

Contaminated Right-of-Way (ROW) Management Program (CROWMP) and System (CROWMS)

2022 Municipal Engineers Association Conference & Annual General Meeting

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Planning and Capital Program
Transportation Services Division
City of Toronto

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Agenda



- **Background**
 - Brownfield Redevelopment
 - City's Conveyance Policy to Accept Potentially Contaminated Lands
- **Contaminated ROW Management Program (CROWMP)**
 - Major Programs
 - Certificate of Property of Use (CPU)
 - Monitoring Well Management
- **Contaminated ROW Management System (CROWMS)**
 - Key Systems and Activities
 - Example - Transportation Viewer, IRowCPU Dashboard and Storyboard
- **Next Steps**

Brownfield Redevelopment



If a brownfield property is being redeveloped for a new use, property owners and developers must meet set requirements for:

1. assessing the environmental condition of a property through **environmental site assessments**
2. ensuring that the site meets the applicable site condition standards by remediation or standards specified in a **risk assessment**
3. submitting a **record of site condition (RSC)** for filing in Environmental Site Registry

Contaminated Land Impacts on Transportation Services



City Conveyance Policy

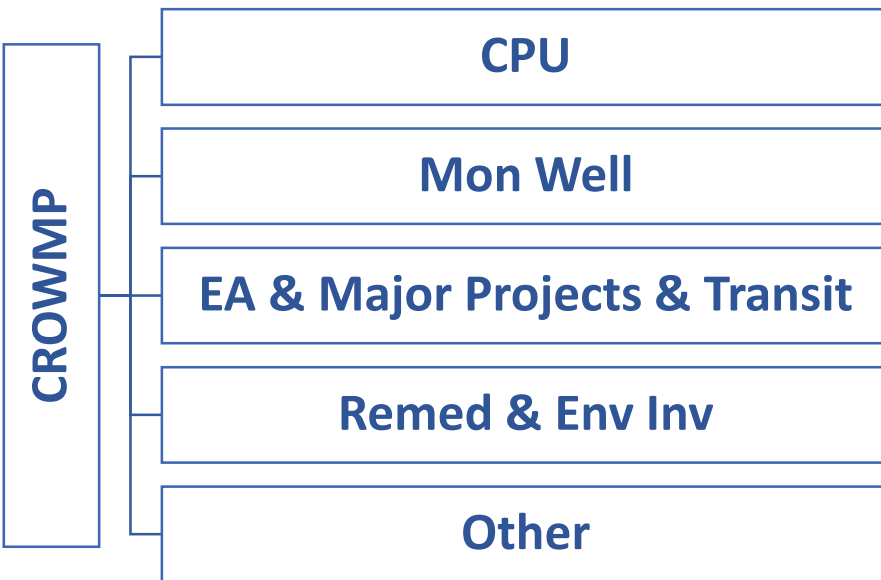


City Council on February 10 and 11, 2015, adopted the “Policy for Accepting Potentially Contaminated Lands to be Conveyed to the City under the Planning Act, January 2015”

ECS, Soil and Groundwater Quality Unit is responsible for delivering the Peer Reviewer Process as it relates to land conveyance under the Planning Act

TS, Asset Management Unit is responsible for the managing Contaminated ROW

Major Programs under CROWMP



1. Certificate of Property Use (CPU) Compliance & Management of CPU
2. Management of Monitoring Wells (MWs) and Contaminant Management Plan (CMP)
 - Approve MW Installation and Decommissioning, Manage MWs, and support Legal to negotiate Indemnity Agreement
3. Manage environmental requirement for EA, Transit and Major Project, that involves conveyance/transfer of lands as ROW
4. Managing remediation and environmental investigation on public highway
 - Underground Storage Tank (UST) Removal
 - Support Legal Cases of Migration of Contaminants
 - Support Construction Activity within contaminated ROW (with or without CPU)

CROWMP (1) - Management of ROW with CPU



- Manage ROWs with CPU and implement Risk Management Measure (RMM)
- Record keeping related reports and document
- Address administrative non-compliances identified by MECP
- Communicate non-compliance issues to responsible parties and track the corrective actions
- Communicate CPU requirement to the divisional units



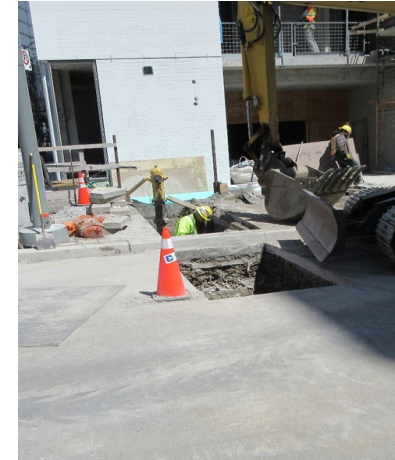
Example of eroded barrier



Example of crack identified > 5 cm



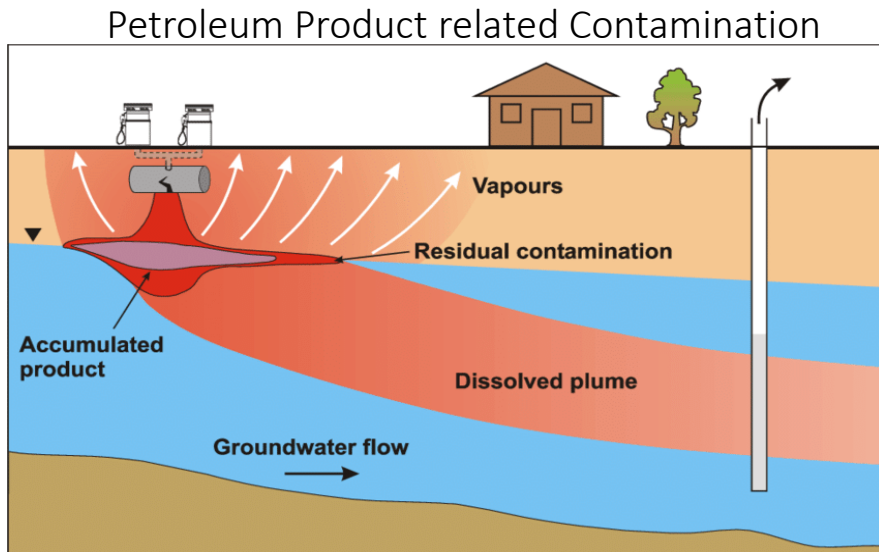
Example of pothole in ROW



Example of maintenance between 1 -2 m

CROWMP (2) - Management of ROW with MW

- Approve MW installation and MW decommissioning on City ROW
- Approve Contamination Management Plan (CMP)
- Review Annual Monitoring and Sampling Report
- Support Legal Service to negotiate Indemnity Agreement



Regulation Authority



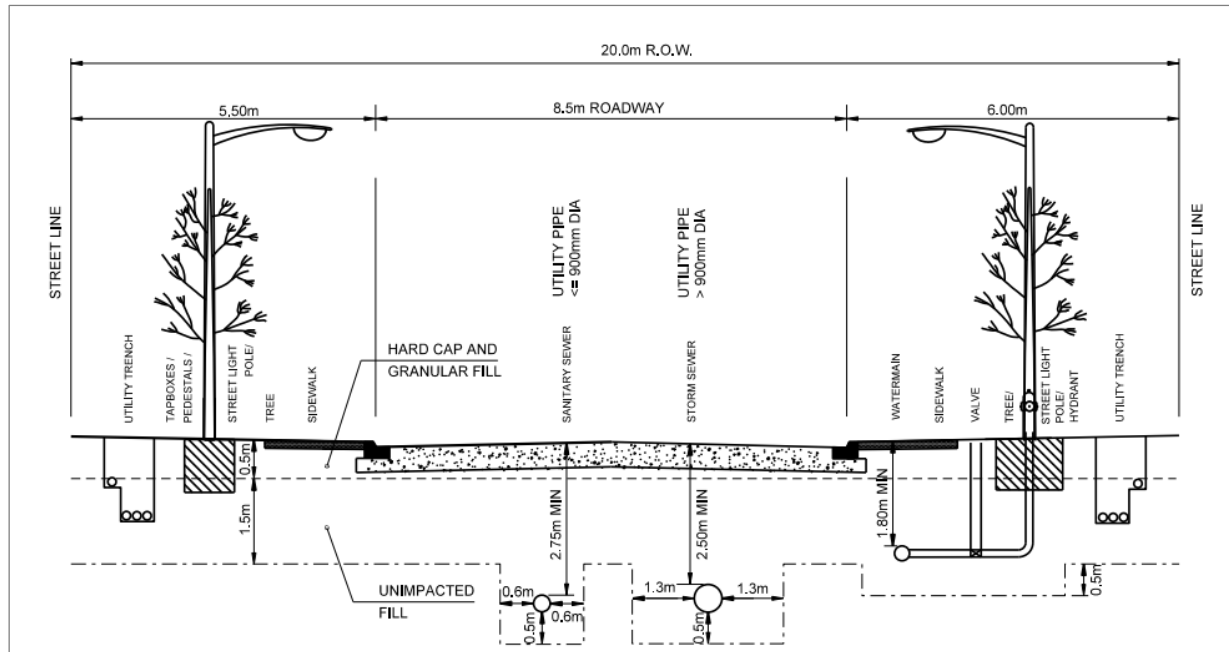
Example of Groundwater Monitoring Result



CROWMP (3) - EA & Conveyance & Transfer & Transit

- Provide environmental approval for conveyance and transfer of land as public highway
- Coordinate with Major Project Unit for delivery of major capital infrastructure projects
- Coordinate with Legal Services to ensure all relevant environmental requirements are included in the planning agreement or side agreement

City's Clean Fill Requirements for Contaminated Lands Typical Street (Drawing T-985.100)



CROWMP (4) - Remediation and Environmental Investigation



- Conduct environmental investigation for contamination migration issue, inform ROW construction, maintenance, permit issuing that may be impacted by the migration
- Response to TSSA order to remove Underground Storage Tanks (UST)
- Manage remediation of contaminated soil and groundwater in ROW
- Support Legal response to litigation case as a result of contamination migration from ROW to adjacent property

Example of Excavation and UST



Liner installation to prevent migration



Major Systems under CROWMS



- System includes processes, procedures, and resources needed to implement, maintain, and continually manage the Contaminated Right of Way.
- Targets areas such as communication, budgeting, legislative compliance, technological needs etc.
- 19 elements in the system under 15 categories.

Major Systems under CROWMS



CROWMS

1. Communication Protocol

1. Develop a Communication Protocol to inform TS staff, other Divisions (1) Migration of contaminants; (2) CPU and MECP auditing; (3) Decommission of MW and Indemnity Agreements; (4) UST Removal and associated TSSA order.

2. Folder Structure

2. Develop a new folder structure for CROWMP&S; Develop a tree diagram that describes the content in each folder and shows the relationships among the program activities.

3. Legislative Audit & Compliance

3. Undertake an audit of all applicable regulations that pertain to the management of contaminated ROW.

4. Directives

4. Develop a Directive that outlines roles and responsibilities, activities, communication and schedules around CROWMP management. It will include consultation with TS and other stakeholders, such as ECS, TS staff, TW, Parks and Utilities.

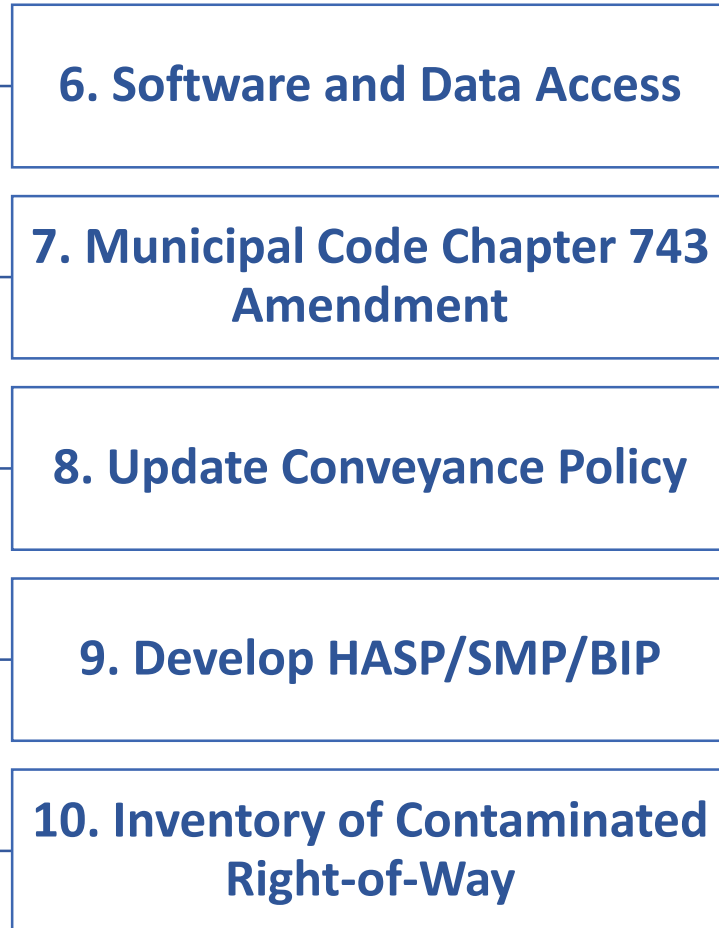
5. Capital and Operating Budget Database

5. Develop a tracking database to track expenditures, and funding needs against available capital and operating funds.

Major Systems under CROWMS



CROWMS



6. Evaluate the software and access to data requirements to maintain the contaminated ROW system. Determine the approval, business case, funding and training requirements for all staff.
7. Motion to provide delegated authority to GM to enter into Indemnity Agreement for Installing and/or removing monitoring wells and/or related/similar infrastructure in the vicinity of and/or partially under the City's ROW.
8. Update *Policy for Accepting Potentially Contaminated Lands to be Conveyed to the City under the Planning Act*, dated December 16, 2014.
9. Develop a HASP, SMP and BIP framework that would provide the guidance on preparing and implementing risk management measures (RMM) in accordance with CPU.
10. Develop and maintain an inventory of Contaminated ROW to be integrated into City's web-based information system.

Major Systems under CROWMS



CROWMS

11. Tracking System

11. Develop a tracking system that tracks status of new, on-going and completed requests, categorize requests, and outstanding requests to staff.

12. Documentation Magmt. and Reporting Tools

12. Acquire or develop a documentation management and reporting tool to effectively manage CROWMP.

13. Evaluate Impact on Cut and Utility Permit Process

13. Evaluate the impact of managing contaminated ROW on the permit and utility cut permitting process and determine what clauses and processes need to be updated.

14. Establish a Work Flow Process

14. Establish a Work Flow Process for managing contaminated sites with CPUs, installation and decommissioning of monitoring wells for the TS.

15. Other Policy, Protocol and Bylaw

15. Update Policy, Protocol and By-law that related to transferring contaminated lands to Transportation Services as future ROW without triggered the *Conveyance Policy*.



CROWMS - Inventory of Contaminated Right-of-Way

TS-Viewer and Dashboard

CROWMS - Inventory of Contaminated Right-of-Way

TORONTO Transportation Viewer 2.2

150 Sudbury

Show search results for 150 Sudbury

Inventory of Right-of-Way with Certificate of Property Use (IROWCPU) on Transportation

- Site Search
- Report and Drawing Extraction

Contaminated
- Certificate

Inventory
Project Name

CPU Number

Link to CPU

Is RSC on

Link to RSC

Is Soil Map

Link to Soil Map

Is Health Assessment

Link to Health Assessment

Is As-built

Link to As-built

Is Summer completed

Link to Summer report:

Is Fall hard

Zoom to

20m

-79.421 43.641 Degrees



Ministry of the Environment
Ministère de l'Environnement

Certificate of Property Use Environmental Protection Act, R.S.O. 1990, c.E.19, s.168.6

Certificate of property use number: **5275-8HZFRQ**
Risk assessment number: **7117-7N8NXT**

Client: Distance Road Co. Inc. (Owner)
1100 King Street West
Toronto, Ontario, M6K 1E6

Site: Road Allowance south of 150 Sudbury Street (Property)
Toronto, Ontario
M6J 3S8

with a legal description as set out in Schedule "A" attached

The conditions of this Certificate of Property Use (CPU) address the Risk Management Measures in the Risk Assessment noted above and described in detail in Part 1 below (Risk Assessment). In the event of a conflict between the CPU and the Risk Assessment, the conditions of the CPU take precedence.

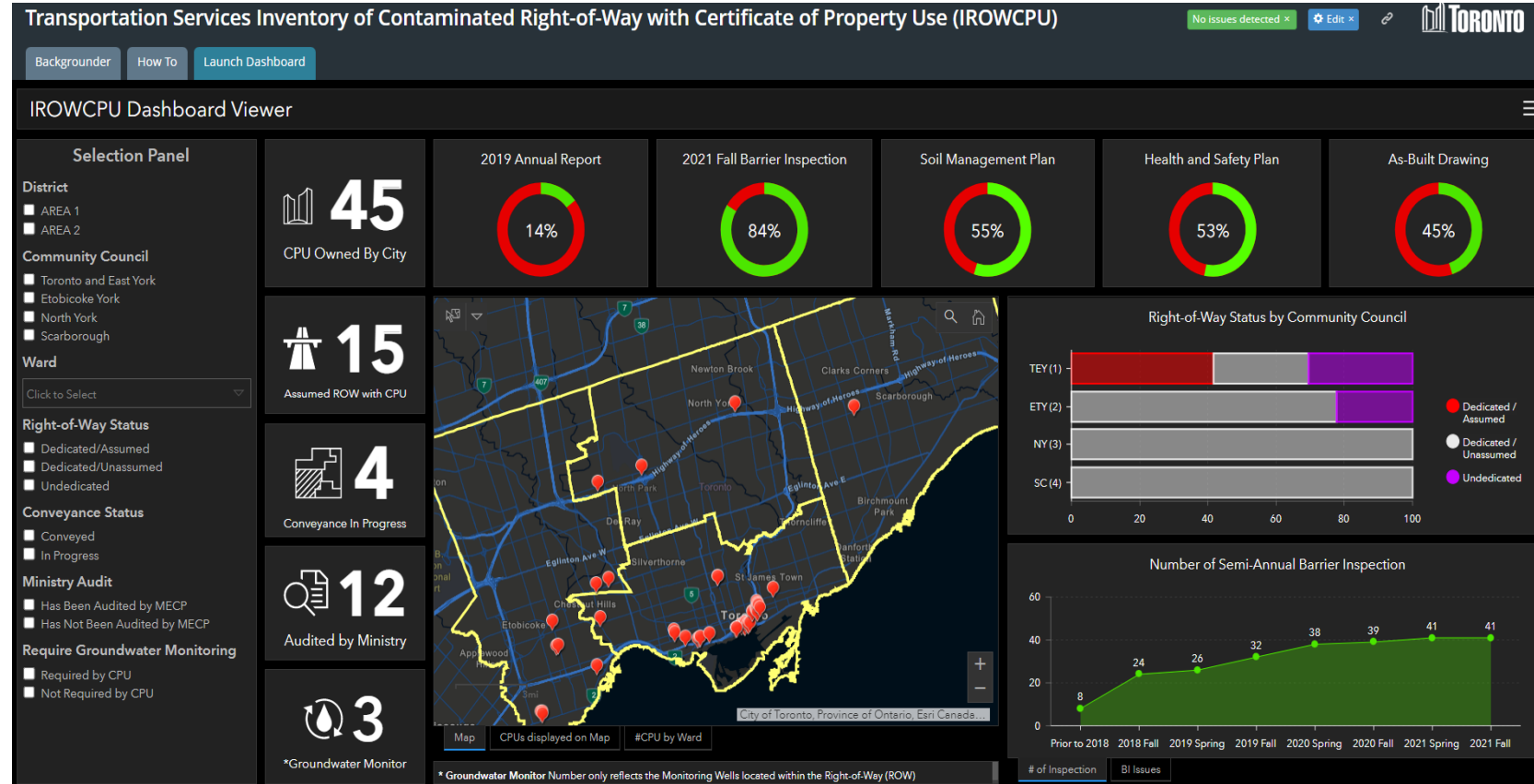
Summary:

IROWCPU and Dashboard



IROWCPU Dashboard and Story Map

- Story Map – Backgrounder and User Instruction (How-To Manual)
- **Site Search**
- CPU Compliance Tracking
- **Check Right-of-Way Status**
- Barrier Issue Tracking
- **Select CPU by Various Categories**



IROWCPU Story Board – Backgrounder Main Page



Transportation Services Inventory of Contaminated Right-of-Way with Certificate of Property Use (IROWCPU)

Backgrounder

How To

Launch Dashboard



Background Information

Overview

The Inventory of Contaminated Right-of-Way with Certificate of Property Use (IROWCPU) Dashboard provides real-time, at-a-glance views of statistics and key performance indicators relevant to Risk Management Measures (RMMs) that are required to implement on ROW with CPU.

RMMs include development and implementation of a Barrier Inspection Plan, Soil and Groundwater Management Plan and Health & Safety Plan, installation and maintenance of hard and fill caps, and inspection of the barrier. Transportation Services is responsible for the implementation of the RMMs for City owned ROW with CPU.

IROWCPU Dashboard helps make decisions for working within contaminated ROW, visualize progress of RMMs implementation, monitor status of RMMs in real time, and inform their responsible unit in the City if there is any deficiency is identified.



IROWCPU Story Board – How To Manual Main Page



Transportation Services Inventory of Contaminated Right-of-Way with Certificate of Property Use (IROWCPU)

Backgrounder

How To

Launch Dashboard

 [Edit](#)



IROWCPU Dashboard Instruction

Overview

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CROWMS - Tracking System

CROWMP and CROWMS Task Tracking System

CROWMP&CROMWS Request Tracking Spreadsheet_20211116.xlsm - Excel

Stephen (Jingyuan) Li

	A	B	C	D	E	F	G	H	I	J	
	Object ID	CROWMP Category	CROWMS Category	Sub Category	Proponent	Regulatory Order	Project	Address	Address2	Request Status	
380	379	EA & Conveyance & Dedication & Transfer & Transit		Major Infrastructure	WT		Port Lands	Cherry St N		Review Release for Construction of Major Roads	
381	380	EA & Conveyance & Dedication & Transfer & Transit		Major Infrastructure	WT		Port Lands	Lakeshore Blvd E		Review Release for Construction of Lake Shore Blvd Bridge and Parkway	
382	381	EA & Conveyance & Dedication & Transfer & Transit		Major Infrastructure	WT		Port Lands	Cherry St N		Review Peer Review Letter of Intent	
383	382	CPU Compliance	<p>Total 531 files (483 files for CROWMP, and 48 files for CROWMS) from 2018 to 2022.</p> <p>We closed total 359 files (313 for CROWMP and 46 for CROWMS).</p>								Received CreateTO inquiry regarding site to-be-transferred to the City
384	383	Installation of Monitoring Wells									Received permit application for investigation is required to collect groundwater information near the manhole location.
385	384	Management of Monitoring Wells									Received 2021 Annual Report
386	385	CPU Compliance		Land Transfer	CreateTO			545 Commissioners St		Received CreateTO inquiry regarding site to-be-transferred to the City	
387	386		Other Policy, Protocol and Bylaw	Land Transfer	Metrolinx					Metrolinx and the City are developing Protocol (REP) for the Subway	
388	387	Management of Monitoring Wells		Environmental Investigation	Shell			2435 Finch Ave W	2435 Finch Ave W North York, ON M9M 2E6	Received onsite Phase II ESA and report which were submitted to	
389	388	Installation of Monitoring Wells		Permit Application				2685 Kingston Rd	2685 Kingston Rd Scarborough, ON M1M 1M4	Received monitoring well installation	
390	389	EA & Conveyance & Dedication & Transfer & Transit		Development Project				150 Sherway Dr	150 Sherway Dr Etobicoke, ON M9C 1A4	Receive a review request for closure of Dr for incorporation into the red line Dr to convey it to the City.	
391	390	Management of Monitoring Wells		MW Annual Report	Suncor			1750 Bloor St W	1750 Bloor St W Toronto, ON M6P 1B3	Received 2021 groundwater Annual Report	
392	391	EA & Conveyance & Dedication & Transfer & Transit		Development Project				3000 Dufferin St		Dev Eng reached out to TS AM regarding requirement for using ROW from private access and later convert to public ROW.	
393	392	Decommissioning of Monitoring Wells and Indemnity Agreement		Well Record	Metrolinx			Albion Rd & Finch Ave W		Received MX/Mosaic request to decommissioning record submission	
394	393	Installation of Monitoring Wells		Permit Application	CreateTO			1190 York Mills Rd		Received MW installation application	

CROWMP Task Tracking System Dashboard



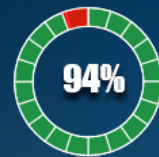
Transportation Services Contaminated Right-of-Way Management Program (CROWMP) Tracking System

General Information

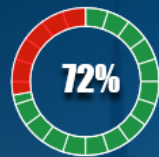
514
Number of Request

180
Open Request

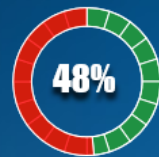
Work Progress



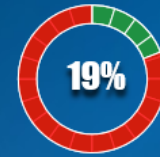
CPU Compliance



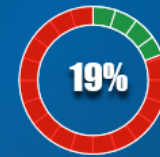
MW Installation



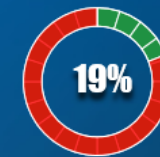
MW Management



MW Decommission



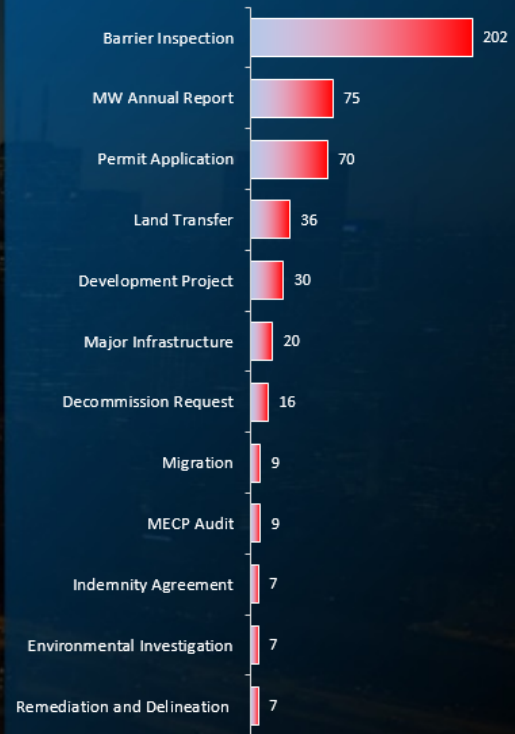
EA Projects Dedication Conveyance



Remediation and Environ. Investigation

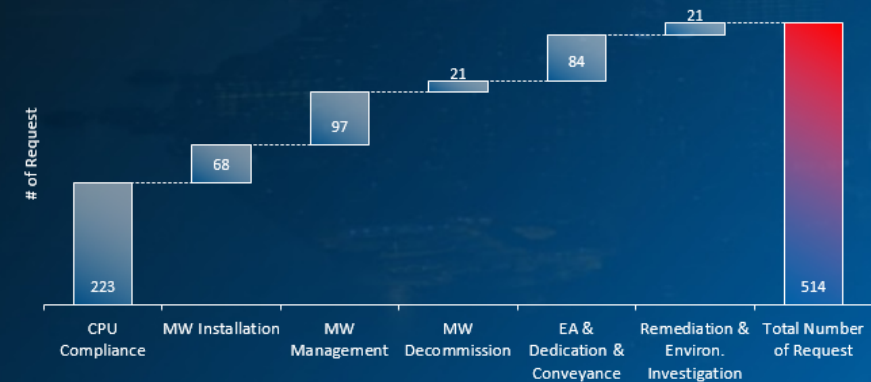
Case by Subcategory and Program

Graph 1 Graph 2



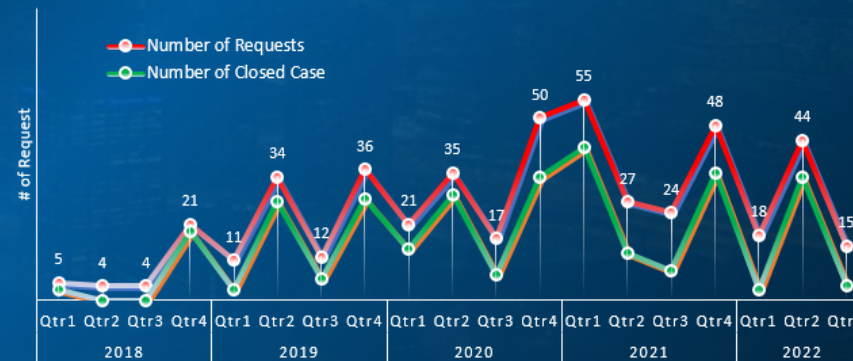
Case by Program

Graph 1 Graph 2



Number of Case by Quarter

Graph 1 Graph 2

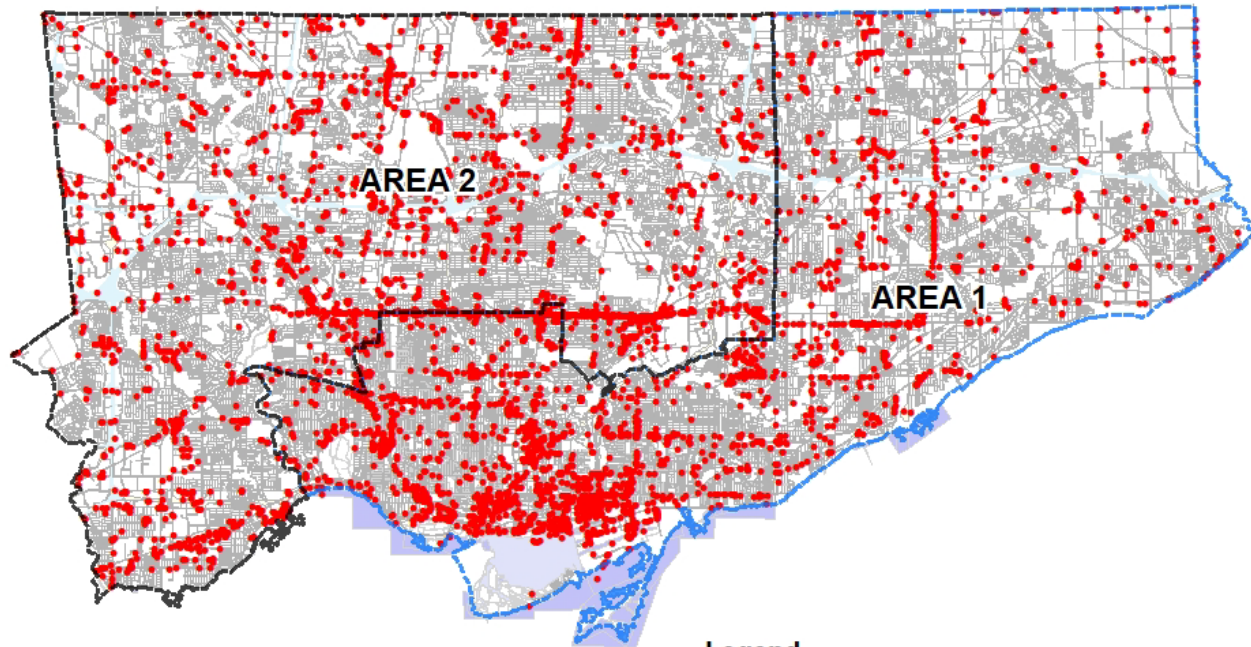


Task Sub Category	Year	Task Priority	Community Council	Ward
Barrier Inspection	2022	(blank)	Toronto and East York	1. Etobicoke North
Development Project	2019	Low	North York	2. Etobicoke Centre
CPU Annual Report	2021	High		3. Etobicoke-Lakeshore
Decommission Request	2020	Medium		4. Parkdale-High Park
EA	2018			
Environmental Investigation	2017			

Next Step: Develop Inventory of Monitoring Well



MECP Provincial Groundwater Monitoring Network
6,189 Monitoring Wells on Right-of-Way
Used to Measure Water Level and Chemistry Data



Legend

• Monitoring Well on Right-of-Way

0 5 10 Kilometers

Monitoring Wells (MWs) Management

1. Review and Approve Installation of MWs
2. Approve Decommissioning of MWs and Indemnity Agreement
3. Management of Monitoring Wells

Questions and Discussion



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**Asset Management Unit,
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