

2025

**Clarkson Water Resource
Recovery Facility annual report**



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Clarkson Water Resource Recovery Facility annual report

The Regional Municipality of Peel (Peel) is committed to providing a high level of service in the collection, treatment, and management of wastewater. Peel diligently monitors its sewer network and operates its treatment processes effectively to meet or surpass discharge quality criteria, to protect the environment now and into the future.

Our commitment

- Protecting and preserving the environment, including the prevention of pollution, through effective operation and management of the Wastewater Systems that incorporates quality assurance and control practices
- Acting promptly and responsibly in addressing incidents or conditions that pose a risk to the public or environment
- Collaborating with internal and external stakeholders to ensure our services consider their environmental and quality concerns

If you have any questions about this report, please contact the Wastewater Compliance team at 905-791-7800 extension 4685 or email at publicworkscustserv@peelregion.ca.

Executive summary

The Clarkson Water Resource Recovery Facility (WRRF) is located at 2307 Lakeshore Road West in Mississauga, on the shore of Lake Ontario. The facility is designed to treat an average flow of 350 MLD (million liters per day). The Clarkson WRRF is a class 4 wastewater treatment facility under [Ontario Regulation 129/04](#). This facility was operated under Environmental Compliance Approval (Approval) number A-500-1916534864 issued June 13, 2024, and subsequently amended March 19, 2025, and April 17, 2025.

This report summarizes the monitoring results for the Clarkson WRRF required by the Approval and describes the operational performance to ensure production of quality effluent.

In 2025, Peel met the capacity limits prescribed in the Approval. The annual average daily flow to the plant was **212 million litres**, which is **61%** of the rated capacity specified in the Approval.

Throughout 2025, the Clarkson WRRF met the final effluent concentration limits for Total Suspended Solids (TSS), Carbonaceous Biochemical Oxygen Demand (CBOD₅), Total Phosphorous (TP), Total Ammonia Nitrogen (TAN), and *E. coli*, and maintained pH within the range of 6.0 to 9.5, as prescribed in the Approval. There were short periods of disinfection interruption of the final effluent. The requirements and results are detailed in Section [4.2](#) of this report.

There were no bypasses in 2025 at the Clarkson WRRF and nine spill events, as described in section [4.11](#).

In 2025, the Clarkson WRRF generated **9,646** dry tonnes of sludge cake; **4,141** dry tonnes were sent to nearby G. E. Booth WRRF for incineration, and **5,505** dry tonnes were sent for beneficial use. The results are detailed in section [4.9](#) of this report.

2025 Summary

Peel Region

Brampton, Caledon, and Mississauga

1.58 million
residents

200,000
businesses

provided with water and wastewater services

Clarkson Water Resource Recovery Facility



\$15 million

Capital improvement expenditure



33%

of Peel's total wastewater treated at Clarkson

77

billion litres treated

Equal to volume of

85

Olympic size swimming pools per day



3,344

samples analyzed

100%

final effluent quality limits met



99.97%

of wastewater underwent complete treatment



12

licensed operators

Maintain and operate the Clarkson facility

Glossary of terms and abbreviations

Activated sludge: Sludge containing aerobic microorganism that help to break down organic compounds.

Final effluent: The treated wastewater that has undergone all treatment steps, including disinfection, when prescribed.

Influent: The untreated wastewater or raw sewage coming into the sewage treatment plant from the collection system.

Limit: Value prescribed in Approval for key parameters that the plant must meet in order to stay in compliance. Limits are slightly less restrictive than objectives.

ML: megalitres. 1 megalitre equals 1 million litres.

MLD: megalitres per day

m³: cubic meters. 1 cubic metre equals 1000 litres.

Objective: Value prescribed in Approval for key parameters that the plant is designed to meet. Consistently not meeting objectives means that the plant is not being effective and long-term remedial actions are needed. Sampling results that are over objective but under limit are considered in compliance.

Parameter: Chemical substances (such as phosphorus or oxygen), microbiological indicators (such as *E. coli*) or physical characteristics (such as pH or temperature) that are measured or sampled and analyzed in order to assess the performance of a plant. Some parameters have limits in the Approval.

Rated capacity: Average annual daily influent flow that the plant is designed to handle.

Residual: Remaining amount of a substance after treatment processes are completed.

Twinning: Constructing a parallel pipe to provide additional capacity and to allow for condition assessment and rehabilitation of the existing pipe to extend its useful life.

Wastewater: Water that has been used and discharged by homes, businesses and industries. Everything we flush down a toilet or pour down a drain, collectively.

WRRF: Water Resource Recovery Facility. Directly contributes to a circular economy by producing clean water, nutrients, renewable energy and other valuable bio-based materials from wastewater.

1. Water management in Peel Region

Peel owns the water and wastewater systems that serve its population. This includes water treatment, storage and distribution, and wastewater collection, pumping and treatment.

Peel has two drinking water sources: Lake Ontario and groundwater wells in Caledon. Peel retains services of the Ontario Clean Water Agency (OCWA) under a contract to operate, maintain and manage the lake-based drinking water treatment facilities and its water storage and pumping system. Peel operates the groundwater-based water treatment systems and distribution watermain networks. Similarly, on the wastewater side, OCWA is contracted to operate the large wastewater treatment plants on the shore of Lake Ontario, while Peel operates the wastewater collection system, pumping stations, and the treatment facility in the community of Inglewood, in the Town of Caledon.

This water cycle, shown in [Figure 1](#), starts when source water is pumped into our water treatment plants and undergoes treatment to meet the [Ontario Drinking Water Quality Standards](#). Treated drinking water is distributed through a network of pipes, storage facilities and pumping stations to homes and businesses. Used water goes down the drains into the wastewater collection system, where a series of pipes collect and convey wastewater to the treatment plants. Although a predominantly gravity-based network, pumping stations are needed to move wastewater from low lying areas. Wastewater undergoes multi-stage treatment to comply with the strict provincial and federal standards before release to the environment. Peel is committed to high standards of treated wastewater quality since it gets discharged into Lake Ontario, which is the source of drinking water for Peel and many neighbouring municipalities.

Figure 1. Water and Wastewater Cycle



For more information, refer to the **Error! Hyperlink reference not valid.** for our other wastewater systems and our **Error! Hyperlink reference not valid.** to learn about water treatment and distribution.

2. Introduction

Wastewater systems in Ontario are governed by the Ministry of the Environment, Conservation and Parks (the Ministry) and are also subject to federal legislation.

The purpose of a wastewater treatment system is to remove solids and nutrients to minimize impact from the effluent on the receiving waterbody. The Environmental Compliance Approval (Approval), issued under the Ontario [Environmental Protection Act](#), is a facility-specific document through which the Ministry sets discharge quality limits for that facility based on the sensitivity of the receiving waters. To comply with the Approval, Peel prepares an annual report covering the operation and overall performance of the wastewater system.

This report provides a performance summary for the period from January 1 to December 31, 2025, for the Clarkson Water Resource Recovery Facility (WRRF), to fulfill the annual performance reporting requirements set out in its Approval documents.



The Clarkson WRRF, deemed a class 4 wastewater treatment facility under [Ontario Regulation 129/04](#), is located at 2307 Lakeshore Road West in Mississauga and operated on behalf of Peel by the Ontario Clean Water Agency (OCWA). Today, along with the G.E. Booth WRRF, Clarkson WRRF provides wastewater treatment for a population base of over 1.58 million customers. The Clarkson WRRF consists of conventional and biosolids treatment processes and is designed to treat (referred to as rated capacity) an average flow of 350 MLD (million liters per day).

2.1 Compliance

The Approval is a facility-specific document and is the legal instrument that sets requirements for municipal system owners and operating agencies with regards to operation and management, level of treatment, monitoring and recording, routine and event reporting, and effluent quality notification. In accordance with the Approval, major changes to treatment process or equipment are communicated to the Ministry.

Peel ensures that the final effluent produced, and activities associated with wastewater treatment comply with the Approval and related legislation. Peel follows best practices in resource planning, process documentation and emergency preparedness.

The Ministry performs periodic inspections on all wastewater systems, comprised of facility visits and review of information and data for the inspection period. Inspection scope generally covers procedural documentation review, staff competency, process operation and monitoring, and corrective actions to operational events. Peel is committed to ensuring environmental protection and compliance with legislative requirements. We maintain transparency by reporting all findings of potential non-compliance incidents and outcomes of internal assessment to the Ministry Local district office. For more information refer to [section 5.1](#).

2.2 Monitoring

Peel has an extensive sampling and monitoring program to assess the influent wastewater, ensure effective treatment processes, and assess the quality of treated wastewater (final effluent) being discharged to protect Lake Ontario, and to maintain compliance with limits prescribed in the Approval. Sampling for various microbiological, chemical, and physical parameters is performed by Ministry-licensed wastewater operators at various sampling points throughout the process and submitted to an accredited laboratory for analysis.

Clarkson WRRF is controlled through a computerized supervisory control and data acquisition (SCADA) system that is monitored 24 hours per day, 7 days a week. Online analyzers continuously monitor the wastewater treatment processes parameters, prior to release. Significant process upset generates an alarm so staff

can investigate and take appropriate actions to restore normal operational conditions. The plant is equipped with stand-by power generators to ensure critical equipment can continue to operate in the event of a power failure.

3. Plant process overview

Wastewater is collected from homes and industry through a system of underground sewer pipes known as the **collection system**. The vast majority of wastewater collected in the Peel flows by gravity to one of the two wastewater treatment facilities on the shore of Lake Ontario, Clarkson and G.E. Booth WRRFs. The Clarkson WRRF also receives hauled liquid sewage, which is pumped into the inlet chamber upstream of the raw sewage screens.

When untreated wastewater (influent) enters the treatment process, it goes through **preliminary treatment**, where **screens** remove large objects like wipes and personal hygiene products and a vortex removes small grit particles. [Figure 2](#) illustrates the wastewater treatment process.

The wastewater then enters **primary treatment** tanks (clarifiers), where it flows slowly, allowing heavier suspended solid particles to settle at the bottom and lighter material (such as grease and scum) to float to the top. Treatment aids such as phosphorus removal chemical may be added at this stage. The floating material and settled sludge are skimmed by large moving collectors and then pumped to the digesters for treatment. The remaining water flows to aeration tanks for secondary treatment.

Secondary treatment occurs in two stages to convert organic solids that remain floating to settleable material. The first stage happens in large **aeration tanks** where air is bubbled up via diffusers to provide oxygen so that the microorganisms in the wastewater will break down the nutrients and organic matter. The second stage happens in **secondary clarifiers**, where the microorganisms settle to the bottom. The sludge from the bottom is collected and pumped to the **solids handling process** for treatment and a portion of the sludge is returned to the aeration tanks to supplement the microorganism population.

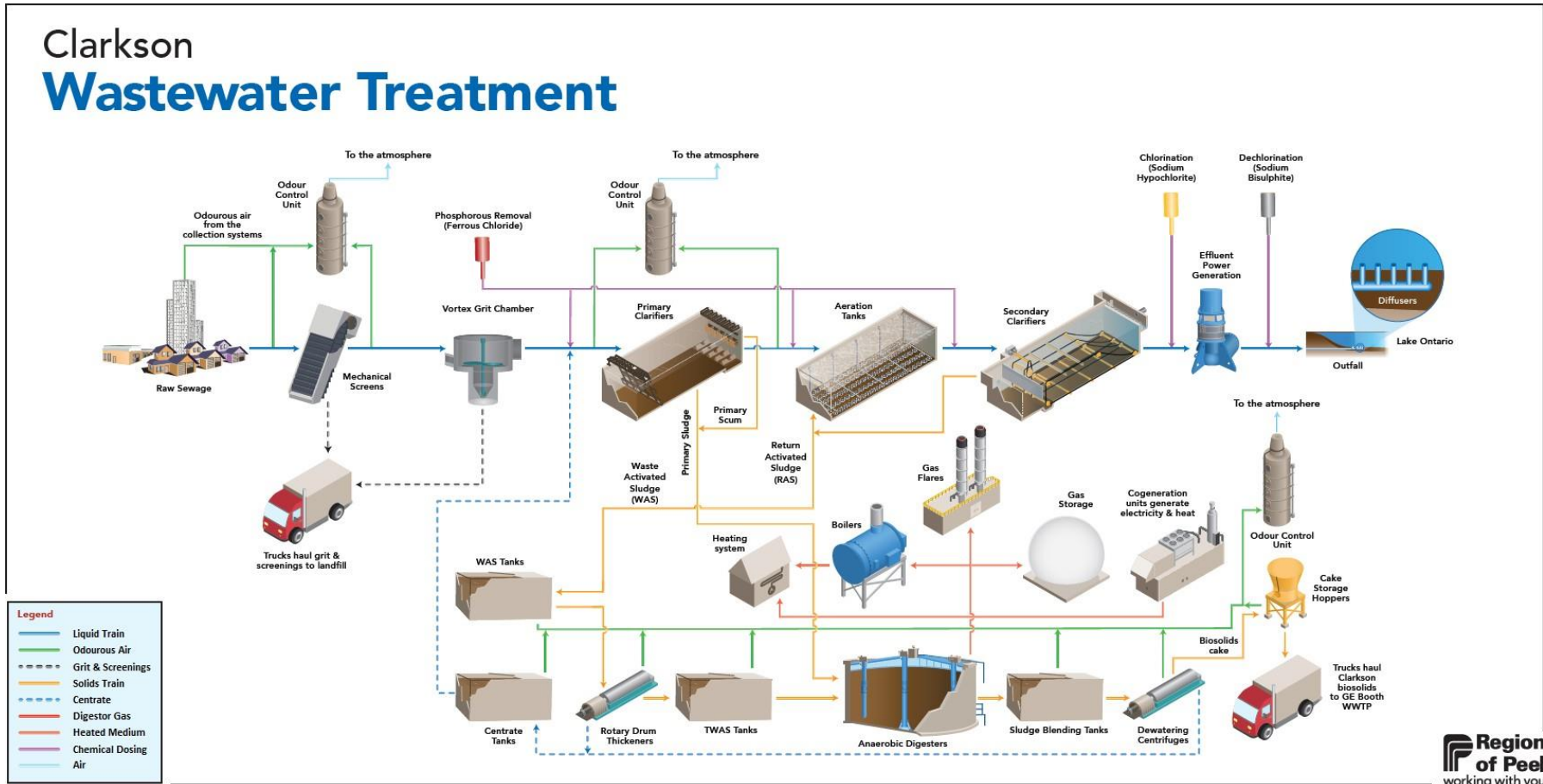
Treated wastewater (effluent) is **disinfected** seasonally, from June 1 to September 30, using liquid chlorine (sodium hypochlorite) to reduce pathogen content to acceptable levels. Chlorine needs time to exert its disinfection action. This contact time occurs while the effluent travels through the 2.2 km long outfall pipe. Any trace chlorine remaining in the effluent is removed using a dechlorination agent (sodium bisulphite) added near the end of the outfall pipe,

prior to release of the final effluent to Lake Ontario. Final effluent quality is tested to confirm compliance with the limits set out in the Approval.

Sludge collected from the secondary treatment process is sent to the **solids handling process** where it is thickened, digested (together with sludge from the primary treatment process) and dewatered. To aid in thickening and dewatering, a chemical compound called polymer is added. Stabilization occurs through anaerobic (in the absence of oxygen) digestion, followed by dewatering. Digestion reduces the total solids, destroys pathogens, and makes the sludge easier to dewater. Gas generated from the anaerobic sludge digestion process is collected and used as a fuel for the hot water boilers and co-generation unit to generate power for use within the Clarkson WRRF.

Once stabilized, the sludge material (called sludge cake) generated at the Clarkson WRRF is hauled offsite for final disposal. Sludge cake is hauled to one of several receivers: the nearby G.E. Booth WRRF for incineration or directed for beneficial use application. Peel is working on sustainable management practices for maximizing the beneficial use of its biosolids.

Figure 2. Clarkson wastewater treatment process



4. Operational performance

4.1 Summary of influent monitoring data

This section summarizes the influent characteristics for Clarkson WRRF. [Table 1](#) summarizes monthly influent volumes and monthly average concentrations of analytical parameters for 2025. For a description of what each test parameter means, see [Appendix A](#) - Summary of tested wastewater parameter information.

Table 1. Influent flow and monthly average sampling results

Month	Maximum flow (MLD) ¹	Average flow (MLD)	BOD ₅ (mg/L)	CBOD ₅ (mg/L)	TKN (mg/L)	TP (mg/L)	TSS (mg/L)
January	243.3	201.1	176	166	38	3.9	159
February	231.0	190.2	191	168	39	4.2	166
March	350.5	242.5	166	160	30	2.9	155
April	480.7	230.6	313	238	34	3.8	214
May	295.0	217.1	258	237	39	4.2	242
June	239.8	211.7	267	247	42	4.8	230
July	245.1	218.9	273	217	38	5.3	207
August	273.9	224.4	246	226	37	4.5	208
September	255.9	221.7	199	190	36	4.2	191
October	222.4	205.4	219	195	36	4.3	178
November	210.9	192.9	204	196	35	4.3	163
December	327.0	184.3	258	215	33	4.5	138
Annual	N/A	211.9	232	205	36	4.2	188

Many factors affect changes in wastewater flow to treatment plants. These include precipitation (through inflow and infiltration of storm water into the wastewater collection system), existing ground moisture saturation, residential water usage practices, and industry activity. [Table 2](#) provides a summary of flows and

¹ Highest daily flow of the month

contaminant concentrations for the past six years and [Figure 3](#) illustrates historical flow trends from 2020 to 2025.

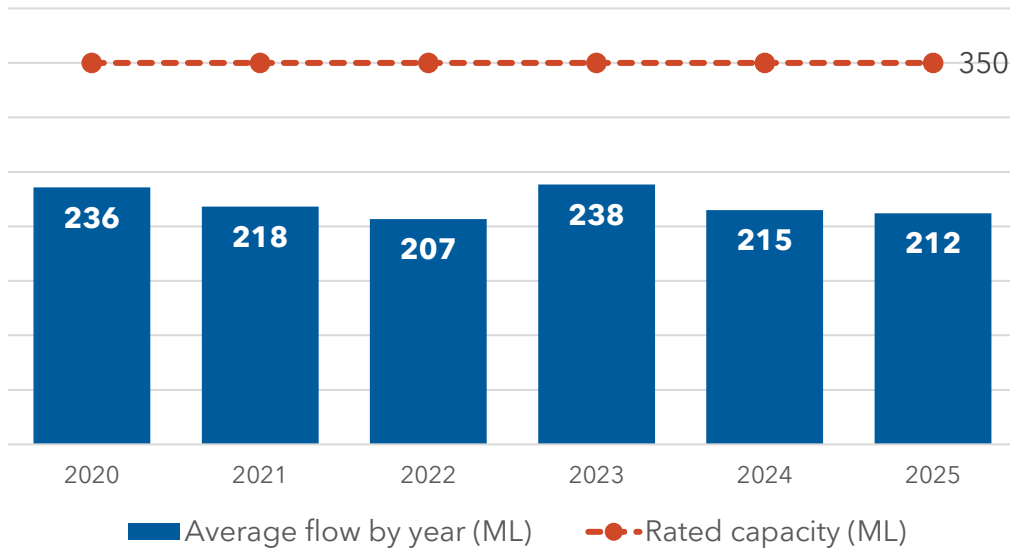
The concentrations are impacted by flows, as increased flows can dilute contaminants. When analysing trends, it is important to look at long term values for both flows and contaminant loading.

Table 2. Historical annual average influent flow and sampling results

Year	Flow (MLD)	BOD ₅ (mg/L)	CBOD ₅ (mg/L)	TKN (mg/L)	TP (mg/L)	TSS (mg/L)
2020	236	218	201	33	4.8	242
2021	218	239	216	33	5.2	230
2022	207	277	256	35	5.2	260
2023	238	287	255	34	4.8	251
2024	215	219	200	35	4.2	212
2025	212	232	205	36	4.2	188

In 2025, the annual average flow was 212 MLD, representing 61% of the annual rated capacity. This is in line with the annual volume in 2024.

Figure 3. Annual average flow 2020 to 2025



The Clarkson WRRF also accepts hauled liquid sewage, which is directed into the inlet chamber upstream of the raw sewage screens. Facility Approval outlines the requirement to collect a monthly grab sample of imported Sewage from a

hauler's truck and have it tested for BOD₅, Total Suspended Solids, Total Phosphorus, and Total Kjeldahl Nitrogen. A summary of characteristics and flow rates for the hauled sewage received are shown in [Table 3](#). The imported sewage flow is measured by haul truck manifests. Peel collects a sample from every load received, which exceeds the minimum monthly sampling requirement. However, for the month of May, the required sample was missed due to unforeseen staffing constraints. The event was identified and reported to the Ministry. Peel staff have reviewed the required sample collection and staffing needs to ensure ongoing compliance.

Table 3. Imported Sewage flow and monthly average sampling results

Month	Total flow (m ³)	Average flow (m ³)	BOD ₅ (mg/L)	TSS (mg/L)	TP (mg/L)	TKN (mg/L)
January	2671	86	1500	410	16	130
February	3027	108	140	91	5	45
March	2398	77	2600	15050	59	166
April	3169	106	1313	747	31	491
May	3036	98	-	-	-	-
June	2989	100	14350	11300	223	2390
July	5430	175	5235	8775	182	3400
August	2606	84	3227	1107	84	2103
September	2377	79	4533	10167	203	1973
October	2513	81	1510	7467	94	693
November ²	2271	76	2850	6575	169	1350
December	2127	69	5001	6650	52	110
Annual average		95	3850	6213	102	1168

4.2 Summary of final effluent monitoring data

For the 2025 reporting year, the final effluent met the Approval limits (whether single sample result, monthly or annual, as prescribed) except for the short

² The average does not include the November 6 samples, as they were analyzed using a solid-based analysis. The results for these samples were BOD: 13000 mg/L, TSS: 54000 mg/L, TP: 2600 mg/L, and TKN: 3050 mg/L.

interruptions in disinfection as mentioned below in [Table 4](#). These events were identified and reported to the Ministry.

The Approval requires effluent to be disinfected from June 1 to September 30. During that time, chlorine residual and bisulphite residual are tested at sampling points representative of final effluent.

Table 4. Disinfection interruption events

Date	Ministry Reference Number	Causes	Corrective actions
June 8	1-OK1CAB	Sodium hypochlorite flow to outfall dropped below 1L/hr and sodium bisulphite flow to outfall dropped below 5L/hr during preventive maintenance of the simulator equipment	Critical alarms put in place to trigger when flow drops below 1L/hr to improve notification and operator response. The Disinfection Operational Records Form was revised and issued to operators
June 17	1-OLDHR2	During troubleshooting of SBS tank level indicator, an inhibit alarm activated the disinfection system, resulting in sodium hypochlorite, sodium bisulphite and simulator equipment temporarily shut down, causing chemical flows to drop to zero	The system was reset on SCADA. Residual sampling was performed once the system was back online
July 1	1-O1E42	Temporary interruption of disinfection due to power outage	The equipment was reset and returned to auto mode. Residual sampling was performed once the system was back online
July 27 to 30	1-P8MDV4 1-P8OY74 1-P90ZHY 1-P98X64	Temporary interruption of disinfection due to a simulator pump fault associated with PLC programming issue	The equipment was troubleshoot, reset, and returned to auto mode. The plant effluent flow meter was re-calibrated and residual

Date	Ministry Reference Number	Causes	Corrective actions
			sampling was performed once the system was back online

A summary of final effluent test results and the Approval objectives (targets) and limits (requirements) are shown in [Table 5](#). CBOD₅, TSS, TP, TAN, and *E. coli* monthly mean values were below the Approval limits throughout the year (or during limit period, for *E. coli*). For a description of test parameters, see [Appendix A](#) - Summary of tested wastewater parameter information.

Table 5 Final effluent monthly average flow and sampling results

Month	Daily flow (MLD)	CBOD ₅ (mg/L)	TSS (mg/L)	TP (mg/L)	TP loading (kg/day)	Total ammonia nitrogen (mg/L)	pH (pH units)	<i>E. coli</i> ³ (CFU/100mL)	Bisulphite residual ⁴ (mg/L)
Objective	N/A	15	15	0.8	N/A	8.0 (May 1 - Oct 31) 16.0 (Nov 1 - Apr 30)	6.5 to 8.5	N/A	Detectable (Jun 1-Sep 30)
Limit	350	25	25	1	350	16.0 (May 1 - Jun 15) 12.8 (Jun 16 - Sep 15) 16.0 (Sep 16 - Oct 31) 30.0 (Nov 1 - Apr 30)	6.0 to 9.5	200 (Jun 1-Sep 30)	Detectable (Jun 1-Sep 30)
Compliance calculator ⁵	Annual average	Annual average	Annual average	Monthly average	Annual average	Monthly	Single sample	Geometric mean monthly	Single sample
January	201.1	4.8	5.8	0.5	92	2.8	6.9	11641	N/A
February	190.2	4.3	6.6	0.4	76	3.6	6.7	27385	N/A
March	242.5	4.1	6.4	0.3	61	7.1	7.0	7884	N/A
April	230.6	4.8	5.0	0.3	59	10.2	7.0	18638	N/A
May	217.1	5.2	5.6	0.4	82	9.3	6.9	2206	2.28
June	211.7	3.8	7.2	0.4	77	7.3	6.9	7	1.56
July	218.9	3.7	4.7	0.4	82	11.5	6.9	12	1.85
August	224.4	2.2	4.0	0.5	119	5.3	6.8	5	1.49
September	221.7	2.6	5.0	0.5	99	7.2	6.7	24	1.66
October	205.4	5.6	7.7	0.4	82	2.0	6.9	21190	N/A
November	192.9	4.9	4.7	0.3	57	4.2	6.8	11188	N/A
December	184.3	5.7	5.9	0.4	79	3.1	6.8	6589	N/A
Annual Avg	211.9	4.3	5.7	0.4	81	6.1	6.9	N/A	N/A

³ CFU/100mL = Colony forming units per 100 milliliters

⁴ Approval includes residual chlorine objective of non-detectable and limit of 0.02 mg/L. If bisulphite residual is used as a surrogate to total residual chlorine, then detected levels of bisulphite residual in the sample shall be deemed to confirm absence or equivalent to 0.0 mg/L concentration level of total residual chlorine.

⁵ For different parameters, compliance is assessed based on different time periods. Total phosphorus and total ammonia nitrogen are deemed in compliance if monthly average meets the limit; CBOD₅, TSS and flow are in compliance if annual average meets limit; bisulphite residual and pH are assessed on daily results. *E. coli* is assessed using a monthly geometric average.

4.3 Deviations from monitoring schedule and next reporting year schedule

The wastewater influent, final effluent and imported sewage received must be sampled and tested in accordance with the requirements of the Approval. Each year, a sampling schedule is prepared to ensure all requirements are met. [Table 6](#), [Table 7](#) and [Table 8](#) show the sampling schedules for 2025 and 2026. See [Appendix A](#) - Summary of tested wastewater parameter information for parameter descriptions.

4.3.1 Sampling schedules for 2025 and 2026

Table 6. Influent monitoring program

Parameters	Sample type	Minimum frequency	2025 and 2026 frequency
BOD ₅	24 hour composite	Monthly	2 times per week
TSS	24 hour composite	Monthly	Daily
TP	24 hour composite	Monthly	Daily
TKN	24 hour composite	Monthly	Daily

Table 7. Imported Sewage

Parameters	Sample type	Minimum frequency	2025 and 2026 frequency
BOD ₅	Grab	Monthly	Monthly
TSS	Grab	Monthly	Monthly
TP	Grab	Monthly	Monthly
TKN	Grab	Monthly	Monthly

Table 8. Final effluent monitoring program

Parameters	Sample type	Minimum frequency	2025 and 2026 frequency
CBOD ₅	24 hour composite	Weekly	Daily
TSS	24 hour composite	Weekly	Daily
TP	24 hour composite	Weekly	Daily
TAN	24 hour composite	Weekly	2 times per week
TKN	24 hour composite	Weekly	2 times per week
Nitrate as nitrogen	24 hour composite	Weekly	2 times per week
Nitrite as nitrogen	24 hour composite	Weekly	2 times per week
<i>E. coli</i>	Grab	Weekly	2 times per week

Parameters	Sample type	Minimum frequency	2025 and 2026 frequency
Total residual chlorine or bisulphite residual	Grab or analyzer	Daily	Daily
pH ⁶	Grab or probe or analyzer	Weekly	Daily
Temperature ⁶	Grab or probe or analyzer	Weekly	Daily
Un-ionized ammonia ⁷	As calculated	Weekly	2 times per week

4.4 Operating issues and corrective actions

The Clarkson WRRF operates year-round, 24 hours a day. Occasional operating issues are encountered. [Table 9](#) summarizes operating issues in the reporting period that temporarily affected the process or effluent quality and lists the corrective actions taken. This information is reported to the Ministry Inspector monthly. For a description of test parameters, see [Appendix A](#) - Summary of tested wastewater parameter information.

Table 9. Summary of operating issues and actions taken

Issue	Date	Causes	Corrective actions
Final effluent pH lower than objective range	Feb 7,8 and 11	Improper calibration of pH meter. Ammonia buildup in the process due to pumping down of sludge from Digester 3	Calibrated pH meter and closely monitored and adjusted plant process
	Sept 18-20	Limited alkalinity recovery and pH buffering capacity due to faulted aeration tank anoxic zone mixers	Dosed sodium hydroxide and fixed anoxic mixers, and closely monitored and adjusted plant process
	Oct 31	Low influent pH and under performing pH probe	<ul style="list-style-type: none"> Placed new probe into operation and maintained/cleaned old probe

⁶ pH and temperature of the final effluent shall be determined in the field at the time of sampling for total ammonia nitrogen.

⁷ The concentration of un-ionized ammonia is calculated using the total ammonia concentration, pH and temperature.

Issue	Date	Causes	Corrective actions
			<ul style="list-style-type: none"> Closely monitored and adjusted plant process
Final effluent TP elevated	Jan 16 and 17	<ul style="list-style-type: none"> Supply issues of phosphorus removal chemical 	Closely monitored and adjusted plant process, with focus on phosphorus removal chemical dosing
	Feb 22	<ul style="list-style-type: none"> Decreased treatment efficiency in aeration tank 5 and 7 due to filamentous bacteria 	
	July 14	<ul style="list-style-type: none"> Issues in aeration system due to aeration tank dewatering and plant power disruption in July 	
	August 20-23	<ul style="list-style-type: none"> Poor treatment efficiency upon aeration final tank startup 	
Final effluent monthly average TAN above objective	May	Lack of nitrification in the aeration system	Investigated the factors affecting nitrification through lab testing and data analysis, and closely monitored and adjusted process to improve nitrification
	July	Power disruption and aeration tank dewatering events	
High flows	March 16 April 3	High precipitation	Plant processes were monitored to ensure effective treatment
Daily TP, CBOD ₅ concentration was above objective	June 3	Presumed sampling or lab analysis error	Verified data with lab. Confirmed correct sampling procedure with operations and deep cleaned containers
Temporary disinfection interruption due to power outage	June 7 and 14	Power outage	The equipment was reset and returned to auto mode. Residual sampling was performed once the system was back online

4.5 Maintenance activities

4.5.1 Repair and maintenance

To keep the Clarkson WRRF in good operating order, major plant components must be inspected and maintained on a regular basis. [Table 10](#) provides a summary of planned and emergency repairs and maintenance work completed in 2025.

Table 10. Summary of repairs and maintenance activities

Process	Maintenance activity
Preliminary treatment	<ul style="list-style-type: none"> • Replaced components of grit vortex system • Overhauled one headworks screen • Repaired/replaced headworks screen and grinder/compactor components • Repaired/replaced components of headworks scrubbers
Primary treatment	<ul style="list-style-type: none"> • Inspected one channel blower and placed into operation • Inspected and replaced one primary tank associated components • Repaired/replaced raw sludge pump components • Replaced primary tank bridge associated components
Secondary treatment	<ul style="list-style-type: none"> • Overhauled one aeration blower • Began overhaul of one aeration final tank involving repairs/replacement of air diffusers/lines • Replaced or realigned flights and associated tank components • Repaired/replaced waste activated sludge/return activated sludge pump components • Installed/setup two new autosamplers • Cleaned and inspected one aeration final tank
Solids handling	<ul style="list-style-type: none"> • Overhauled one digester and associated components • Overhauled one centrifuge • Rebuilt a digester recirculation pump • Repaired/replaced associated components of cake pumping system • Repaired/replaced associated components of rotary drum thickeners • Replaced centrifuge bowl and repaired/replaced centrifuge components • Retrofitted lighting fixtures of cake loading bay • Repaired/replaced components in cake loading bay slide gate • Repaired chemical dosing system for biosolids scrubbers • Repaired mixer shaft and dispenser of polymer make-down unit • Overhauled/replaced one total waste activated sludge pump
Other works	<ul style="list-style-type: none"> • Swung over plant instrument control panels to Ignition-based SCADA • Rebuilt/replaced components of boiler pumps • Installed influent modelling equipment

Process	Maintenance activity
	<ul style="list-style-type: none"> • Remediated corroded boiler exhaust stack • Overhauled one pump at Avonhead pumping station • Cleaned out Avonhead pumping station • Overhauled a boiler pump and its associated components • Repaired/rebuilt associated components of gas conditioning module and cogen

4.5.2 Capital expenditure information

Peel staff determine priorities to eliminate unnecessary capital spending while maintaining infrastructure.

Table 11 shows a summary of the major capital expenditures at Clarkson WRRF in the previous year.

Table 11. Summary of capital costs

Activity	2025 Expenditures
Condition assessment and studies	\$ 356,155
Equipment repair and replacement, conventional plant	\$ 7,233,358
Equipment repair and replacement, biosolids processes	\$ 7,549,437
Total	\$15,138,950

4.6 Effluent quality assurance and control measures

Sampling data

- Licensed operators perform **in-house testing** of multiple parameters for process control
- Primary treatment efficiency **sampling program**
- Samples are analyzed by an **accredited laboratory**
- All **process data** is captured electronically
- **SCADA real-time data** capture and continuous monitoring, data historian, and reporting tools for the collection and analysis of data

Operational control

- **Operational facility sheets** capture data that can be used to determine, trend and diagnose problems

- **Dissolved oxygen profiling** to ensure completion of CBOD removal and complete nitrification
- **Calibration of critical equipment** is performed with required frequency
- **Equipment redundancy** to increase equipment availability and effective response to failures and unplanned emergencies
- Multiple **SCADA** stations throughout the facility ensures operators have ready access to real-time conditions and control of plant equipment
- Internal **standard operating procedures** complement operations and maintenance manuals
- **Document control system** for proper and effective record-keeping
- **Wastewater contingency plan** to address emergency situations in the interest of meeting final effluent limits and prevent impacts to the environment

Preventive maintenance

- **Reliability centered maintenance program** reduces emergency repairs, shifting toward proactive control
- Inventory of equipment is captured in a **computerized maintenance management system**, improving the ability to manage assets
- A major **maintenance program** focuses on replacing or refurbishing aging assets

Competent staff

- **Operator licences** (issued under Ontario Reg. 129/04) are verified monthly
- **Comprehensive operator training** includes classroom, online and hands on training
- **Overall Responsible Operator** readily available to provide direction during operational challenges and emergency situations
- **Compliance and process staff** for system oversight
- **Process and energy optimization staff** for managing cost efficiency, energy savings and environmental stewardship

Management oversight

- **Regular process and compliance meetings** between Peel, the owner, and OCWA, the operating authority
- **Monthly operations staff meetings** provide training and discussion on topics including health and safety, compliance, and operational and maintenance activities

4.7 Monitoring equipment calibration and maintenance

Equipment used to monitor wastewater influent and effluent flows must be checked and maintained to ensure it is reading accurately. This is achieved through annual calibration and maintenance of flow meters, completed by a third-party vendor. During annual calibrations for 2025, one final effluent flowmeter was found to be outside the 15% error range prior to calibration. This unit was then immediately calibrated successfully upon discovery.

4.8 Efforts made to achieve design capacity and objectives

The flows to Clarkson WRRF are consistently well below rated capacity (as demonstrated in section [4.1](#)); therefore, no additional measures are required to achieve design capacity.

Throughout 2025, the final effluent consistently met the Approval limits (requirements) for CBOD₅, TSS, TP, TAN, pH and *E. coli* (when prescribed). For a description of test parameters, see [Appendix A](#) - Summary of tested wastewater parameter information. The objective was met for all the parameters except for pH and TAN. pH was outside the objective range of 6.5 to 9.0 pH units on Feb 7, 8 and 11, September 18, 19, 20 and October 31, and TAN was above monthly objective for the month of May and July. The limits for both parameters were still met. The causes and how the process was managed are detailed in section [4.4](#).

Section [4.6](#) describes the many programs and measures in place to ensure that objectives are consistently achieved, and environmental impacts are minimized.

Wastewater collection system

Peel has undertaken proactive long-term actions in the collection system to meet future needs.

Peel owns, maintains, and operates an extensive trunk sewer network with pipes ranging from 750mm to 3,150mm in diameter. Understanding the performance of the existing wastewater system is a crucial step in the Peel's efforts to maintain system capacity and plan for future growth. Peel performs annual condition assessments on portions of its trunk sewer network to evaluate system performance and guide long term planning. These assessments inform the rehabilitation program, supported by a 10-year capital budget of \$420 million.

In 2025, several significant wastewater condition assessment and rehabilitation initiatives were advanced, including the following:

- Completed condition assessments of key trunk sewers such as the East Brampton trunk sewer, the Levi Creek trunk sewers, the Brampton-Bolton trunk sewer, and the Albion-Vaughn trunk sewer. The results of these assessments led to new renewal projects, including the Spring Creek trunk sewer rehabilitation.
- Use of drones and 3-dimensional scanning technology to capture detailed imagery of maintenance holes and trunk sewers
- Initiated a program to protect maintenance holes located in erosion-prone floodplains. This program identified several high-risk maintenance holes, including one failed structure near the Credit River in Mississauga, that was abandoned in the summer.

These projects aim to maintain service levels, improve system resiliency and longevity, and reduce site specific infiltration, such as leaking pipe joints. The East trunk sewer and Energy Dissipation Chamber Rehabilitation project was awarded combined federal and provincial funding and achieved final commissioning in late 2025.

The recent twinning of the East Brampton and West sanitary trunk sewers added capacity and facilitated the condition assessment and rehabilitation of the existing trunk sewer to extend its useful life. Following the condition assessment of the existing East Brampton sanitary trunk sewer, Peel began detailed design work and rehabilitation work is currently underway using a phased approach.

Peel is also proposing additional collection system initiatives to facilitate diversion and storage to alleviate extraneous flows related to inflow and infiltration. More details can be found in the Sanitary Sewage Collection System annual report at peelregion.ca/wastewater/#reports.

Industrial wastes

Peel also protects the wastewater collection system from industry impacts. Peel's [Wastewater Bylaw \(53-2010\)](#) sets concentration limits for discharges to the sanitary sewer, which subsequently protects the wastewater treatment plants from industry impacts, and provides information on agreements and spills to the environment. The bylaw applies to the Industrial, Commercial, and Institutional (ICI) sectors as well as residences and establishes penalties for offences of up to \$100,000 for businesses.

All ICI facilities are inspected by Peel staff at a minimum once every 2 years, resulting in thousands of inspections being completed annually. The inspections are used to assess the discharges from the facility and its compliance with the bylaw as well as the effect on the wastewater collection and treatment systems. Upon discovery of a spill into the sanitary sewer, or notification from an industry of a release, affected treatment plants (Clarkson or G.E. Booth WRRFs) are notified so staff can implement protective actions. For more information about the bylaw enforcement, please visit our website at [Wastewater Bylaw](#).

4.9 Sludge generation and disposal

The treatment process removes solids from the wastewater stream in the form of sludge, which is processed on site, as described in [section 3. Table 12](#) shows the total monthly and annual sludge volumes generated at the Clarkson WRRF.

In 2025, a total of 9,646 dry tonnes of sludge cake was generated. This represents a 1% decrease in sludge production compared to the previous year. All sludge is sent offsite for disposal, and 4,141 dry tonnes were incinerated at G.E. Booth WRRF. The remaining 5,505 dry tonnes (57%) of the sludge generated, were sent for beneficial use such as land application, land reclamation, or conversion into soil amendment products. Refer to [Table 13](#) for the summary of locations where the sludge was disposed for the reporting period.

Anaerobic digestion reduces pathogens and stabilizes the sludge. To recover this valuable resource, a change in the sludge disposal strategy was made in 2022 with the intention of sending about 50% of the sludge produced at Clarkson WRRF to beneficial use.

It is difficult to predict the change in sludge production for the following year as there has not been a clear trend in the last several years. Based on a predicted population increase of 1%, and no significant expected changes to flows or processing, no significant changes in sludge generation are expected for the next year.

Table 12. Summary of sludge volume generated in different processes and its disposal

Month	Sludge cake incinerated at G.E. Booth WRRF (dry tonnes)	Sludge cake disposal other than G.E. Booth WRRF (dry tonnes)	Total sludge cake generated (dry tonnes)
January	490	181	671
February	291	388	679
March	662	319	981
April	583	251	834
May	358	484	842
June	145	811	956
July	440	373	813
August	361	456	817
September	0	983	983
October	440	341	781
November	0	761	761
December	371	158	529
Annual daily average	11	15	26
Annual total	4141	5505	9646
Annual percentage	43%	57%	N/A

Table 13. Address of sludge disposal sites

Sludge hauler	Facility and destination	Address	Sludge disposal other than G.E. Booth WRRF (dry tonnes)
GFL	Lystek Clarkson; Lystek International	191 ECO PARKWAY, SOUTHGATE, ON NOC 1BO	621
	Sudbury; Vale Mineland	POWER ST, GATE CTA, SUDBURY	77

Sludge hauler	Facility and destination	Address	Sludge disposal other than G.E. Booth WRRF (dry tonnes)
	The Iroquois Facility; THF Limited	12 BATH ROAD, IROQUOIS	189
	Land Application	-	1179
Wessuc Inc.	Lystek Clarkson; Lystek International	191 ECO PARKWAY, SOUTHGATE, ON NOC 1BO	20
	Wessuc's land application ^{Error!} Bookmark not defined.	-	2679
Walker	Walker's N-Viro	3865 Thorold Townline Rd, Niagara Falls, ON	742
Annual total			5,505

4.10 Summary of complaints

The Approval requires that Peel log, investigate and resolve all resident complaints. Peel attempts to contact all customers and satisfactorily address their concerns and enquiries. A database is used to record details including information collected from the customer on the nature of the enquiry and action taken by Peel. **There were no complaints** received in 2025 relating to the facility.

4.11 Bypasses, overflows, spills and abnormal discharge events

Occasional weather events such as heavy rainfall and seasonal snow melt can result in flow rates that are higher than those for which the plant was designed and burden the treatment process. These challenges, as well as the need for planned maintenance and construction activities, may result in a discharge to the environment of a portion of wastewater that has not undergone all treatment processes, outside of normal operating conditions, in what is referred to as a bypass event.

4.11.1 Bypasses

A bypass is an intentional diversion of excess wastewater around one or more wastewater treatment processes. The bypassed portion of wastewater undergoes part of the treatment process followed by disinfection and gets re-combined with the fully treated flow prior to release into Lake Ontario at the approved discharge location and sampling point. Final effluent is sampled and tested during bypass events to assess its quality.

Occasionally, a planned bypass is necessary to repair an essential part of the treatment process or during construction. In those cases, Peel submits a request to the federal and provincial governments to perform the bypass, including a plan to minimize its impact.

While not desirable, emergency bypasses may be necessary during high flow events to prevent spills and flooding at the WRRF and backups within the sewer system that can cause basement flooding and spills to the environment. Bypasses are also essential to protect the plant core biological treatment process (microorganisms that treat the sewage) from being washed out, which would prevent the plant from functioning properly and potentially causing long-term treatment impacts until the biological community is re-established.

Most bypasses in Peel are *secondary bypasses*, whereby the diverted wastewater receives primary treatment, bypasses secondary treatment, and receives a high degree of disinfection. **There were no bypasses** in 2025.

4.11.2 Overflows

An overflow is a controlled discharge of wastewater to the environment from a designed location at the plant other than the approved final effluent outfall.

There were no overflow events in 2025.

4.11.3 Spills

A spill is an unplanned discharge to the environment from any location that is not specifically designed for this purpose. All spills are reported to Ministry Spills Action Centre (SAC). **There were nine spill events** in 2025, The summary of the spills during the reporting period is provided in [Table 14](#).

Table 14. Summary of spill events

Date	Ministry Reference Number	Description	Action Taken in Response
February 23	1-HTZCUD	Spill of final effluent due to rupture of a high-pressure effluent water (HPEW) line in the phosphorus removal chemical building, resulting in flooding and discharge to the nearby storm drain.	HPEW system was shut down and isolated, temporary chemical dosing implemented to maintain compliance, and the damaged line and affected electrical equipment repaired before returning the system to service.
February 26	1-HXR3XX	Spill of digested sludge due to overflow of the blending tank, resulting in discharge onto surrounding grass and concrete with flow to a nearby storm water drain	Storm drain was covered and flows diverted from the blending tank to stop the overflow, the spill was contained and cleaned using absorbents and vacuum truck, and the overflow investigated
April 7	1-NDPWCO	Digester gas released due to the vibration from the running mixers and the loosening of the gaskets over time.	Gasket bolts were tightened to stop the release. Other mixers were inspected as a proactive approach.
May 26	1-OGYFOA	Spill of final effluent due to a leaking hose fitting on HPEW line at the south end of the facility, resulting in a brief discharge to a storm drain catch basin with some flow potentially reaching Lake Ontario.	HPEW line was shut off to stop the spill, water pumped from the storm drain catch basin back to the effluent channel to minimize volume, and the leaking hose fitting was isolated for future repair.
June 6	1-OJF4LQ	Spill of final effluent on the adjacent grass due to failure of ball valve	HPEW line was turned off to stop the spill; and the leaking valve repaired

Date	Ministry Reference Number	Description	Action Taken in Response
		attached to the HPEW line	
September 29	1-PKDQ7J	Spill of final effluent due to a ruptured underground effluent water line near the south side of the Plant 2 final tanks, resulting in pooling on grass and flow to a nearby storm drain.	Final effluent water feeding the final tanks was isolated to stop the spill and for future repair of the underground HPEW line.
September 29	1-PKEQK6	Spill of primary sludge due to backflow into a scum hopper at the plant 1 primary tanks caused by loss of air supply to the actuator while the compressor was under maintenance, resulting in overflow onto an adjacent grassy area.	The contractor placed the compressor into bypass to restore air and stop the spill, affected areas were vacuumed, and operations will reinforce contractor notification requirements prior to maintenance work.
October 9	1-PM55RX	Spill of final effluent due to a leaking pipe fitting on the HPEW line at the end of final tank 1, resulting in infiltration into soil and discharge to a nearby storm drain.	The HPEW line was shut off to stop the spill, and the pipe fitting will be repaired later.
November 18	1-PSNQW4	Release of digester gas (primarily methane) to atmosphere due to shutdown of biogas processing and flare systems following an electrical utility line failure near digester 5, resulting in venting from digester pressure relief valves between	Operations reduced digester loading and monitored gas production, flares and gas processing equipment were returned to service once power was restored, and replacement of the failed electrical switch

Date	Ministry Reference Number	Description	Action Taken in Response
		approximately 8:07 a.m. and 11:55 a.m.	will be scheduled under controlled conditions.

4.12 Notice of Modifications to Sewage Works

The Approval allows for certain pre-authorized modifications to be made to the facility. The Ministry requires each modification to be documented on a *Notice of Modification to Sewage Works* form which is retained and made available to the Ministry during inspections.

There was one *Notice of Modification to Sewage Works* forms completed for a pilot study to compare the efficacy of peroxyformic acid for disinfection application, during the reporting year.

Repair and maintenance activities are exempt from the documentation requirements and may be performed as needed to maintain the WRRF in good working condition. These were summarized in section [4.5](#).

4.13 Status of the proposed works

Peel undertakes construction projects to upgrade or enhance the treatment process to meet demands related to industrial and commercial growth in Peel that may alter incoming wastewater volume or loading, and to integrate new technologies. Proposed future construction plans are submitted to the Ministry for engineering review. Approved installations and modifications are listed in the *Proposed Works* section of the Approval. The proposed works have not yet commenced.

5. Performance management programs

5.1 Ministry inspections

Wastewater system inspections are performed periodically by the Ministry to ensure systems are operating as required and complying with the terms and conditions of their Approvals. Performance data is reviewed against the compliance objectives and limits. The inspections also verify that Peel meets sampling, testing and treatment standards and staff competency requirements. Additional inspections can be triggered through a variety of factors such as frequency of events or inconsistent system performance (e.g., increased number of spills or reportable incidents), in response to a complaint or concern, or as part of a follow-up from prior non-compliances.

There was no Ministry inspection of the Clarkson WRRF in 2025.

Peel and OCWA conduct regular internal compliance checks to confirm that operational performance meets all regulatory requirements. Any self-declared findings that indicate potential non-compliance are reported to the Ministry through courtesy notification.

Appendix A - Summary of tested wastewater parameter information

Dissolved oxygen (DO): Amount of oxygen dissolved in water. It is essential for the survival of aquatic plants and animals. In the wastewater treatment process, DO is required by the microorganisms to break down the organic material present. A lower DO value suggests a greater amount of organic matter present in the sample.

Total biochemical oxygen demand (BOD₅): Amount of DO used by microorganisms to break down organic material present in a wastewater sample, measured as DO decrease over a 5-day period. A higher BOD₅ value means greater amount of organic matter present in the sample, which can cause deplete DO in receiving waters.

Carbonaceous biochemical oxygen demand (CBOD₅): Amount of DO needed by microorganisms to break down carbonaceous (carbon rich) organic material present in a wastewater sample over a 5-day period.

Alkalinity: Water's resistance to the effect of acids added to water.

Total phosphorous (TP): An essential nutrient used by microorganisms for growth. TP comes from a variety of sources including fertilizers, detergents, domestic wastewater, and wastewater from industrial processes. Excess phosphorus in waterbodies can promote algae blooms.

Total suspended solids (TSS): Suspended particles (organic and inorganic material) present in the water sample. TSS can include sediment, sand, silt, plankton, and algae. High concentration of TSS can interfere with the disinfection process and can also lower the quality of the receiving waterbody.

Total Kjeldahl nitrogen (TKN): Sum of ammonia nitrogen and the amount of nitrogen present in organic form. High TKN can be toxic to aquatic life.

Total ammonia nitrogen (TAN): The amount of ammonia in wastewater. Sources of ammonia include domestic, industrial, or agricultural pollution, primarily from fertilizers, animal and plant decomposition, and animal waste.

Nitrite, nitrate: An intermediate nitrogen species in the cycle of nitrogen removal from wastewater.

pH: A measure of the alkalinity or acidity in wastewater, which can indicate chemical or industrial pollution.

Temperature: Temperature of the wastewater sample measured at the time of collection. Higher wastewater temperatures allow for more efficient treatment at biological treatment plants.

Sodium hypochlorite: Liquid chlorine used for disinfection of treated wastewater. To minimize chlorine effects on the receiving waters, the effluent is dechlorinated before being released into Lake Ontario.

Sodium bisulphite: Used to neutralize the chlorine present in final effluent after disinfection. This is done to minimize chlorine effects on the receiving waters.

***E. coli*:** An indicator of fecal contamination in effluent. Most species of this bacteria are harmless to humans; however, some strains can be pathogenic (cause disease).

Appendix B - Frequently asked questions

Where does water go after it is used?

After you use water to wash dishes and clothes, brush your teeth, shower or flush the toilet, the used water (wastewater) that goes down your drains flows through a series of underground sewer pipes to the wastewater treatment plants.

The wastewater is treated to remove contaminants and kill disease-causing microorganisms before being discharged into the environment. Peel owns two water resource recovery facilities (WRRF): G.E. Booth Water Resource Recovery Facility and Clarkson Water Resource Recovery Facility, both discharging into Lake Ontario, and the Inglewood wastewater treatment plant, discharging into the Credit River. These three plants serve the cities of Mississauga and Brampton and the Town of Caledon.

View [Peel Region's wastewater video](#) for more information on how wastewater is treated.

Why am I experiencing a sewage odour outside my house?

The sewage odour outside your house could be from a variety of sources. It could be that the sewer is backed up close to your property. If your property is located close to a lake, algal blooms also cause odours. Other sources of odour might include scheduled treatment plant maintenance coupled with prevailing winds, nearby farming activities, or odours from waste management facilities or industries.

If you are noticing odours near your property, please call Peel at 905-791-7800.

Why am I experiencing a sewage odour inside my house?

If you notice an odour of sewage coming from a drain in your house, it is recommended to pour a cupful of bleach into the drain, let it sit for 10 to 15 minutes and then rinse it down with plenty of water. If this does not resolve the odour problem, please call Peel Region at 905-791-7800 for further investigation.

What is the difference between a storm sewer and sanitary sewer?

Wastewater that goes down drains inside homes and buildings enters the sanitary sewer system, which sends it to a wastewater treatment facility for treatment before it is released to the environment. Sanitary sewer systems in Mississauga, Brampton and Caledon are maintained by Peel.

Rainwater and melting snow are called storm water. Stormwater enters storm grates on the road and enters the storm sewer pipes that run beneath the roadways. These pipes discharge the storm water to local waterways, like streams, creeks, and lakes. The majority of storm sewer is maintained by the local municipality – the cities of Brampton and Mississauga and the Town of Caledon. Peel maintains storm sewers on regional roads.

Refer to the [Peel Region website](#) for more information about wastewater and storm water.

What happens to industrial wastewater?

Some companies treat their own wastewater and release it directly into the environment or into Peel's sanitary sewer (wastewater collection system). Wastewater released into the sanitary sewer joins all other wastewater collected (from households and building drains) and flows to one of the wastewater treatment plants. Industrial wastewater can be hazardous or contain substances that may damage sewer infrastructure or upset the treatment process. Therefore, all wastewater released and all businesses that release it into Peel sewers must comply with Peel's [Wastewater Bylaw](#). To ensure compliance, industrial facilities are examined by inspectors from Peel's Environmental Control department. Thousands of inspections are completed each year.

What must not be disposed down the toilet or poured down the drain?

It is important to understand that what goes down the drain or the toilet may have negative impacts on the wastewater system and the environment. Fats, oils, and grease should never be poured down the drain because these materials are known to cling to pipe walls. Over time, their accumulation can build up to such high levels that the sewer can become blocked. Another reason to avoid disposing fats, oils, and grease into drains or toilets is that they are not effectively

broken down during the wastewater treatment process. Instead, Peel recommends that edible household fats, oils and grease (FOG) should be collected and properly disposed as [per the FOG disposal at home instructions](#). To learn more about Peel's [community recycling centres' web page](#).

It is also important not to dispose items down the toilet that could get stuck in or damage the sewer systems. Sticks, rags, paper towels, personal hygiene products, diapers, disposable wipes, household hazardous waste and pharmaceuticals should not be disposed by simply flushing down the toilet. Any unused or expired pharmaceuticals can be returned to your local pharmacy. For more information on how to properly dispose of items that damage the wastewater refer to [idontflush.ca](#)

What causes a sanitary sewer backup?

Most sewer backups occur when sewer pipes get blocked. Sewer pipes can become clogged with excess fats, oils, greases, food wastes, coffee grounds, hair, toilet paper, soap residue, or inappropriate materials being flushed down the toilet or drain. Even sanitary wipes that are labelled "flushable" will in fact clog pipes, sewers, and screens at the treatment plants. To help reduce sanitary sewer blockages and prevent backups, it is recommended to properly dispose of these items and other materials that can harden or settle within the sewer pipes.

Sanitary sewer backups can also occur when tree roots grow into or through sewer lines. These roots may be from trees that are outside your property boundaries. The only solution to this problem is to cut away the roots and then replace the pipeline.

If you notice a sewer backup in your home, call Peel at 905-791-7800 extension 4409, or 1-888-919-7800 for residents in Caledon. If the problem area is determined to be on private property, there is a flat fee for the service call.

More information about wastewater and storm water is available on the Peel [webpage](#).

How safe is the treated wastewater that is released into Lake Ontario?

To meet environmental compliance criteria in Ontario, all wastewater must be treated before being returned to the environment. Peel's wastewater treatment facilities, G.E. Booth, Clarkson, and Inglewood, are operated and maintained under strict regulations and the effluent discharged into the environment must meet location-specific, provincial, and federal standards.

Which pipes are mine and which are Peel Region's responsibility?

See the information at [homeowner and regional responsibilities of wastewater infrastructure](#).

What is optional water and sewer line insurance program?

The pipes on the private side of the property line belong to the property owner. Sometimes these pipes may get damaged or blocked, which can result in costly plumbing bills. Peel endorses a voluntary pipe insurance program. For more information can be found on the [insurance program web page](#).

How can I find out what work is taking place in my neighbourhood?

Peel maintains an interactive mapping tool on our [website](#) where the public can see the status of current and upcoming water projects that could result in water interruption. At this site, you can sign up to receive email notices with project updates.

Similarly, we publish a summary of [water outages](#). If you are unexpectedly without water, you can check this site to learn what is happening and view the answers to frequently asked questions.

Other sources for more information about wastewater and related issues



Peel Region

10 Peel Centre Dr., Brampton ON L6T 4B9

Wastewater-related questions:

Phone: 905-791-7800 extension 4685

Website: peelregion.ca/wastewater

E-mail: Publicworkscustserv@peelregion.ca

Water and Sanitary Sewer and Septic Protection Plans:

[Peel Wastewater Bylaw](#) or [Service line warranties](#)



Government of Ontario

Ministry of the Environment, Conservation and Parks

Public Information Centre

Phone: 416-325-4000

Toll-Free: 1-800-565-4923

Website: ontario.ca/environment



Government of Canada

Environment and Climate Change Canada Inquiry Centre

Phone: 819-997-2800

Toll-Free: 1-800-668-6767

Website: ec.gc.ca

Health Canada

General Inquiries Telephone: 613-957-2991

Toll free: 1-866-225-0709

Website: canada.ca/en/health-canada