

To: Regional Council

Date: 2025-11-13

From: Kealy Dedman,
Commissioner of Public
Works

Subject: **Regional Council Update
on Water and
Wastewater Management
Systems**

OBJECTIVE

This Memo presents the results of the 2024 Management Review of Peel Region's (the Region) Drinking Water Quality Management System (DWQMS) and Wastewater Integrated Management System (WWIMS) to support Regional Council in meeting its statutory obligations under the Ontario Drinking Water Quality Management Standard.

1. Background

The Management Review ensures the Region's Operating Authority continues to provide safe drinking water and reliable water and wastewater services. It provides senior management and Regional Council with a structured annual assessment of:

1. Drinking water and wastewater system performance and regulatory compliance
2. Issues that could affect drinking water safety and reliability
3. Adequacy of staff resources, infrastructure, and financial support
4. Actions taken to correct incidents of non-compliance and audit findings
5. Continuous improvement opportunities to enhance reliability and resilience and reduce risk

2. Management Review

The Management Review for the 2024 calendar year took place on June 16 and July 8, 2025, with the participation of DWQMS and WWIMS Top Management which consists of the Commissioner of Public Works, General Manager - Water and Wastewater, and the Utility Directors and Managers. Performance of the management systems was assessed using the following factors:

- Inspection ratings from the Ministry of the Environment, Conservation and Parks (MECP)
- Internal and third-party quality management system audit results,
- Emergency preparedness testing outcomes,
- Reviews of staff response to actual emergency events,
- Stakeholder feedback,
- Operational performance metrics, and
- Effectiveness of corrective actions and process improvements.

REFERRAL TO _____

RECOMMENDED _____

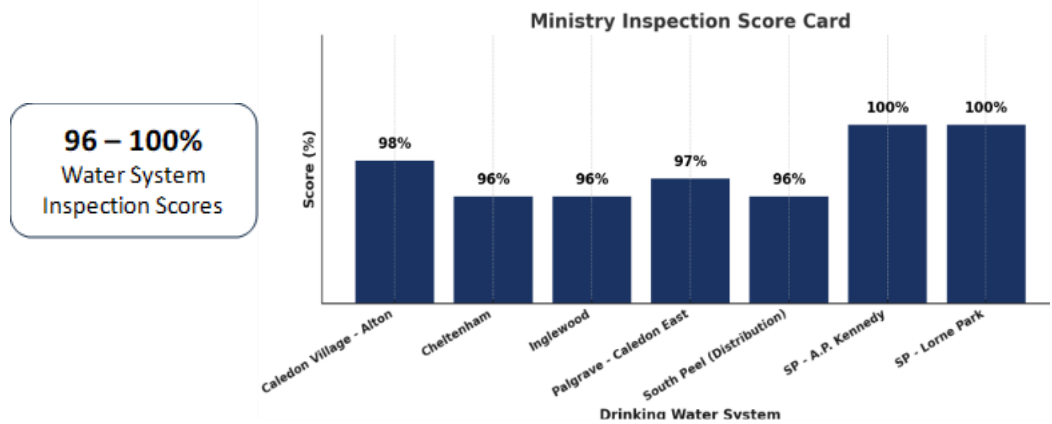
DIRECTION REQUIRED _____

RECEIPT RECOMMENDED _____

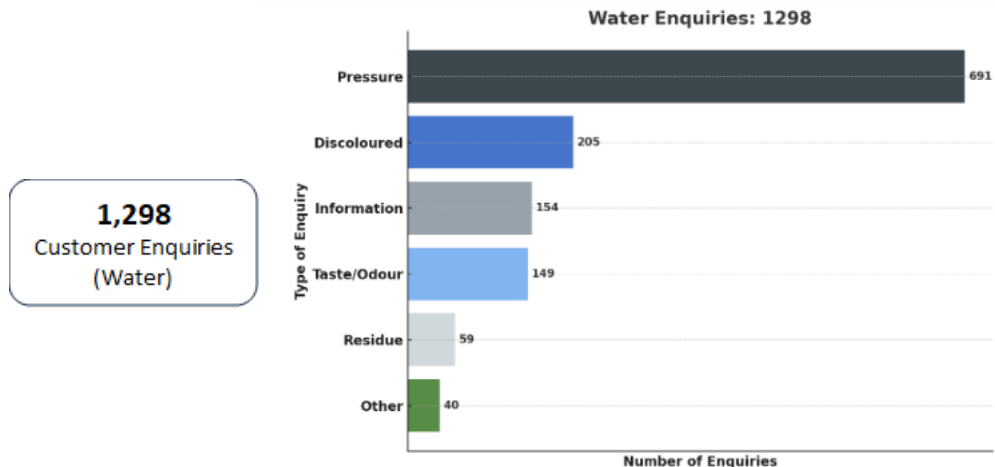
3. 2024 Assessment Findings

Drinking Water and Wastewater System Performance and Regulatory Compliance

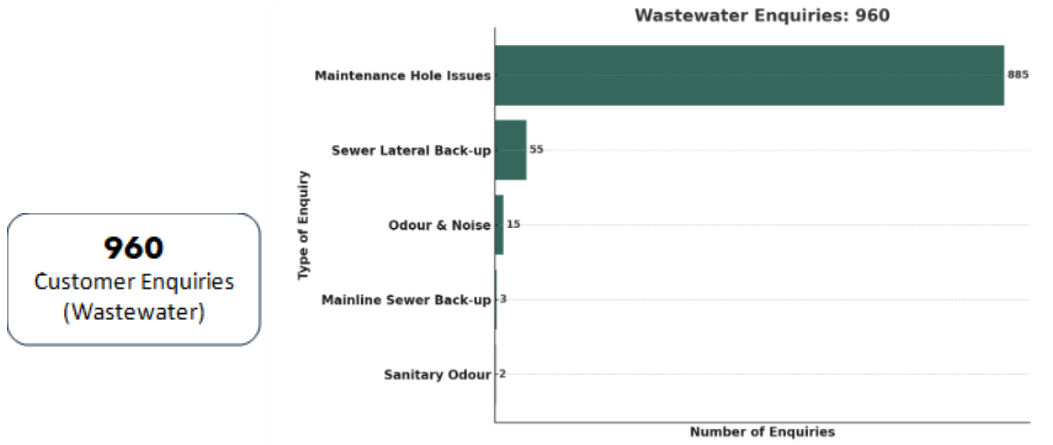
In 2024, results from MECP inspections, operational performance indicators, and customer feedback all confirm that the Region is performing consistently at a high standard. These results reflect the skill, dedication, and pride staff bring every day to protecting public health and delivering reliable drinking water and wastewater services.



The most common customer enquiry in 2024 pertained to temporary low water pressure, typically resulting from water main breaks or planned water system repairs and maintenance activities. Each incident can generate multiple customer calls, depending on the size of the affected area and the duration of the service interruption. If a resident or business raises a concern about their drinking water, compliance and operations staff respond quickly – conducting site investigations, collecting water samples, and performing tests to confirm that water meets strict safety and quality standards.

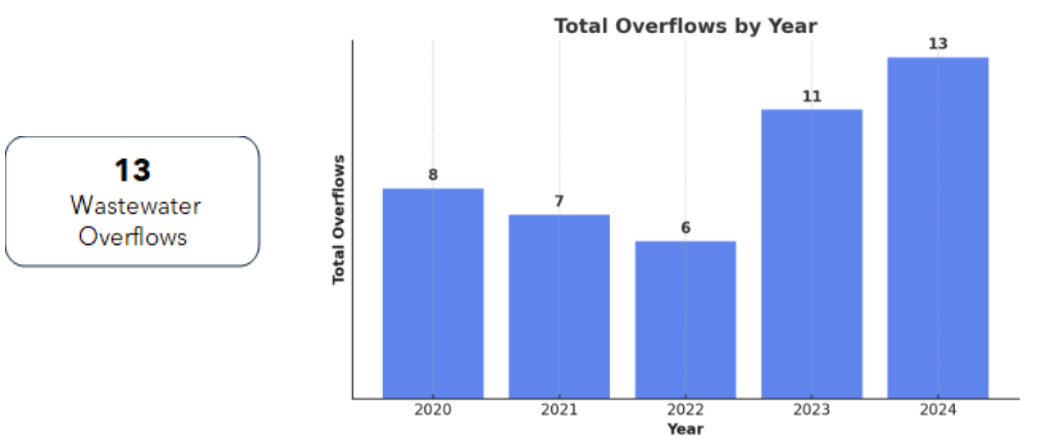


In 2024, the most frequent wastewater-related calls received involved broken or raised sanitary maintenance hole covers. While Peel received 885 such enquiries – this number reflects a fraction of the more than 54,000 maintenance hole covers across the wastewater system. There were also just 55 reported sewer lateral back-ups out of more than 335,000 customer connections, demonstrating the overall reliability of Peel’s wastewater services and the effectiveness of ongoing maintenance programs. Customer reports remain vital in helping staff identify and resolve issues quickly, protecting public safety and ensuring the integrity of the wastewater system.



960
Customer Enquiries
(Wastewater)

Intense wet weather events in 2023 and 2024 led to an increase in wastewater collection system overflows and 12 emergency bypass events at the Region’s water resource recovery facilities, resulting in discharges to Lake Ontario. During these bypass events, wastewater received only primary treatment and disinfection. These incidents highlight the growing impacts of extreme weather on wastewater infrastructure.



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Wastewater
Overflows

In response, the Region's Inflow and Infiltration Program continues to make progress to reduce stormwater entering the wastewater system. Efforts include disconnecting downspouts – over 82,000 surveyed to date - eliminating cross connections, construction of a wastewater temporary storage facility, offering backwater valve rebates, and partnering with the development community to enhance design and construction standards. Together, these initiatives demonstrate the Region's proactive commitment to building a more resilient and sustainable wastewater system that can adapt to the challenge of a changing climate.

Further details on regulatory compliance and operational performance are provided in the following annual resources:

- Regional Council Report titled *"2024 Water Compliance Update - Annual Summary Report"* (dated March 20, 2025)
- 2024 Water Quality Reports at:
<https://peelregion.ca/drinking-water/quality-reports.asp>
- 2024 Wastewater Performance Report at:
<https://peelregion.ca/water/wastewater/reports>

2024 DWQMS and WWIMS Management System Milestones

Water and wastewater systems rely on scheduled checkpoints to ensure reliability, regulatory compliance, and continuous improvement. Each step in the yearly cycle strengthens the system's ability to provide safe drinking water and protect the environment.

a) Municipal Drinking Water License Renewal

The Region's Municipal Drinking Water Licenses and Drinking Water Works Permits were re-issued by the province in November 2024. This is the province's confirmation that the Region's Operating Authority meets Ontario's highest standards and is trusted to deliver safe, high-quality drinking water on behalf of its community in a financially sustainable manner.

b) Re-Accreditation and Internal Audit Program

The successful completion of a third-party re-accreditation audit confirms that the Region's water and wastewater systems meet Ontario's stringent regulatory requirements and the strength of the DWQMS and WWIMS. This milestone provides Council with independent assurance that the Region's operations are well managed, effective, and fully aligned with the highest standards of safety and accountability.

c) Risk Assessment

Peel uses a systematic process to identify potential hazards and assess risks that could affect the safety and reliability of its water and wastewater systems. In 2024, the drinking water risk assessment reviewed 113 potential risks, and the wastewater assessment examined 146 risks, identifying three new ones, with a focus on Significant Environmental Aspects (SEA). These findings ensure that attention and resources remain directed toward the areas with the greatest potential impact on public health and the environment.

d) Objectives and Targets Program

Environmental objectives are established at appropriate levels and functions of the organization, reflecting significant environmental aspects, compliance obligations, and identified risks and opportunities. Once these objectives are defined, detailed implementation plans are developed outlining the actions, resources required, responsibilities assigned, and the timelines for completion.

The program focuses on reducing or eliminating high-risk activities by mitigating environmental impacts through adaptation to changing weather patterns, standardized operational practices, and enhanced emergency preparedness. These efforts are already demonstrating positive results, with a reduction in the number of Significant Environmental Aspects (SEAs) anticipated for reporting in 2025.

4. Issues That Could Affect Drinking Water Safety and Service Delivery

Peel Region continues to enhance the safety and reliability of the drinking water and wastewater systems through the work described above. At the same time, external pressures — including provincial governance reviews and emerging cyber security threats — are introducing new challenges. These factors underscore the need for continued vigilance, investment, and adaptability to protect public health and ensure long-term system performance.

a) Regional Governance

The ongoing provincial review of regional governance introduces uncertainty that could affect service delivery structures, asset ownership, and lines of accountability. Depending on the outcome, it could reshape how water and wastewater systems are managed. The lack of clear timelines or direction limits the Region's ability to plan and invest with confidence.

b) Cybersecurity

Like all utilities, the Region faces increasing cyber risks, including ransomware attacks and unauthorized access attempts. The addition of staff resources, strengthening digital safeguards, monitoring systems, and staff awareness remains critical to protecting vital water and wastewater infrastructure.

c) Information Management

The upcoming transition to Maximo enterprise asset management system in 2026-2029 along with other new digital solutions, requires careful alignment of business processes and sustained organizational support. These changes will modernize how the Region manages water and wastewater programs but will also demand ongoing coordination and resourcing.

d) Process and Regulatory Changes

Evolving regulations and process improvements may influence existing operating procedures, compliance obligations, and organizational structures. Potential updates to water and wastewater legislation, documentation, and digital efficiency initiatives will require the Region to remain agile and responsive to maintain compliance and operational excellence.

5. Adequacy of Staff Resources, Infrastructure and Financial Support

Accelerating the planning and construction of housing-enabling infrastructure places significant demands on project management, compliance, and operations staff responsible for the planning, delivery, and commissioning of new water and wastewater infrastructure. In response, the Region completed a comprehensive resource assessment, and Part I of its recommendations were presented to Council in late 2024. Council approved additional positions, which have since been filled to strengthen program capacity.

Onboarding new employees and integrating them with established teams has required substantial coordination and adjustment, which temporarily affected overall efficiency and workload expectations as staff transition into their roles and processes are refined.

The Region's well-established DWQMS and WWIMS help mitigate these challenges by providing clearly documented procedures, accessible guidance, and robust training programs. The quality management systems promote consistency, knowledge sharing, and faster integration – supporting improved performance and operational readiness across the utility.

6. Actions Taken to Correct Incidents of Non-compliance and Audit Findings

Identifying and addressing corrective actions from audit findings and incidents of non-compliance is a key part of the Region's continuous improvement process. Each action provides an opportunity to strengthen operational practices, enhance system reliability, and reinforce the safeguards that protect public health and the environment. This disciplined approach ensures that lessons learned are translated into tangible improvements, supporting long-term compliance and performance excellence.

Observations from internal and external audits also highlighted staff's strong commitment to providing safe drinking water and protecting the environment. Staff was commended for their cross-functional collaboration in risk assessments and emergency preparedness exercises, which ensures a comprehensive understanding of potential risks and support the implementation of effective control measures to reduce significant threats to water and wastewater service delivery.

The following table highlights key actions and improvements identified in 2024 that staff is implementing to enhance the overall performance of the Region's water and wastewater systems:

Area	Actions/Improvements	Investments/Cost
Training & Tools	<ul style="list-style-type: none"> • Recuring refresher training for operators • Develop templates for consistent logbook use 	Within existing resources
Digital Updates	<ul style="list-style-type: none"> • Utilize QR codes for emergency contacts • Complete record migration to SharePoint 	Within existing resources
Risk Management	<ul style="list-style-type: none"> • Assess risks without controls in place • Conduct earlier design-stage reviews 	Modest investment in staff training/facilitation
Operational Accuracy	<ul style="list-style-type: none"> • Ensure operational documentation and process aids are current 	Low-cost actions
Communication	<ul style="list-style-type: none"> • Enhance intra-divisional and multifunctional collaboration for effective program awareness • Continue evolving Top Management Review for optimal engagement and input 	Within existing resources

7. Continuous Improvement Opportunities to Enhance Reliability and Resilience

The Region's successes in 2024 are driven by strong management systems and a culture of continuous improvement. In alignment with the corporate digital strategy, water and wastewater programs are investing in transformative technologies and standardized practices to ensure long-term success, resilience, and transparency.

The integration of advanced tools such as artificial intelligence, automation, mobile applications, Geographical Information Systems mapping, and asset management software is improving efficiency, unlocking new opportunities, and helping the Region stay ahead in a fast-changing environment. These technologies are being implemented thoughtfully to minimize operational and compliance risks, protecting system reliability while enabling innovation.

At the same time, the Region is consolidating continuous improvement practices across capital works, compliance, and operations to ensure consistency and strengthen oversight. Enhanced transparency and information sharing further support this effort – building public trust, reinforcing accountability, and ensuring that day-to-day actions remain aligned with strategic outcomes.

8. Conclusion

The 2024 Management Review of Peel Region's Drinking Water Quality Management System (DWQMS) and Wastewater Integrated Management System (WWIMS) confirms the continued effectiveness of the Region's management practices. This conclusion is reinforced by successful inspection ratings, positive audit findings, and effective responses to emergency events. Looking ahead, meeting growing operational demands, addressing cybersecurity risks, and embracing technological innovation will be essential to sustaining success.

Through the strategic adoption of technology and a strong culture of continuous improvement, the Region remains well-positioned to provide reliable, efficient, and sustainable water and wastewater services. Continued leadership and ongoing support from Regional Council will be vital to navigating future challenges and maintaining the highest standards of public health protection and environmental stewardship.