settling tanks, three ‘storm’ tanks for the purpose of tempering the affects of high flows during wet weather events, three biological aeration tanks, three secondary settling tanks, ultra violet disinfection system and lastly an anaerobic digester system complete with a sludge storage tank.

The Carleton Place WPCP is a Class 3 conventional activated sludge plant with anaerobic sludge digestion. Chemicals are added for phosphorus removal and alkalinity adjustment. Effluent is then UV disinfected prior to discharge to the Mississippi River.

Physical/Chemical tanks are available for use during high flows. For more details, see the Bypass, Overflow, Diversion section of this report.

Sludge at the WPCP is co- thickened and stabilized in a two stage digestion process. There is a centrifuge on-site but due to hydrogen sulphide issues the centrifuge is not in operation.

Septage can also be received at the plant and passed through the entire treatment process.

The Carleton Place WPCP is equipped with back-up power.

Effluent Quality Assurance or Control Measures

The Town of Carleton Place facilities are part of OCWA's Eastern Regional Hub. The facilities are supported by hub, regional and corporate resources. Operational Services are delivered by OCWA staff that live and work in the community.

OCWA operates facilities in compliance with applicable regulations. The facility has comprehensive manuals detailing operations, maintenance, instrumentation, and emergency procedures. All procedures are treated as active documents, with annual reviews.

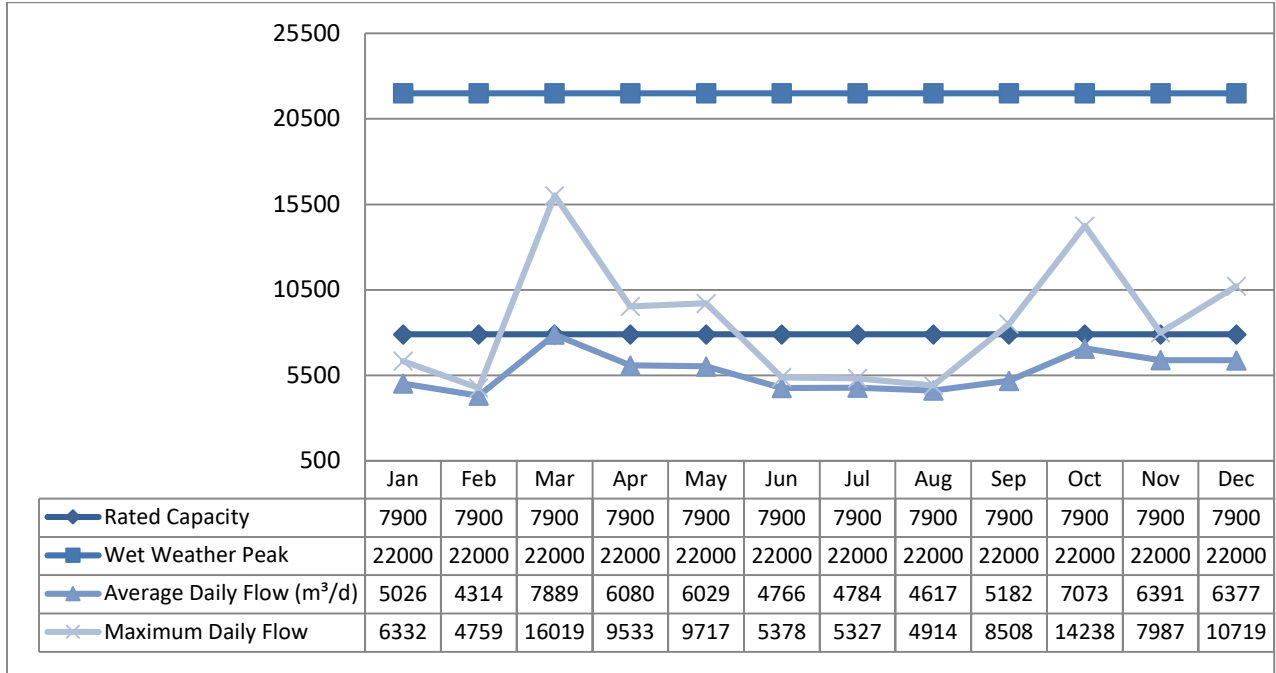
OCWA has additional "Value Added" and operational support services that the Town of Carleton Place benefits from including:

- Access to a network of operational compliance and support experts at the regional and corporate level, as well as affiliated programs that include the following:
 - Quality & Environmental Management System, Occupational Health & Safety System and an internal compliance audit system.
 - Process Data Collection (PDC) facility operating information repository, which consolidates field data, online instrumentation, and electronic receipt of lab test results for reporting, tracking and analysis.
 - Work Management System (WMS) that tracks and reports maintenance activity, and creates predictive and preventative reports.
 - Outpost 5 wide-area SCADA system allows for process optimization and data logging, process trending, remote alarming and optimization of staff time.
- Client reporting which includes operational data, equipment inventory, financial statements, maintenance work orders, and capital status reports
- Site-Specific Contingency Plans and Standard Operating Procedures
- Use of accredited laboratories
- Additional support in response to unusual circumstances, and extra support in an emergency.
- Use of sampling schedules for external laboratory sampling

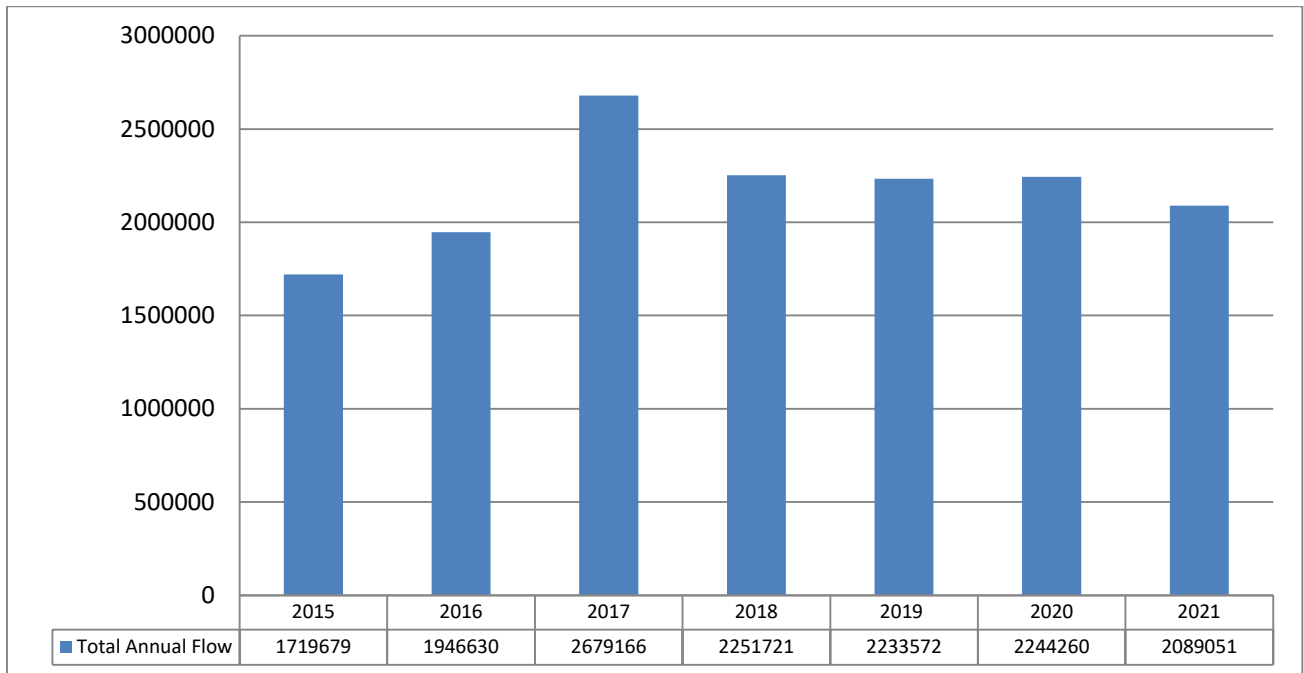
Treatment Flows

Flow (m³/d)

Annual average flow for 2021 = 5710.79 m³/d



Annual Comparison (m³)



Raw Sewage Quality

Results of raw sewage concentrations and loadings are available in the Facility Performance Assessment Report in Appendix A.

Septage Quality

Septage was not received in 2021 at the Carleton Place WPCP.

Centrate

The centrifuge was not in operation during the reporting period.

Effluent Quality

The limits are based on current requirements in the facilities Environmental Compliance Approval. Laboratory samples are submitted to an accredited laboratory for regulatory analysis.

The Federal Government also regulates certain sewage effluent parameter under the Federal Fisheries Act. The results are submitted to Environment Canada (WESR) on a quarterly basis.

Effluent Parameter Summary

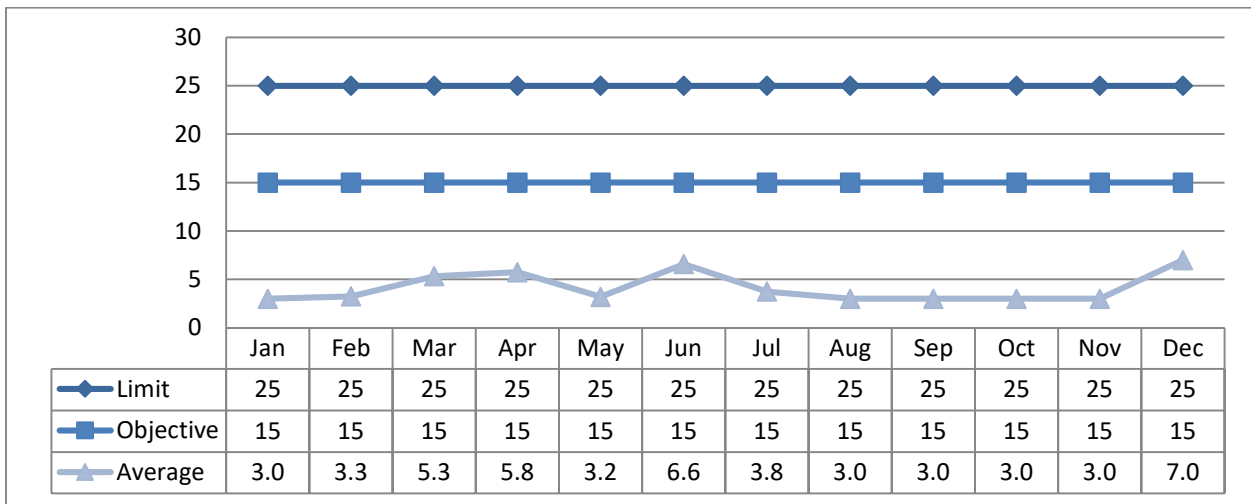
Carbonaceous Biological Oxygen Demand (CBOD5)

Compliance

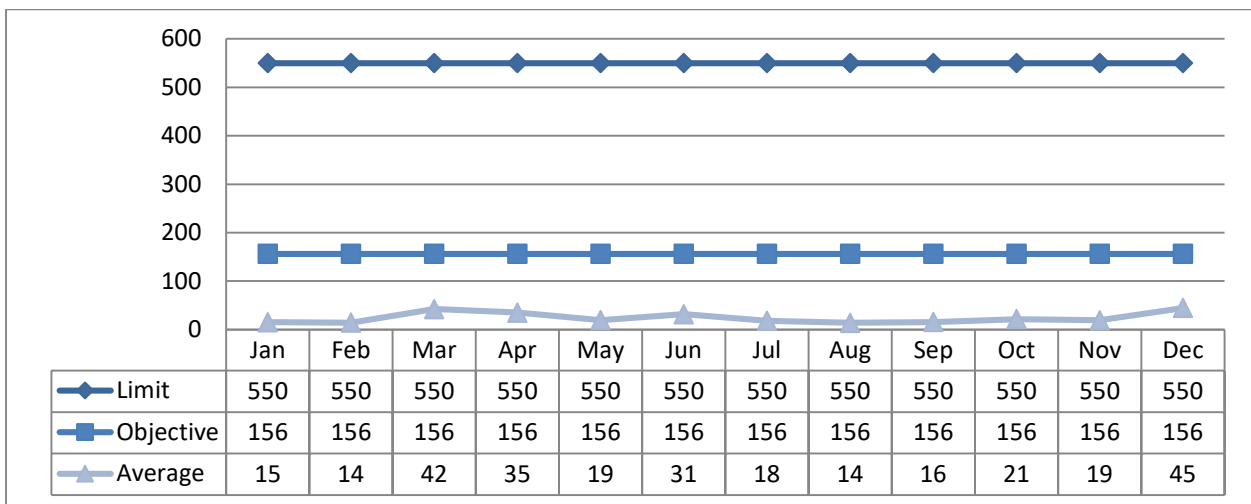
Compliance is based on an annual average.

	Concentration (mg/L)			Loading (kg/d)		
	Annual Average	Limit	Objective	Annual Average	Limit	Objective
CBOD	4.16	25.0	15.0	24.11	550	156

Concentration (mg/L)



Loading (kg/d)



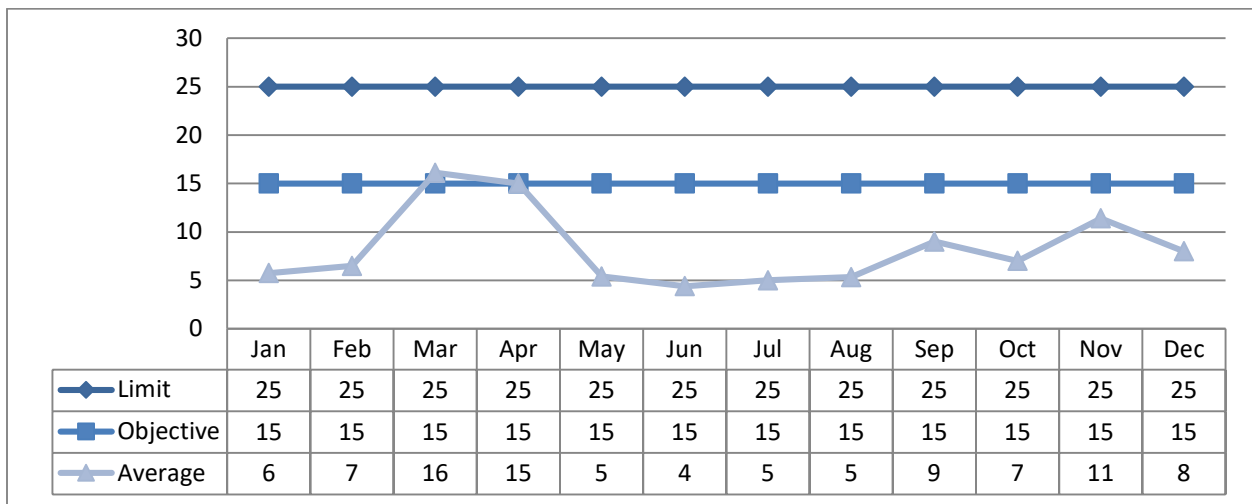
Total Suspended Solids

Compliance

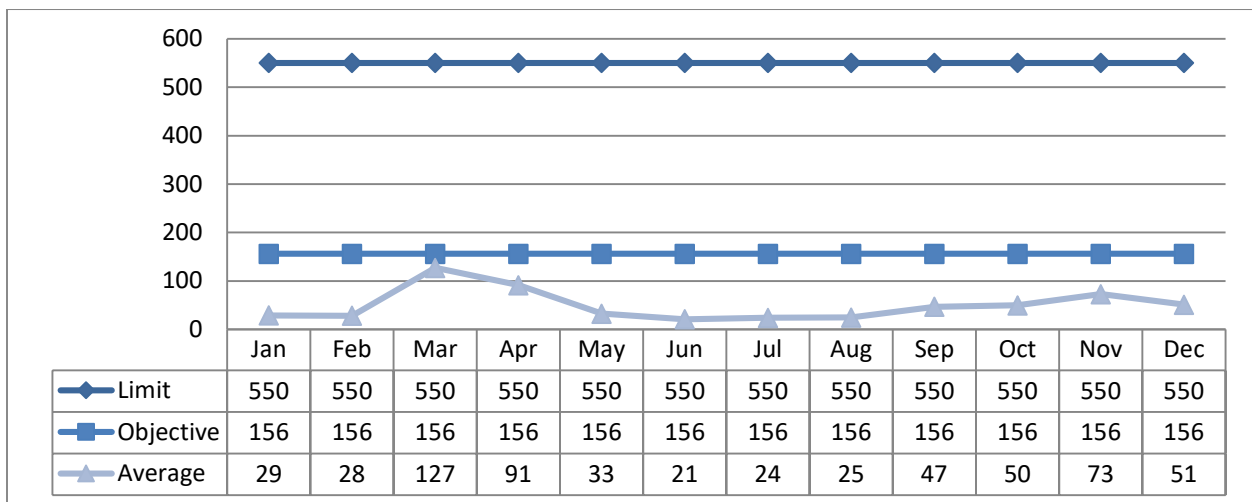
Compliance is based on an annual average.

	Concentration (mg/L)			Loading (kg/d)		
	Annual Average	Limit	Objective	Annual Average	Limit	Objective
Total Suspended Solids	8.2	25.0	15.0	49.8	550	156

Concentration (mg/L)



Loading (kg/d)



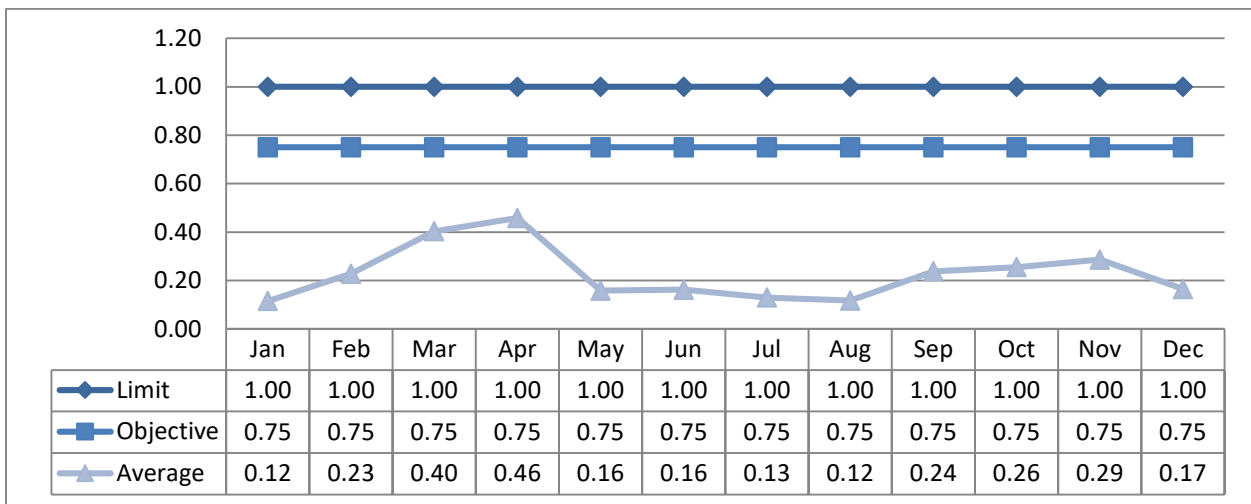
Total Phosphorus

Compliance

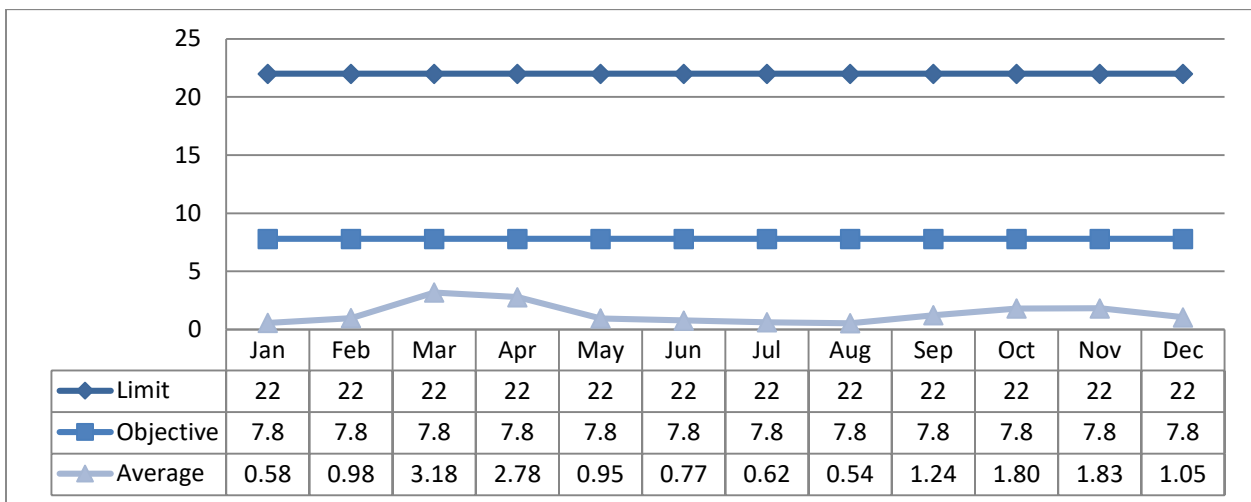
Compliance is based on a monthly average.

	Concentration (mg/L)			Loading (kg/d)		
	Annual Average	Limit	Objective	Annual Average	Limit	Objective
Total Phosphorus	0.23	1.0	0.75	1.36	22.0	7.8

Concentration (mg/L)



Loading (kg/d)



Total Ammonia Nitrogen

Compliance

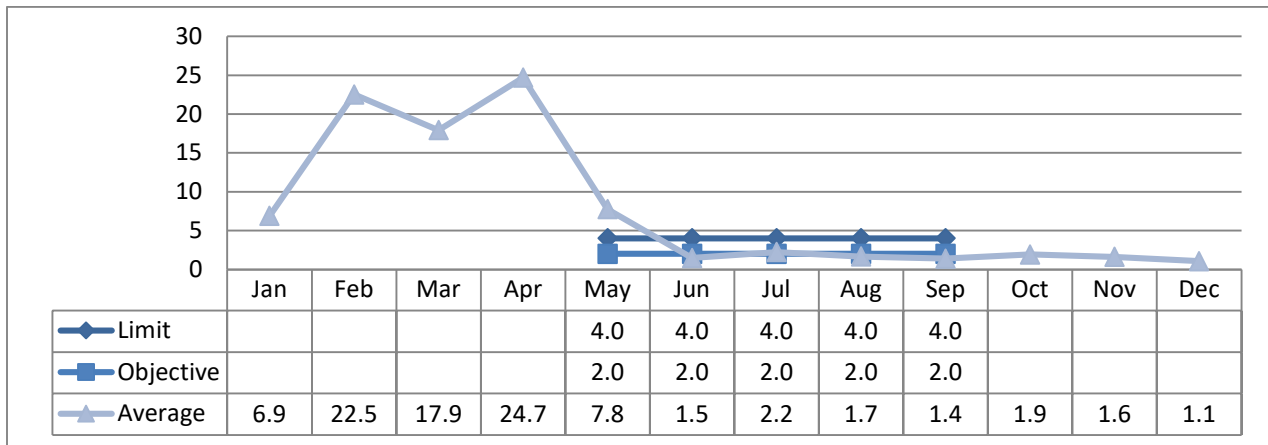
Compliance is based on a monthly average.

	Concentration (mg/L)			Loading (kg/d)		
	Monthly Average	Limit	Objective	Monthly Average	Limit	Objective
Total Ammonia Nitrogen	See graph below	4.0 May 15-Sept 30	2.0 May 15-Sept 30	See graph below	88.0 May 15-Sept 30	20.8

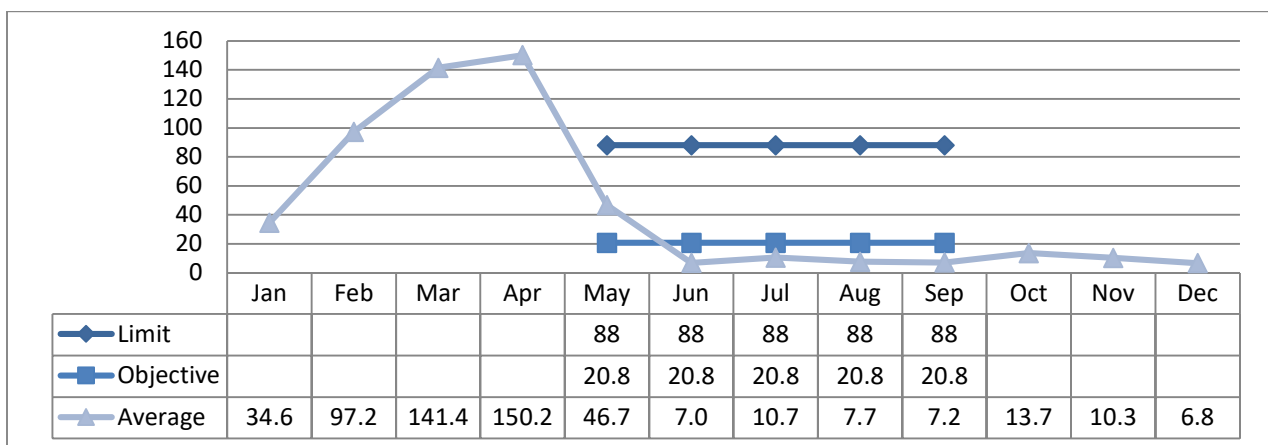
The monthly Total Ammonia Nitrogen effluent limit was exceeded in May 2021.

Date	Exceedance of	Limit	Value	Corrective Action
May 2021	ECA Limit	4.0 mg/L	7.8 mg/L	OCWA's process optimization team engineers have completed a report determine the cause of the non-conformance and optimize control measures.

Concentration (mg/L)



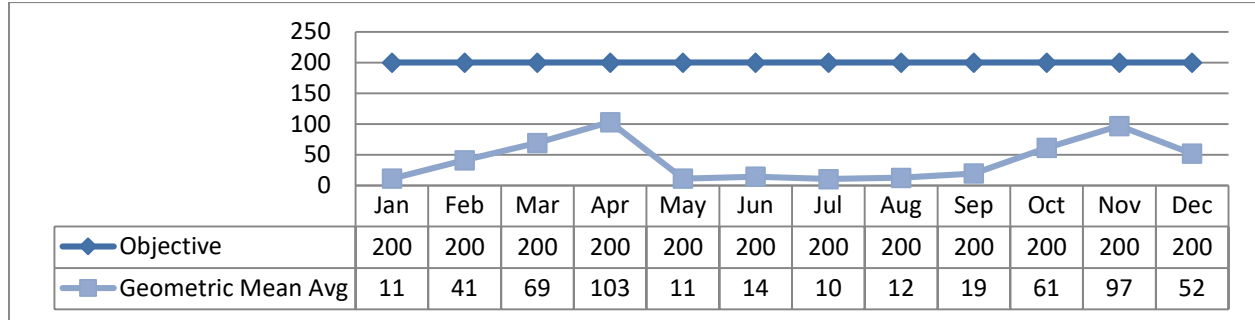
Loading (kg/d)



E-coli

There is no limit on e-coli in the Environmental Compliance Approval.

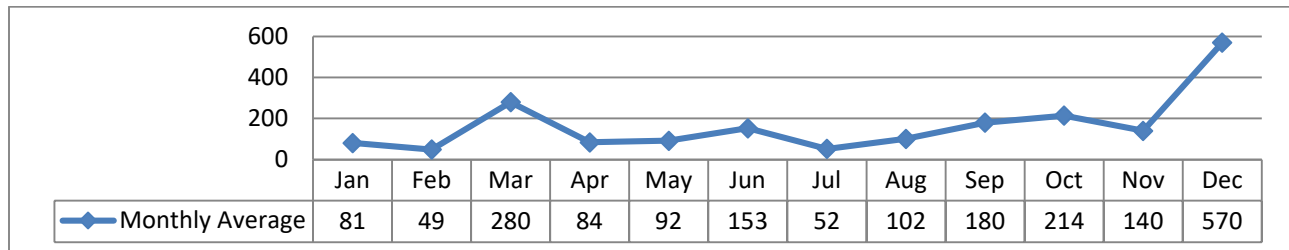
Concentration (cfu/100mL)



Faecal Streptococcus

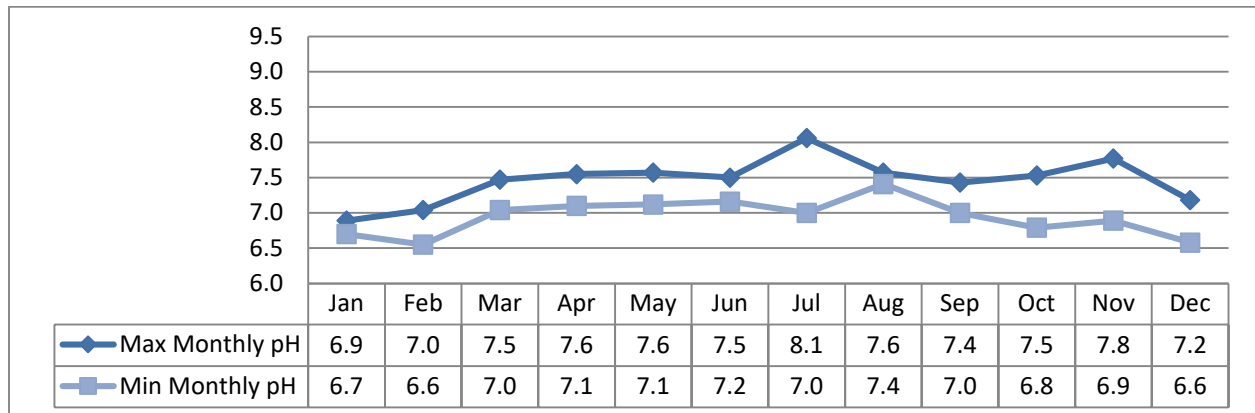
This parameter is required to be tested in the effluent but there are no limits or objectives established in the Environmental Compliance Approval.

Concentration (cfu/100 mL)



pH

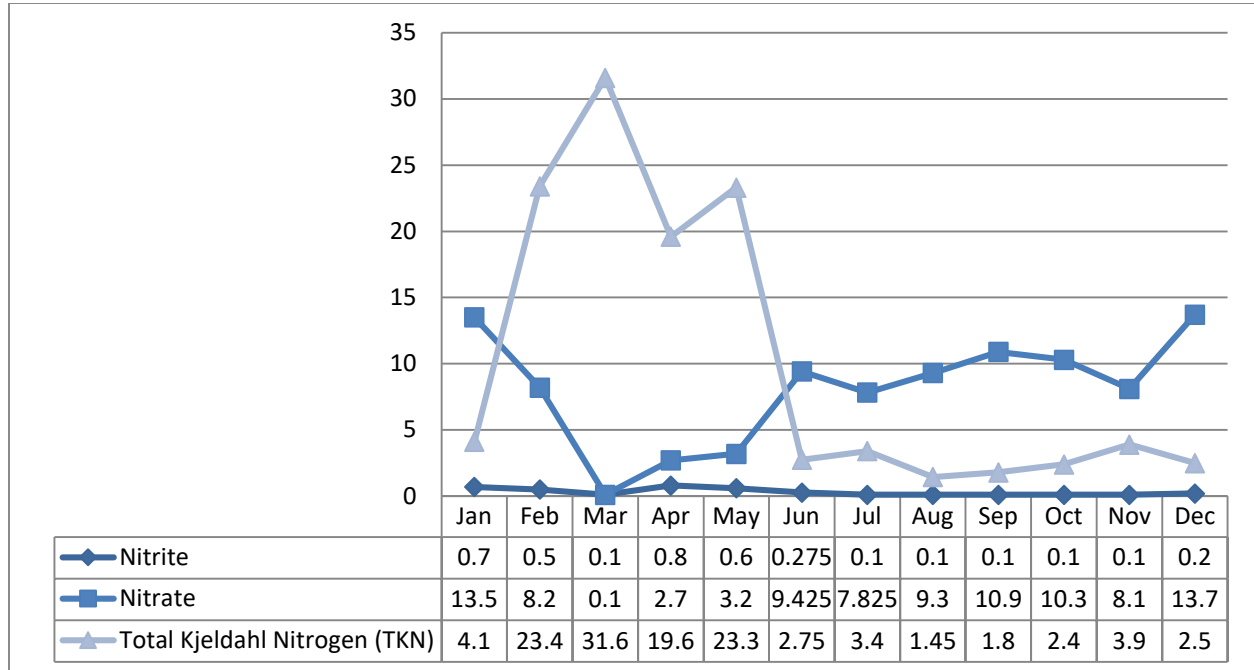
This parameter is to be maintained between 6.0 and 9.5 inclusively at all times.



Nitrate, Nitrite and Total Kjeldahl Nitrogen (TKN)

These parameters are required to be tested in the effluent but there are no limits or objectives established in the certificate of approval.

Monthly Average Concentration (mg/L)



Acute Lethality

There were four (4) samples collected in 2021 and tested for acute lethality of Rainbow Trout. Results are displayed as % mortality. This sampling is required under the federal fisheries regulations.

Quarter	Rainbow Trout
1 st Quarter	0%
2 nd Quarter	0%
3 rd Quarter	0%
4 th Quarter	0%

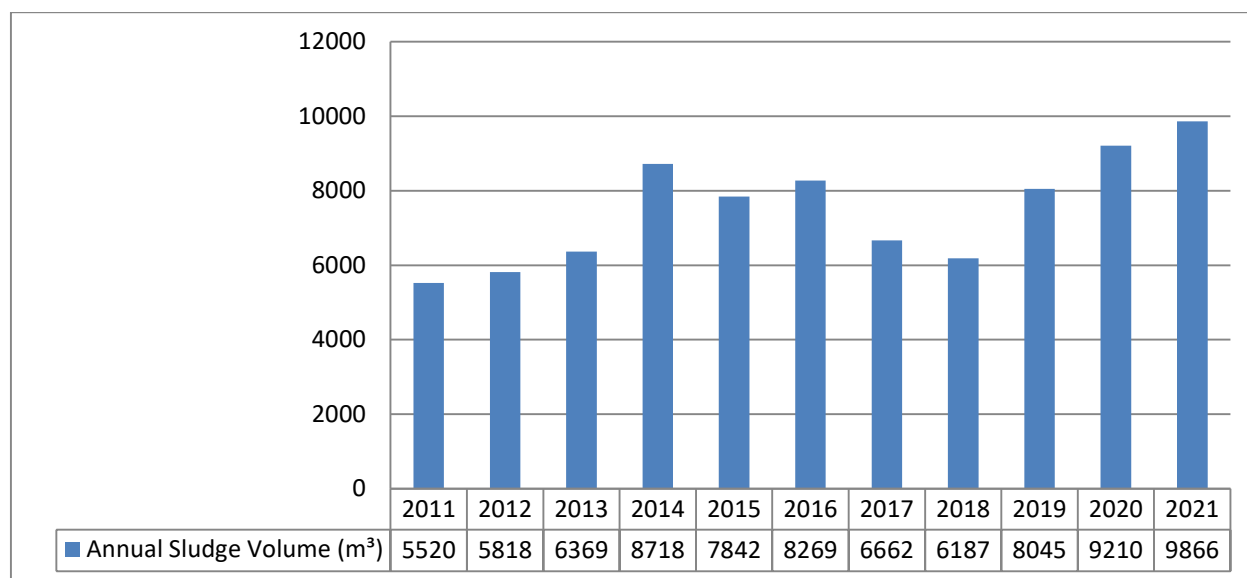
Biosolids

Sludge generated from the treatment plant was spread on agricultural land during the spreading season as per the Nutrient Management Act O.Reg 267/03. During the winter sludge is stored on-site until the Organic Soil Conditioning Sites are available for spreading.

Biosolids Disposal Summary

Date	Site	NASM Plan number	Volume (m ³)
January 2021	Third High Farms Facility	ECA A710174 ECA 5948-7JRMAJ	381.5
February 2021	Third High Farms Facility	ECA A710174 ECA 5948-7JRMAJ	380.92
March 2021	Third High Farms Facility	ECA A710174 ECA 5948-7JRMAJ	383.40
April 27, 2021	Sunol Farms - Turner	24589	600.00
May 7-18 2021	Sunol Farms - Turner	24589	1800.00
July 2 2021	Terrapure Storage Facility	ECA S-3708-42	80.00
July 26 2021	Jockbrae Farms – Munster	22956	1080.00
August 4 2021	Terrapure Storage Facility	ECA S-3708-42	10.00
August 4-7 2021	Jockbrae Farms - Munster	22956	1470.0
October 14-20 2021	Sunol Farms – 14-15	24216	2320.00
November 27-30 2021	Sunol Farms - Amanda's	24013	1360.00
		Total	9865.82

Annual Comparison



It is anticipated that sludge volumes will remain constant based on the average treated volumes and past years' history.

Quality

The biosolids sampling results are summarized in Appendix C. All results met the established guidelines.

Centrate sampling was not completed as sludge was not de-watered during this reporting period.

Summary of Complaints

The following were received community complaints related to the operations of the Carleton Place WPCP.

Date	Details	Corrective Action Taken
2021-11-16	Community member reported the odour to Town Hall Staff	The WPCP has had high raw sewage flows due to rain and weather conditions which caused multiple sludge flow adjustments to be made. Also, OCWA's maintenance staff pulled the main Primary Digester mixer for semi-annual preventative maintenance. The wind direction and air pressure during the time of maintenance would be the most contributing factor regarding the odour complaint.

Summary of Bypass, Overflow and Diversions

A Bypass is where influent flows do not receive any treatment and are discharged to the Mississippi River.

An overflow is where influent is diverted around the treatment and is discharged at a different location other than the designed effluent outfall pipe. It should be noted that there is no way for this facility to overflow from the treatment plant.

A Diversion is when the three (3) physical/chemical tanks are brought into service. These tanks are used during high flow periods to provide partial treatment to the influent while protecting the biomass in the secondary treatment process.

Details	Category	Volume (m ³)	Start Date and Time	End Date and Time	Discharge Receiver	Disinfection Provided
Carleton Place WPCP heavy rain fall event	Diversion	23,583	March 26 2021 13:38	March 29 2021 09:27	Mississippi River	Yes

Summary of Spills/Abnormal Discharges

Date	Location	Details	Corrective Action Taken
June 28 2021	Carleton Place WPCP	An outside contractor was on site to conduct semi-annual maintenance on the boiler systems and flame arrestors. During maintenance, the gas pressure for the Primary Digester increased as both the valves to the flare stack and boilers were closed by the contractor. The pressure relief valves activated and released methane gas to the atmosphere.	For future gas maintenance, staff will seek approval from local inspector for relief on this type of incident during required maintenance. A trained operator will assist and oversee maintenance work to prevent this release from happening in the future.

Maintenance

OCWA uses a risk-based preventative maintenance framework that ensures assets are maintained to manufacturer’s and/or industry standards. Maintenance is completed using various tools and operational supports. The Eastern Regional Hub has specialized and certified staff such as Millwrights, Electricians and Instrumentation Specialists to name a few.

OCWA uses a Workplace Maintenance System (WMS). WMS is a maintenance tracking system that can generate work orders as well as give summaries of completed and scheduled work. During the year, the operating authority at the facility generates scheduled work orders on a weekly, monthly and annual basis. The service work is recorded in the work order history. This ensures routine and preventive maintenance is carried out. Emergency and capital repair maintenance is completed and added to the system.

Capital projects are listed and provided to the Town of Carleton Place in the form of a “Capital Forecast”. This list is developed by facility staff and provides recommendations for facility components requiring upgrading or improvement.

Maintenance Highlights

WO #	Summary
2090893	Capital Replace or Repair motor MUA#4
2091763	Capital Make up Air unit #4 Motor replacement
2093274	Capital Raw sewage pump failure - Emergency call out for repair
2093869	Capital Safety kids are climbing onto the roof Westview SPS
2094328	Capital Raw Sewage Pump Control repairs
2130621	Capital Replace shaft on bar screen
2130719	Capital Pump 2 VFD failure Highgate SPS
2130933	Capital Rebuild pump for Carlgate SPS
2131620	Capital Replace feed well on #2 Secondary Clear well
2132546	Capital New chain for Bar screen Carleton Place WWT 5672
2132835	Capital Install tamper guarding on tower and electrical meter Carlgate SPS
2133088	Capital Hose stand for sludge hauling
2134118	Capital Emergency Vac truck and manual contactor Highgate SPS
2173648	Capital Build new sludge judge
2500594	Capital Bio-Solids removal
2502147	Capital pH Probe for Final Effluent Channel
2503236	Capital Critical Spare Multi Ranger 200 Controller
2539822	Capital New Chemical Pump
2540869	Capital Replacement of Check Valves at Princess SPS
2540981	Capital Butterfly valves for Blower room
2541140	Capital SCADA optimization
2543430	Capital pH probe armature replacement
2581998	Capital Re-Calibration of the digester pressure alarm switches
2174408	Capital Boiler 2 annual cleaning and inspection
2177969	Capital Oil pressure gauge replacement for generator at Bridge Street SPS
2178212	Capital Install Lexan cover on bar screen
2178216	Capital Emergency repair compactor auger

WO #	Summary
2209653	Capital Flygt submersible utility pump 600V
2222516	Capital Boiler # 1 annual cleaning and inspection
2222518	Capital Boiler #3 Annual cleaning and inspection
2223388	Capital Engineering report for davit install
2223446	Capital #8 chain links for bar screen
2223595	Capital Generator battery replacement Westview & Carlgate SPS
2224155	Capital Install manual resets in raw sewage pumps #1,2,&3 control cabinet
2224609	Capital Repair hoist for Southeast SPS
2225669	Capital Replace outdoor lights and ballasts as needed
2225951	Capital Install davit bases
2265808	Capital SPS clean out
2267157	Capital Replacement for pump 2 at Charles Street SPS
2267517	Capital Clarifier 1 feed well seal
2268735	Capital Replace PAS 8 outside fill lines
2268736	Capital Drain lines for backflow preventer in dry well
2269323	Capital Replace drywell over temperature wall stat., South East SPS
2270305	Capital Replacement lifting chain for SPS
2270368	Capital Controls onsite for Sodium Hydroxide pump maintenance
2270748	Capital Replace faulty Flow control relay for Sodium Hydroxide pump
2315181	Capital Replace motor on roof exhaust fan in blower room
2315418	Capital Replace leaking hot water heater in digester room
2315437	Capital Install 110v cooling fan in Digester control cabinet
2360367	Capital Mississippi Quays SPS controls malfunction
2360369	Capital Westview SPS level controller
2361526	Capital Emergency South East SPS generator failure
2363736	Capital Install New chain and guides on Bar Screen
2365181	Capital Raw Sewage Pump Control Review
2403422	Capital Generator Rental for South East SPS
2406697	Capital Raw sewage pump #3 check valve installation
2407355	Capital High level float replacement
2449241	Capital Replace obsolete KSB pumps aeration tanks
2449790	Capital Raw sewage drywell float
2450484	Capital Replace portable air compressor
2450516	Capital Milltronics replacement head
2450742	Capital SCADA review
2451422	Capital Emergency Radiator repair Findlay SPS
2451971	Capital Replace Compressor Head in Chemical Building Basement
2452469	Capital Install Feed well in #2 Clarifier
2452974	Capital Compressor Motor for Primary Sludge Valve Actuators
2542995	Capital New submersible pump

Calibration

The flow meters were calibrated on October 18, 2021. See Appendix D for the calibration reports.

Collection Highlights

Collection System Highlights were provided by the Town of Carleton Place.

The Public Works Department responded to more than 1800 locate requests during 2021. This continues to be an increase upon previous years reflective of construction activity in Carleton Place. Staff have optimized the use of the Utilocate program.

The Collection System is broken into four sections and is flushed in a four-year rotational cycle. This year's quadrant was flushed by 3rd party contractor with staff oversight. In addition, Public Works crews also flushed known trouble areas on an intermittent basis.

Staff assisted with various components of Public Works construction projects.

Staff responded to various complaint calls regarding the collection system – both mains and laterals. One sanitary sewer service was replaced.

Staff responded to one sewage spill event located on Municipal property and assisted Recreation department with clean up and reporting.

Appendix A

Facility Performance Assessment Report

Ontario Clean Water Agency
Performance Assessment Report Wastewater/Lagoon
From: 01/01/2021 to 31/12/2021

Facility: [5672] CARLETON PLACE WASTEWATER TREATMENT FACILITY
Works: [110000971]

	01/2021	02/2021	03/2021	04/2021	05/2021	06/2021	07/2021	08/2021	09/2021	10/2021	11/2021	12/2021	<-Total-->	<-Avg-->	<-Max-->	<-Criteria-->
Flows:																
Raw Flow: Total - Raw Sewage Influent (m³)	155798.09	120803.68	244552.79	182413.67	186907.10	142972.69	148313.15	143138.48	155462.22	219268.53	191719.44	197701.25	2089051.09			
Raw Flow: Avg - Raw Sewage Influent (m³/d)	5025.74	4314.42	7888.80	6080.46	6029.26	4765.76	4784.30	4617.37	5182.07	7073.18	6390.65	6377.46		5710.79		
Raw Flow: Max - Raw Sewage Influent (m³/d)	6332.39	4758.94	16018.63	9532.57	9716.75	5377.84	5326.92	4914.41	8507.66	14238.10	7987.25	10718.92			16018.63	
Eff. Flow: Total - Final Effluent (m³)	155798.09	120806.24	244552.79	182413.67	186907.10	142972.69	148313.15	143138.48	155462.22	219268.53	191719.44	197701.25	2089053.65			
Eff. Flow: Avg - Final Effluent (m³/d)	5025.74	4314.51	7888.80	6080.46	6029.26	4765.76	4784.30	4617.37	5182.07	7073.18	6390.65	6377.46		5710.80		
Eff. Flow: Max - Final Effluent (m³/d)	6332.39	4758.94	16018.63	9532.57	9716.75	5377.84	5326.92	4914.41	8507.66	14238.10	7987.25	10718.92			16018.63	
Carbonaceous Biochemical Oxygen Demand: CBOD:																
Raw: Avg cBOD5 - Raw Sewage Influent (mg/L)	66.000	96.000	74.000	93.000	58.000	98.000	95.250	87.750	97.000	55.000	58.000	58.000		78.000	98.000	
Raw: # of samples of cBOD5 - Raw Sewage Influent (mg/L)	1	1	1	1	1	5	4	4	1	1	1	1	22			
Eff: Avg cBOD5 - Final Effluent (mg/L)	< 3.000	< 3.250	< 5.333	< 5.750	< 3.200	< 6.600	< 3.750	< 3.000	< 3.000	< 3.000	< 3.000	< 7.000		< 4.157	< 7.000	25.0
Eff: # of samples of cBOD5 - Final Effluent (mg/L)	4	4	9	4	5	5	4	6	6	4	5	4	60			
Loading: cBOD5 - Final Effluent (kg/d)	< 15.077	< 14.022	< 42.074	< 34.963	< 19.294	< 31.454	< 17.941	< 13.852	< 15.546	< 21.220	< 19.172	< 44.642		< 24.105	< 44.642	550.0
Percent Removal: cBOD5 - Raw Sewage Influent (mg/L)	95.455	96.615	92.793	93.817	94.483	93.265	96.063	96.581	96.907	94.545	94.828	87.931			96.907	
Biochemical Oxygen Demand: BOD5:																
Raw: Avg BOD5 - Raw Sewage Influent (mg/L)	72.000	193.000	75.000	152.000	90.000	140.800	76.750	107.750	129.000	50.000	61.000	116.000		105.275	193.000	
Raw: # of samples of BOD5 - Raw Sewage Influent (mg/L)	1	1	1	1	1	5	4	4	1	1	1	1	22			
Eff: Avg BOD5 - Final Effluent (mg/L)	< 3.000	4.000	7.000	10.000	6.000	4.250	< 3.500	< 3.500	< 3.000	< 3.000	10.000	3.000		< 5.021	10.000	25.0
Loading: BOD5 - Final Effluent (kg/d)	< 15.077	17.258	55.222	60.805	36.176	20.254	< 16.745	< 16.161	< 15.546	< 21.220	63.906	19.132		< 29.792	63.906	
Percent Removal: BOD5 - Raw Sewage Influent (mg/L)	95.833	98.316	92.889	96.217	96.444	95.313	95.114	97.216	97.674	94.000	95.082	93.966			98.316	
Total Suspended Solids: TSS:																
Raw: Avg TSS - Raw Sewage Influent (mg/L)	85.000	90.000	85.000	580.000	56.000	222.800	85.750	135.000	360.000	52.000	68.000	62.000		156.796	580.000	
Raw: # of samples of TSS - Raw Sewage Influent (mg/L)	1	1	1	1	1	5	4	4	1	1	1	1	22			
Eff: Avg TSS - Final Effluent (mg/L)	5.750	6.500	16.111	15.000	5.400	< 4.400	< 5.000	5.333	9.000	7.000	11.400	8.000		< 8.241	16.111	25.0
Eff: # of samples of TSS - Final Effluent (mg/L)	4	4	9	4	5	5	4	6	6	4	5	4	60			
Loading: TSS - Final Effluent (kg/d)	28.898	28.044	127.097	91.207	32.558	< 20.969	< 23.921	24.626	46.639	49.512	72.853	51.020		< 49.779	127.097	
Percent Removal: TSS - Raw Sewage Influent (mg/L)	93.235	92.778	81.046	97.414	90.357	98.025	94.169	96.049	97.500	86.538	83.235	87.097			98.025	
Total Phosphorus: TP:																
Raw: Avg TP - Raw Sewage Influent (mg/L)	2.940	3.570	4.940	10.100	2.140	4.446	3.050	4.927	7.770	2.420	2.090	2.780		4.264	10.100	
Raw: # of samples of TP - Raw Sewage Influent (mg/L)	1	1	1	1	1	5	4	4	1	1	1	1	22			
Eff: Avg TP - Final Effluent (mg/L)	0.115	0.228	0.403	0.458	0.158	0.162	0.130	< 0.117	0.238	0.255	0.286	0.165		< 0.226	0.458	1.0
Eff: # of samples of TP - Final Effluent (mg/L)	4	4	9	4	5	5	4	6	6	4	5	4	60			
Loading: TP - Final Effluent (kg/d)	0.578	0.982	3.182	2.782	0.953	0.772	0.622	< 0.539	1.235	1.804	1.828	1.052		< 1.361	3.182	
Percent Removal: TP - Raw Sewage Influent (mg/L)	96.088	93.627	91.835	95.470	92.617	96.356	95.738	97.632	96.933	89.463	86.316	94.065			97.632	
Nitrogen Series:																
Raw: Avg TKN - Raw Sewage Influent (mg/L)	33.300	46.700	35.900	43.500	23.200	34.220	33.075	41.000	41.900	25.400	28.700	39.200		35.508	46.700	
Raw: # of samples of TKN - Raw Sewage Influent (mg/L)	1	1	1	1	1	5	4	4	1	1	1	1	22			
Eff: Avg TAN - Final Effluent (mg/L)	6.888	22.525	17.924	24.700	7.752	1.466	2.228	1.668	1.393	1.930	1.618	1.063		7.596	24.700	4.0
Eff: # of samples of TAN - Final Effluent (mg/L)	4	4	5	4	8	5	4	6	6	4	5	4	59			
Loading: TAN - Final Effluent (kg/d)	34.615	97.184	141.399	150.187	46.742	6.987	10.657	7.703	7.220	13.651	10.340	6.776		44.455	150.187	
Eff: Avg NO3-N - Final Effluent (mg/L)	13.500	8.200	0.100	2.700	3.200	< 9.425	7.825	9.300	10.900	10.300	8.100	13.700		< 8.104	13.700	
Eff: # of samples of NO3-N - Final Effluent (mg/L)	1	1	1	1	1	4	4	2	1	1	1	1	19			
Eff: Avg NO2-N - Final Effluent (mg/L)	0.700	0.500	< 0.100	0.800	0.600	< 0.275	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.200		< 0.306	0.800	
Eff: # of samples of NO2-N - Final Effluent (mg/L)	1	1	1	1	1	4	4	2	1	1	1	1	19			
Disinfection:																
Eff: GMD E. Coli - Final Effluent (cfu/100mL)	11.269	41.088	69.300	103.079	11.240	14.149	10.367	12.408	19.492	61.289	96.978	51.720		41.865	103.079	200.0
Eff: # of samples of E. Coli - Final Effluent (cfu/100mL)	4	4	11	4	5	5	4	6	6	4	5	4	62			

Appendix B

Biosolids Quality Report

Ontario Clean Water Agency
 Biosolids Quality Report - Liquid
 Digester Type: ANAEROBIC
Solids and Nutrients

Facility: CARLETON PLACE WASTEWATER TREATMENT FACILITY
 Works: 5672
 Period: 01/01/2021 to 12/31/2021

Facility Works Number: 1.1000971E7
 Facility Name: CARLETON PLACE WASTEWATER TREATMENT FACILITY
 Facility Owner: Municipality: Town of Carleton Place
 Facility Classification: Class 3 Wastewater Treatment
 Receiver: Mississippi River
 Service Population: ---
 Total Design Capacity: ---
 Period Being Reported: 01/01/2021 12/01/2021

Note: all parameters in this report will be derived from the Bslq Station

Month	Total Sludge Hauled (m3)	Avg. Total Solids (mg/L)	Avg. Volatile Solids (mg/L)	Avg. Total Phosphorus (mg/L)	Ammonia (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	TKN (mg/L)	Ammonia + Nitrate (mg/L)	Potassium (mg/L)
Site	CARLETON PLACE WASTEWATER TREATMENT FACILITY									
Station	Bslq Station only									
Parameter Short Name	HauledVol	TS	VS	TP	NH3p_NH4p_N	NO3-N	NO2-N	TKN	calculation in report - no T/S	K
T/s	IH Month.Total	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean		Lab Published Month Mean
Jan		30,300.000	17,900.000	823.000	586.000	1.000	1.000	1,580.000	293.500	71.000
Feb		27,000.000	15,000.000	1,050.000	720.000	1.000	1.000	1,880.000	360.500	49.100
Mar		26,650.000	17,900.000	1,275.000	871.000	0.100	0.100	2,235.000	435.550	64.650
Apr		21,133.333	11,633.333	685.667	765.667	1.033	0.100	1,383.333	383.350	61.567
May		23,100.000	13,200.000	901.000	748.500	0.550	0.550	1,440.000	374.525	55.650
Jun		20,700.000	11,100.000	800.000	614.500	1.000	1.000	1,162.000	307.750	46.950
Jul		26,600.000	14,000.000	1,021.000	526.000	1.000	1.000	1,420.000	263.500	51.250
Aug		28,350.000	14,700.000	911.000	567.500	1.000	1.000	1,400.000	284.250	46.200
Sep		25,550.000	13,350.000	650.500	385.000	1.000	1.000	1,033.000	193.000	38.750

Ontario Clean Water Agency
 Biosolids Quality Report - Liquid
 Digester Type: ANAEROBIC
Metals and Criteria

Facility: CARLETON PLACE WASTEWATER TREATMENT FACILITY
 Works: 5672
 Period: 01/01/2021 to 12/31/2021

Note: all parameters in this report will be derived from the Bslq Station

Month	Arsenic (mg/L)	Cadmium (mg/L)	Cobalt (mg/L)	Chromium (mg/L)	Copper (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Lead (mg/L)	Selenium (mg/L)	Zinc (mg/L)
Site	CARLETON PLACE WASTEWATER TREATMENT FACILITY										
Station	Bslq Station only										
Parameter Short Name	As	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Zn
T/s	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean
Jan	0.100	0.030	0.060	0.670	18.900	0.026	0.210	0.450	0.400	0.100	17.900
Feb	0.100	0.030	0.030	0.340	10.400	0.039	0.100	0.210	0.200	0.100	8.900
Mar	0.100	0.030	0.040	0.395	12.050	0.010	0.115	0.265	0.200	0.100	10.750
Apr	0.100	0.030	0.033	0.340	10.100	0.009	0.077	0.243	1.533	0.100	9.337
May	0.100	0.030	0.035	0.370	9.175	0.008	0.085	0.220	0.300	0.100	8.290
Jun	0.100	0.030	0.040	0.330	9.310	0.009	0.085	0.210	0.350	0.100	8.530
Jul	0.100	0.030	0.045	0.555	11.950	0.012	0.125	0.285	0.350	0.100	13.000
Aug	0.075	0.030	0.045	0.400	10.550	0.009	0.100	0.230	0.300	0.100	10.925
Sep	0.100	0.030	0.045	0.365	10.420	0.019	0.110	0.215	0.200	0.100	10.750
Oct	0.100	0.030	0.035	0.450	12.900	0.009	0.125	0.295	0.350	0.100	13.350
Nov	0.100	0.030	0.030	0.315	8.500	0.005	0.090	0.270	0.400	0.100	7.835
Dec	0.100	0.030	0.030	0.305	10.850	0.014	0.090	0.235	0.300	0.100	8.350
Average	0.098	0.030	0.039	0.403	11.259	0.014	0.109	0.261	0.407	0.100	10.660
Min. Acceptable Ammonia + Nitrate Nitrogen to Metal Ratio	100.000	500.000	50.000	6.000	10.000	1,500.000	180.000	40.000	15.000	500.000	4.000

Ontario Clean Water Agency
 Biosolids Quality Report - Liquid - Based on Last 4 Samples
 Digester Type: ANAEROBIC

Facility: CARLETON PLACE WASTEWATER TREATMENT FACILITY
 Works: 5672
 Period: 01/01/2021 to 12/31/2021

Note: all parameters in this report will be derived from the Bslq Station

Parameter Short Name	Time Series	11/09/2021	11/16/2021	12/07/2021	12/21/2021	Average	Metal Concentrations in Sludge (mg/kg):	Max. Permissible Metal Concentrations (mg/kg of Solids):
As (mg/L)	Lab Published	0.100	0.100	0.100	0.100	0.100	4.520	170
Cd (mg/L)	Lab Published	0.030	0.030	0.030	0.030	0.030	1.356	34
Co (mg/L)	Lab Published	0.030	0.030	0.030	0.030	0.030	1.356	340
Cr (mg/L)	Lab Published	0.470	0.160	0.230	0.380	0.310	14.011	2800
Cu (mg/L)	Lab Published	11.300	5.700	8.600	13.100	9.675	437.288	1700
Hg (mg/L)	Lab Published	0.005	0.004	0.007	0.020	0.009	0.407	11
Mo (mg/L)	Lab Published	0.130	0.050	0.070	0.110	0.090	4.068	94
Ni (mg/L)	Lab Published	0.390	0.150	0.210	0.260	0.253	11.435	420
Pb (mg/L)	Lab Published	0.700	0.100	0.200	0.400	0.350	15.819	1100
Se (mg/L)	Lab Published	0.100	0.100	0.100	0.100	0.100	4.520	34
Zn (mg/L)	Lab Published	11.200	4.470	6.200	10.500	8.093	365.785	4200
E. Coli: Dry Wt (cfu/g)	Lab Published						E.Coli average is the GMD	
TS (mg/L)	Lab Published	19,500.000	14,400.000	26,700.000	27,900.000	22,125.000		
VS (mg/L)	Lab Published	11,400.000	8,500.000	13,000.000	15,100.000	12,000.000		
TP (mg/L)	Lab Published	708.000	420.000	572.000	736.000	609.000		
NO2-N (mg/L)	Lab Published	1.000	1.000	1.000	1.000	1.000		
TKN (mg/L)	Lab Published	1,220.000	971.000	1,180.000	1,370.000	1,185.250		
K (mg/L)	Lab Published	47.000	40.800	48.800	59.000	48.900		
NH3p_NH4p_N (mg/L)	Lab Published	522.000	433.000	497.000	556.000	502.000		
NO3-N (mg/L)	Lab Published	1.000	1.400	1.000	1.000	1.100		

Appendix C

Calibration Records

Carleton Place WWTP

2021 OCM Calibrations

	<h1>CALIBRATION REPORT</h1>	Report No.: OCWA CP FIT M1
		Date: 18-Oct-21

SITE: Carleton Place WWTP
PROCESS AREA: Bypass Flowmeter
INSTR. TAG: FIT M1
MANUFACTURER: Milltronics
MODEL: Multiranger Plus
SERIAL No.:
INSTR. RANGE:

SERVICE DATE: October 18, 2021

TECHNICIAN: Mitch Manley

JOB REFERENCE: OCWA CP

Input (Test)		Output (Signal)		Output (Process)		
Type:	Head meters	Type or EGU:	mA	m3/day	m3/day	
Min:	0.00	Min:	4.00	0	0	
Max:	0.30	Max:	20.00	1515	15150	
Weir Width (m)	0.61	X10				
exponent	1.5					
calc constant	9220.00					
			Before Calibration		After Calibration	
Input	Calc flowX10	Calc. O/P	Output	%Error	Output	%Error
0.0000	0	4.00	4.01	0.05%	4.01	0.25%
0.1230	398	8.20	8.24	0.94%	8.24	0.94%
0.1900	764	12.06	12.11	0.57%	12.11	0.57%
0.2430	1104	15.66	15.73	0.57%	15.73	0.57%
0.3030	1538	20.24	20.07	-1.05%	20.07	-1.05%

Calibration Equipment			
Type:	Tape Measure / level blocks	DMM	
Manufacturer:		Fluke	
Model:		Model 87	
Serial No.:		13440128	
Last Cal. Date:		Mar. 12, 2021	

Comments: Equation used for calculation is as transmitter was programmed (slightly off ISCO Table)
 unable to access confined space to check zero. Empty Distance 76cm

	<h1>CALIBRATION REPORT</h1>	Report No.: OCWA CP FIT M3
		Date: 18-Oct-21

SITE: Carleton Place WWTP
PROCESS AREA: BIO Plant Flowmeter
INSTR. TAG: FIT M3
MANUFACTURER: Milltronics
MODEL: Multiranger Plus
SERIAL No.: 100592
INSTR. RANGE:

SERVICE DATE: October 18, 2021
TECHNICIAN: Mitch Manley
JOB REFERENCE: OCWA CP

Input (Test)		Output (Signal)		Output (Process)		
Type:	Head meters	Type or EGU:	mA	m3/day	m3/day	
Min:	0.00	Min:	4.00	0	0.00	
Max:	0.60000	Max:	20.00	1381	13810.00	
Weir Width	6 inch	X10				
exponent	1.55					
calc constant	3048.00					
		Before Calibration		After Calibration		
Input	Calc flow	Calc. O/P	Output	%Error	Output	%Error
0.0000	0	4.00	4.00		4.00	
0.1000	86	5.00	4.99	-0.53%	4.99	-0.53%
0.2000	252	6.91	6.90	-0.49%	6.90	-0.49%
0.3000	472	9.46	9.42	-0.80%	9.42	-0.80%
0.4000	737	12.53	12.53	-0.04%	12.53	-0.04%
0.5000	1041	16.06	16.02	-0.33%	16.02	-0.33%
0.6000	1381	20.00				

Calibration Equipment			
Type:	Tape Measure / level blocks	DMM	
Manufacturer:		Fluke	
Model:		Model 87	
Serial No.:		134409128	
Last Cal. Date:		Apr. 1, 2019	

Comments: Equation used for calculation is as transmitter was programmed (slightly off ISCO Table)
 Please confirm if there is a separate factory calibration records for this flume or if unit should be adjusted to match a standard Parshall flume.

	<h1>CALIBRATION REPORT</h1>	Report No.: OCWA CP FIT M4
		Date: 18-Oct-21

SITE: Carleton Place WWTP
PROCESS AREA: Physical Chemical Flowmeter
INSTR. TAG: FIT M4
MANUFACTURER: Milltronics
MODEL: Multiranger Plus
SERIAL No.: 100292
INSTR. RANGE:

SERVICE DATE: October 18, 2021
TECHNICIAN: Mitch Manley
JOB REFERENCE: OCWA CP

Input (Test)		Output (Signal) (Process)				
Type:	Head meters	Type or EGU:	mA	m3/day	m3/day	
Min:	0.00	Min:	4.00	0	0	
Max:	0.12	Max:	20.00	400	4000	
Weir Width (m)	0.61	X10				
exponent	1.5					
calc constant	9295.28					
			Before Calibration		After Calibration	
Input	Calc flowX10	Calc. O/P	Output	m3/d	Output	m3/day
0.0000	0	4.00	4.02		4.02	
distance						
0.1000			15.73	294.1	15.73	294.1
0.0500			8.27	105.9	8.27	105.9

Calibration Equipment			
Type:	Tape Measure / level blocks	DMM	
Manufacturer:		Fluke	
Model:		Model 87	
Serial No.:		13440128	
Last Cal. Date:		Mar. 12, 2021	

Comments: not sure if the meter is actually in service, loop was open 2018. Unsure if zeroes are correct as there are 3 gat valves that have to be set exactly at zero point for meter to have a chance of reading correctly.

	<h1>CALIBRATION REPORT</h1>	Report No.: OCWA CP 21 MAG M5 Ras
		Date: Oct. 18, 2021

SITE: Carleton Place WWTP
PROCESS AREA: Meter Flow
INSTR. TAG: MAG M5 Ras
MANUFACTURER: F & P
MODEL: G5PDNSPB31AD1C11
SERIAL No.: 920882054/2/B1
OCWA No: 0000108193

SERVICE DATE: Oct. 18, 2021
TECHNICIAN: Mitch Manley
JOB REFERENCE: OCWA CP 21

Input (Test)		Output (Signal)		Output (Process)		
Type:	55XC4310A	Type or EGU:	mA		m3/hr	
Min:	0.00	Min:	4.00		0.00	
Max:	2.393	Max:	20.00		583.33	
Meter Size (inch)	12					
Range Unit	m3/hr					
Cal. Factor	2438.160					
			Before Calibration		After Calibration	
Input (Y pos)	Input %	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0.00%	4.00	3.98	-0.50%	3.98	-0.50%
0.60	25.01%	8.00	7.95	-0.62%	7.95	-0.62%
1.20	50.01%	12.00	11.93	-0.58%	11.93	-0.58%
1.79	75.02%	16.00	15.82	-1.12%	15.82	-1.12%
2.39	100.02%	20.00	19.80	-1.00%	19.80	-1.00%

Calibration Equipment			
Type:	Simulator	DMM	
Manufacturer:	F & P	Fluke	
Model:	55XC4130A	Model 87	
Serial No.:	9702N8271/C6	13440128	
Last Cal. Date:		Mar. 12, 2021	

Comments:
 Low cutoff 1%

	CALIBRATION REPORT	Report No.:	OCWA CP 21	MAG M2
			Date:	Oct. 18, 2021

SITE:	Carleton Place WWTP	SERVICE DATE:	Oct. 18, 2021
PROCESS AREA:	Meter Flow Raw Sewage	TECHNICIAN:	Mitch Manley
INSTR. TAG:	MAG M2	JOB REFERENCE:	OCWA CP 21
MANUFACTURER:	F & P		
MODEL:	10D1465QBTD65PD21PM31A		
SERIAL No.:	9208-2054/B1/1C11		
OCWA No:	0000108193		

Input	(Test)	Output	(Signal)	(Process)		
Type:	55XC4310A	Type or EGU:	mA	m3/hr		
Min:	0.00	Min:	4.00	0.00		
Max:	3.788	Max:	20.00	1250.00		
Meter Size (inch)	14					
Range Unit	m3/hr					
Cal. Factor	3300.000					
			Before Calibration	After Calibration		
Input (Y pos)	Input %	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0.00%	4.00	3.98	-0.50%	3.98	-0.50%
0.95	25.08%	8.01	8.01	0.00%	8.01	0.00%
1.89	49.90%	11.98	11.99	0.08%	11.99	0.08%
2.84	74.98%	16.00	16.02	0.12%	16.02	0.12%
3.79	100.06%	20.01	20.06	0.25%	20.06	0.25%

Calibration Equipment			
Type:	Simulator	DMM	
Manufacturer:	F & P	Fluke	
Model:	55XC4130A	Model 87	
Serial No.:	9702N8271/C6	13440128	
Last Cal. Date:		Mar. 12, 2021	

Comments:
 Low flow cutoff 1%

	<h1>CALIBRATION REPORT</h1>	Report No.: OCWA CP 21 WAS
		Date: Oct. 18, 2021

SITE: Carleton Place WWTP
PROCESS AREA: Meter Flow WAS
INSTR. TAG: WAS
MANUFACTURER: F & P
MODEL: 65PD17PB21AD1C11
SERIAL No.: 920882054/2/B1
OCWA No: 0000108156

SERVICE DATE: Oct. 18, 2021
TECHNICIAN: Mitch Manley
JOB REFERENCE: OCWA CP 21

Input (Test)		Output (Signal)		Output (Process)		
Type:	55XC4310A	Type or EGU:	mA		m3/hr	
Min:	0.00	Min:	4.00		0.00	
Max:	2.461	Max:	20.00		150.00	
Meter Size (inch)	14					
Range Unit	m3/hr					
Cal. Factor	609.540					
			Before Calibration		After Calibration	
Input (Y pos)	Input %	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0.00%	4.00	3.98	-0.50%	3.98	-0.50%
0.63	25.60%	8.10	8.04	-0.74%	8.04	-0.74%
1.25	50.80%	12.13	12.04	-0.74%	12.04	-0.74%
1.88	76.40%	16.22	16.09	-0.80%	16.09	-0.80%
2.50	101.59%	20.25	20.10	-0.74%	20.10	-0.74%

Calibration Equipment			
Type:	Simulator	DMM	
Manufacturer:	F & P	Fluke	
Model:	55XC4130A	Model 87	
Serial No.:	9702N8271/C6	13440128	
Last Cal. Date:		Mar. 12, 2021	

Comments: Total 389478 m3
 Low flow cutoff 9%

Flowmeter Verification Certificate Transmitter

OCWA Carleton Place

Customer

Raw Sludge to Primarys

Order code

PROMAG 50 W DN150

Device type

7A0F6319000

Serial number

V2.01.03

Software Version Transmitter

18.10.2021

Verification date

Carleton Place WWTP

Plant

PRIMARYS

Tag Name

1.0797 - 1.0797

K-Factor

0

Zero point

V1.04.00

Software Version I/O-Module

15:12

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.55 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

FieldCheck Details

550149

Production number

1.07.10

Software Version

03/2021

Last Calibration Date

Simubox Details

8737370

Production number

1.00.01

Software Version

09/2018

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	OCWA Carleton Place	Plant	Carleton Place WWTP
Order code	Raw Sludge to Primarys	Tag Name	PRIMARYS
Device type	PROMAG 50 W DN150	K-Factor	1.0797 - 1.0797
Serial number	7A0F6319000	Zero point	0
Software Version Transmitter	V2.01.03	Software Version I/O-Module	V1.04.00
Verification date	18.10.2021	Verification time	15:12

Verification Flow end value (100 %): 4.241 m3/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	0.212 m3/m (5%)	1.50 %	-0.54 %
✓		0.424 m3/m (10.0%)	1.00 %	-0.52 %
✓		2.121 m3/m (50.0%)	0.60 %	-0.13 %
✓		4.241 m3/m (100%)	0.55 %	-0.05 %
	Current Output 1			
✓		4.000 mA (0%)	0.05 mA	0.004 mA
✓		4.800 mA (5%)	0.05 mA	0.004 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.009 mA
✓		12.000 mA (50.0%)	0.05 mA	0.007 mA
✓		20.000 mA (100%)	0.05 mA	0.017 mA
—	Pulse Output 1	---	---	---
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	9.600 ms	0.000..21.500 ms	12.375 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..300.001 mV	6.521 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	OCWA Carleton Place	Plant	Carleton Place WWTP
Order code	Raw Sludge to Primarys	Tag Name	PRIMARYS
Device type	PROMAG 50 W DN150	K-Factor	1.0797 - 1.0797
Serial number	7A0F6319000	Zero point	0
Software Version Transmitter	V2.01.03	Software Version I/O-Module	V1.04.00
Verification date	18.10.2021	Verification time	15:12

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA active	0.0 m3/m	2.28 m3/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.019 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

121.0

Flowmeter Verification Certificate Transmitter

OCWA Carleton Place

Customer

Secondary Sludge TXFR

Order code

PROMAG 50 W DN150

Device type

43009716000

Serial number

V2.01.03

Software Version Transmitter

18.10.2021

Verification date

Carleton Place WWTP

Plant

SLUDMET

Tag Name

1.0231 - 1.0231

K-Factor

5

Zero point

V1.04.00

Software Version I/O-Module

15:49

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.55 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

FieldCheck Details

550149

Production number

1.07.10

Software Version

03/2021

Last Calibration Date

Simubox Details

8737370

Production number

1.00.01

Software Version

09/2018

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	OCWA Carleton Place	Plant	Carleton Place WWTP
Order code	Secondary Sludge TXFR	Tag Name	SLUDMET
Device type	PROMAG 50 W DN150	K-Factor	1.0231 - 1.0231
Serial number	43009716000	Zero point	5
Software Version Transmitter	V2.01.03	Software Version I/O-Module	V1.04.00
Verification date	18.10.2021	Verification time	15:49

Verification Flow end value (100 %): 4.241 m3/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	0.212 m3/m (5%)	1.50 %	-0.51 %
✓		0.424 m3/m (10.0%)	1.00 %	-0.04 %
✓		2.121 m3/m (50.0%)	0.60 %	0.01 %
✓		4.241 m3/m (100%)	0.55 %	0.08 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.003 mA
✓		4.800 mA (5%)	0.05 mA	0.003 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.011 mA
✓		12.000 mA (50.0%)	0.05 mA	0.006 mA
✓		20.000 mA (100%)	0.05 mA	0.018 mA
—	Pulse Output 1	---	---	---
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	9.600 ms	0.000..21.500 ms	12.087 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..300.001 mV	13.054 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	OCWA Carleton Place	Plant	Carleton Place WWTP
Order code	Secondary Sludge TXFR	Tag Name	SLUDMET
Device type	PROMAG 50 W DN150	K-Factor	1.0231 - 1.0231
Serial number	43009716000	Zero point	5
Software Version Transmitter	V2.01.03	Software Version I/O-Module	V1.04.00
Verification date	18.10.2021	Verification time	15:49

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA active	0.0 m3/m	2.27 m3/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.019 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

121.0