



Markham Village & Unionville Flood Mitigation Study

Public Information Meeting #2
June 24, 2021



Agenda

- Background – Flood Control Program
- Markham Village and Unionville Flood Control Study Findings
- Next Steps – Project Implementation
- Private Plumbing Protection Rebate Program



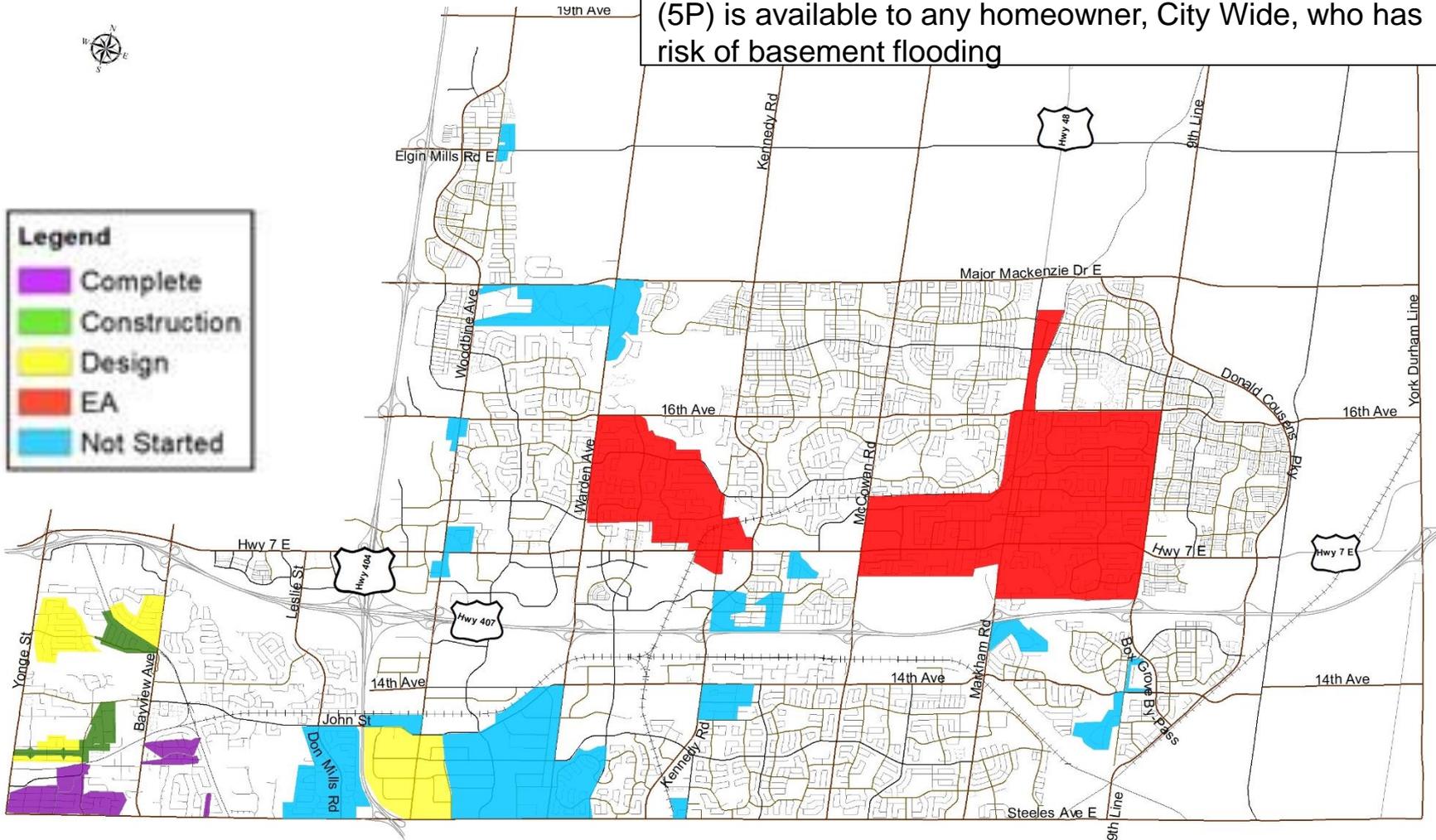
Background – Flood Control Program

- In February 2013, Council approved a 30 year Flood Control Program, which provides funding to improve the level of service of our drainage systems
- The rate structure was updated in 2019. Current rates are:
 - Residential - \$51 per year
 - Non-Residential - \$28.50 per \$100,000 current value assessment (CVA)
- West Thornhill and Don Mills Channel project implementation is ongoing, with anticipated completion of these projects in 2026 and 2029 respectively
- Markham Village and Unionville are the next areas to be implemented – the study for these areas was accelerated after the significant flooding that occurred in the summer of 2017
 - Study originally planned for 2027 was initiated in 2018



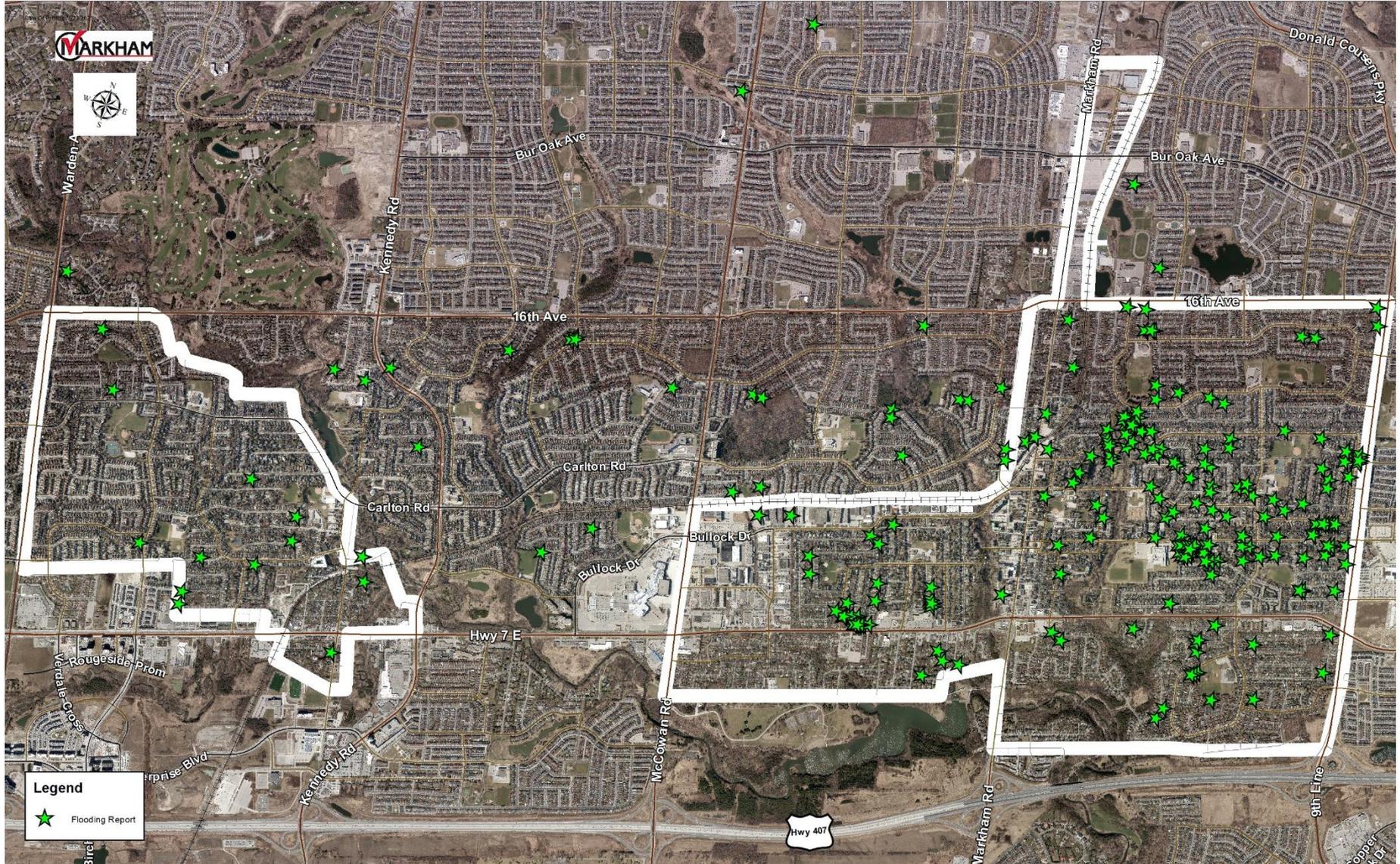
Background - Flood Control Project Status

Note: The Pilot Private Plumbing Protection Program (5P) is available to any homeowner, City Wide, who has risk of basement flooding





Markham Village/Unionville Study Area & Flood Records





Causes of Flooding

- The area was developed prior to 1978, when the City's design standards were increased from a 5 year level of service to 100 year level of service.
 - When very large storm events occur, there is not enough capacity in the system, and it surcharges into basements
- Private plumbing systems require maintenance, which can cause basement flooding when not performed.





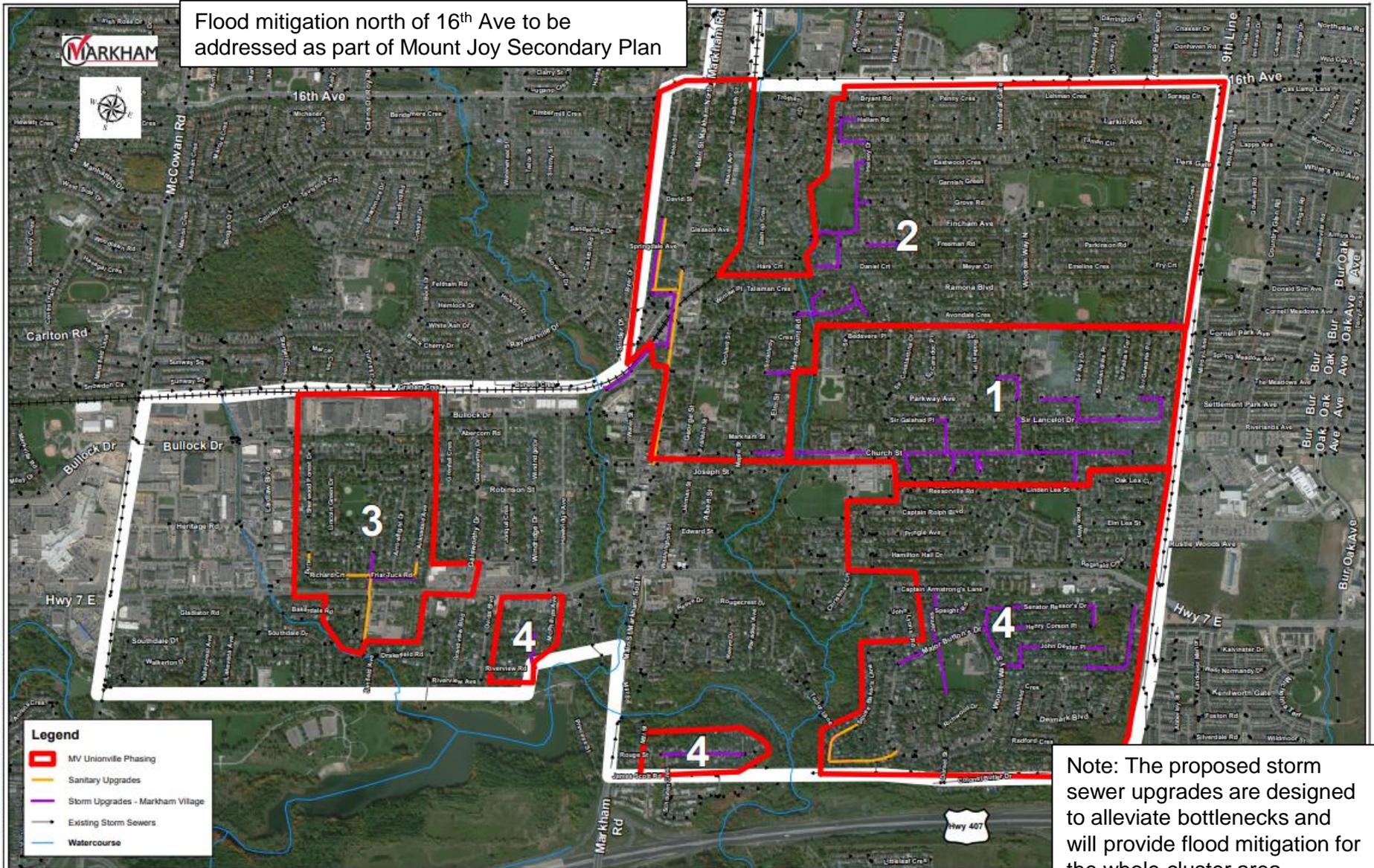
Proposed Solutions

- Options for solutions include:
 - Sewer size upgrades
 - Storage facilities
 - Private Plumbing Protection
- Four project clusters have been identified
 - The timing and phasing of upgrades are to be prioritized based on **risk** and logistics associated with construction
 - Work is clustered based on combining work on individual drainage systems in the same location, and at similar risk levels
 - The clusters are numbered 1 to 4 based on high to low risk
- The Private Plumbing Protection Program will continue to be available for all homes within the study area



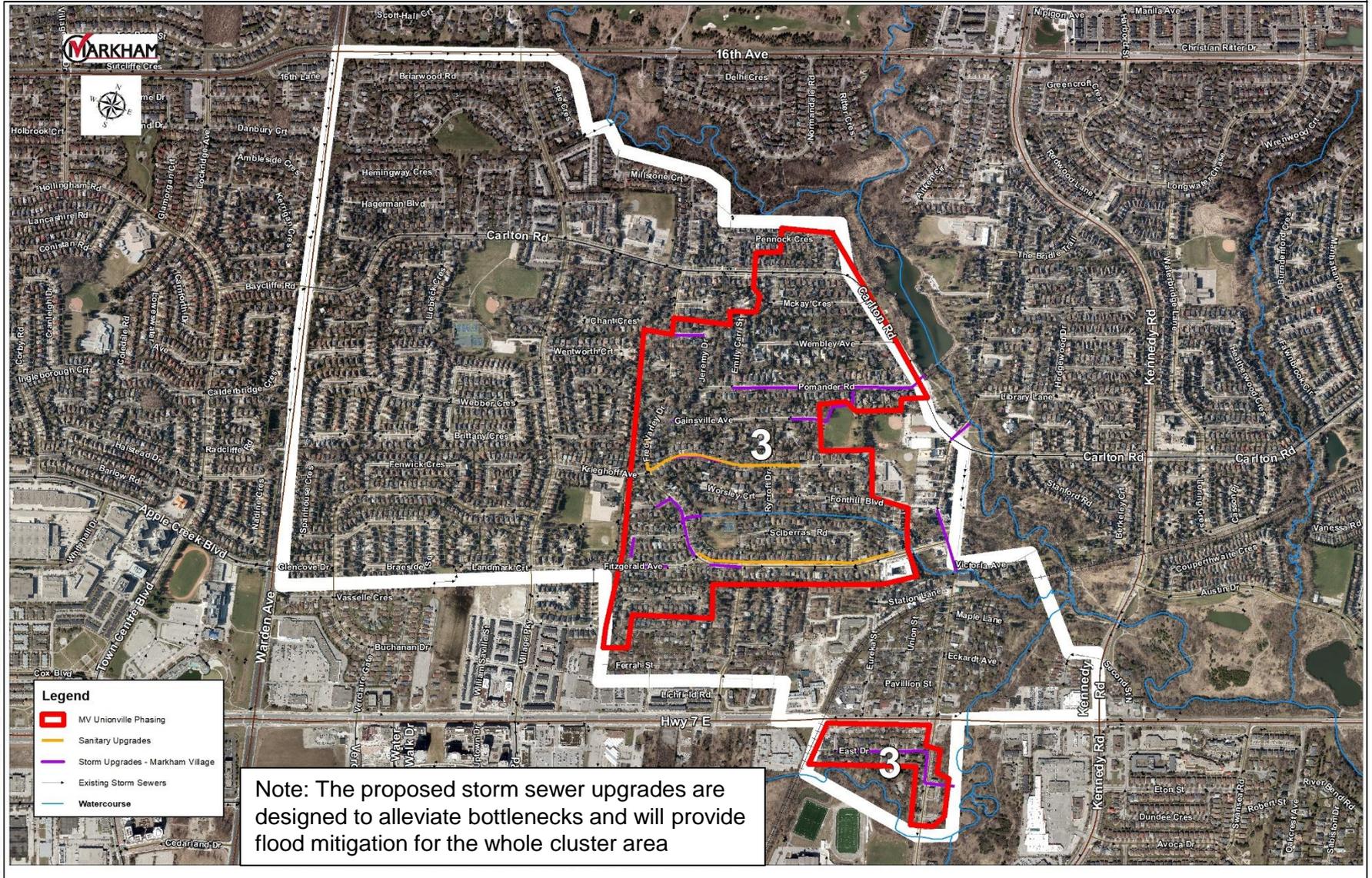
Project Clusters – Markham Village

Flood mitigation north of 16th Ave to be addressed as part of Mount Joy Secondary Plan





Project Clusters - Unionville





Project Costs

Project Cluster #1 (Markham Village) – Church St. /Parkway Ave Area Drainage Improvements

- Diversion of Flow from Parkway Ave, Sir Lancelot Dr, Jack Crt, Jill Court, Rose Way to Church Street, and upgrade of Church Street System

Project Cluster #2 (Markham Village) - Ramona Blvd., Daniel Court/ Fincham Improvements

- Sewer Upgrades

Project Cluster #3 (Markham Village/ Unionville) - Main St., East Drive, Pomander Road, Gainsville, Fred Varley, Friar Tuck

- Diversion of Emily Carr and Gainsville Ave to Pomander Street System, and upgrade of Pomander Street Sewer
- Optimization of Wembley Ave System
- Upgrade of Fred Varley System at Tusgay Court/ Markhaven Road, East Drive, Main Street

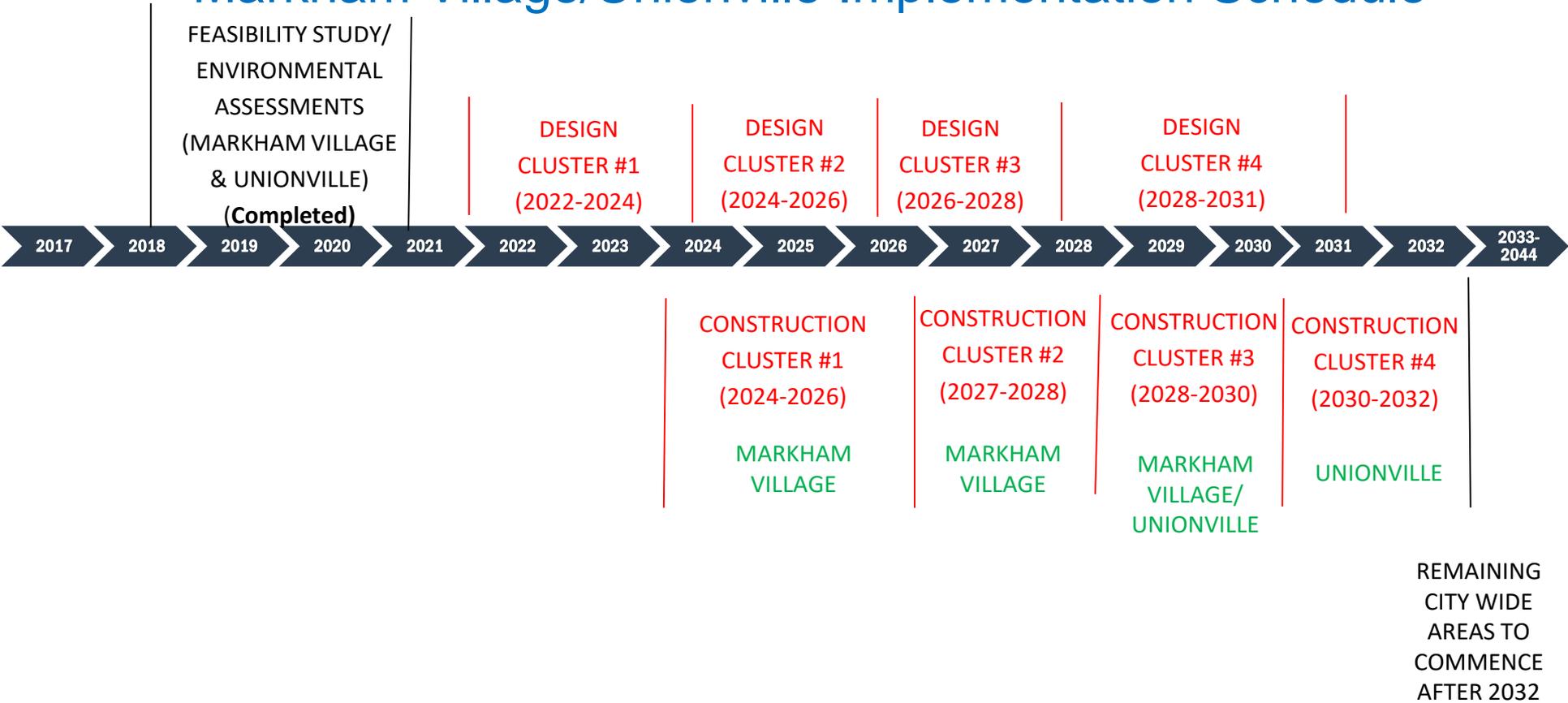
Project Cluster #4 (Markham Village) - Milne Lane, Rouge Street, Major Buttons/ Squire Bakers Lane System Improvements

- Upgrades of three systems

Total Estimated Storm upgrades Program Cost - \$106.1M



Markham Village/Unionville Implementation Schedule



Note: Construction Phases within Clusters to be determined during Detailed Design (To be initiated in 2022)



Next Steps

- Incorporate feedback and finalize project implementation plan
- Initiate detailed design for cluster #1 in 2022

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Questions

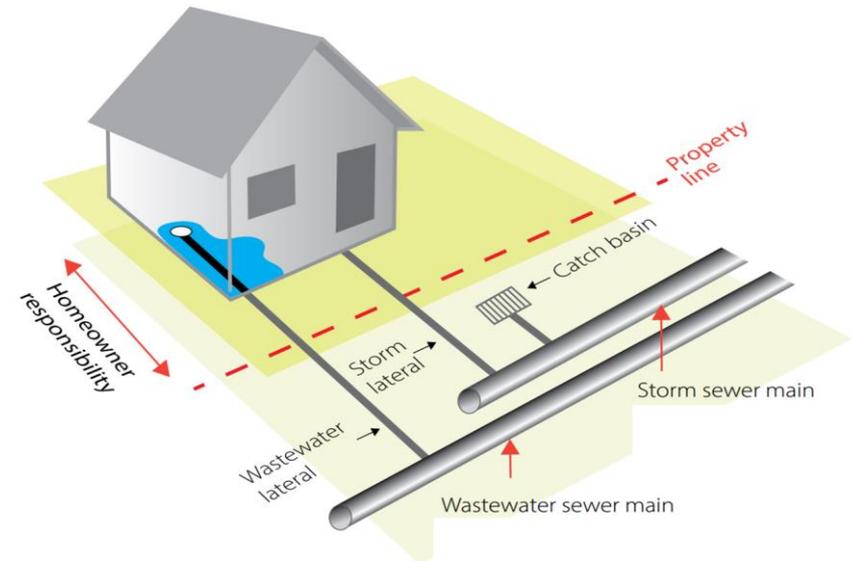


Private Plumbing Protection Rebate Program



Private Plumbing Protection Rebate Program

- Severe rain events can overwhelm the City's older sanitary and storm sewer systems. This can contribute to basement flooding and property damage.
- Under intense rainfall conditions, home flooding can happen in many ways:
 - Direct connection of your home's private plumbing to the City's sanitary or storm sewer systems
 - Blocked or damaged sanitary or storm laterals (pipes) between the home plumbing system and the City's sewers.





Private Plumbing Protection Rebate Program

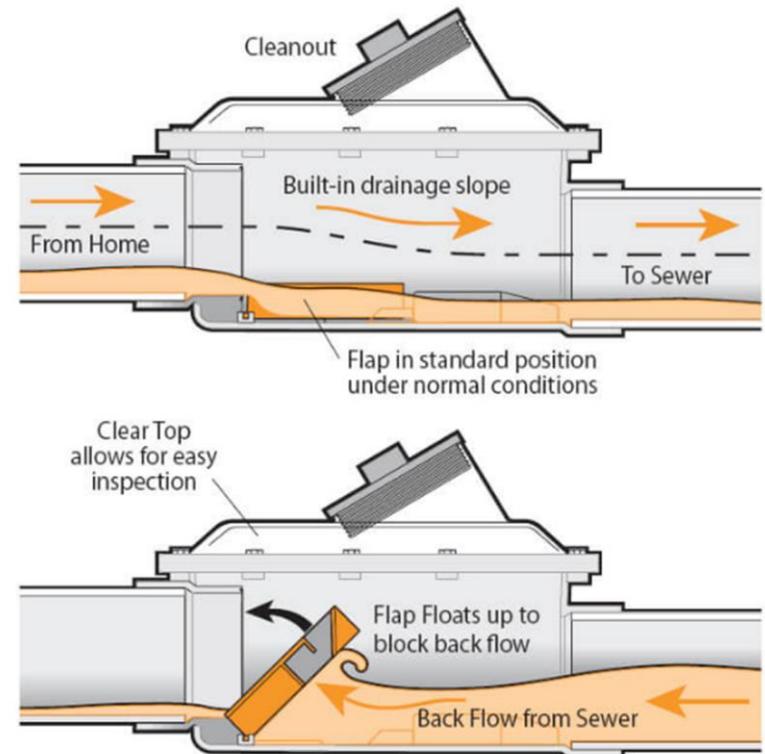
- To help reduce flood damages, in April 2018, Markham City Council approved a Private Plumbing Protection Rebate Program to financially support homeowners who install flood protection measures.
- Measures promoted under the program include:
 - Backwater Valve
 - Weeping Tile Disconnection and Sump Pump Installation
 - Sanitary and Storm Lateral Relining and Repair
- The program has been extended until April 30, 2022.



Private Plumbing Protection Rebate Program

• Backwater Valve:

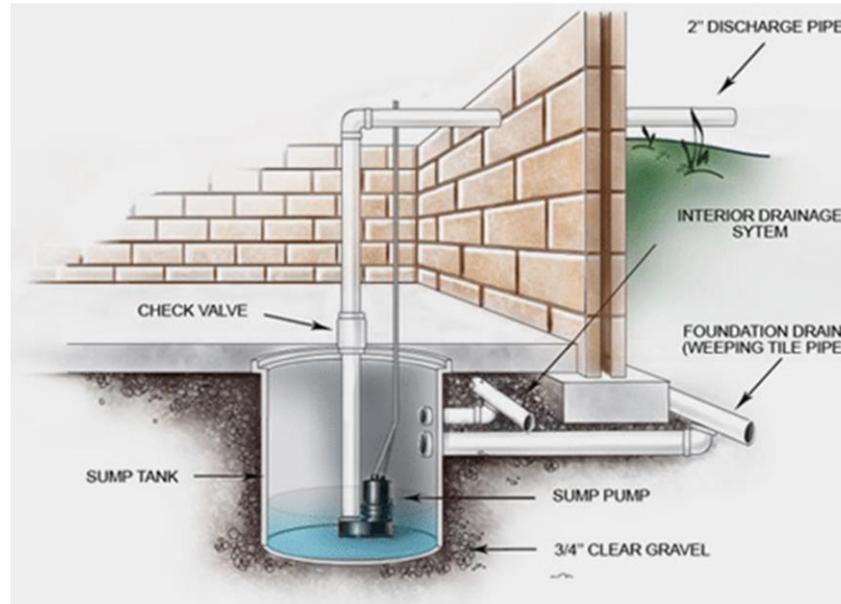
- A device installed to stop stormwater or sewage from flowing back into your home.
- This device acts as a 'check valve' that allows sewage or stormwater to flow out of the home's plumbing system during normal conditions, and that prevents back flow of sewage or stormwater during storms.





Private Plumbing Protection Rebate Program

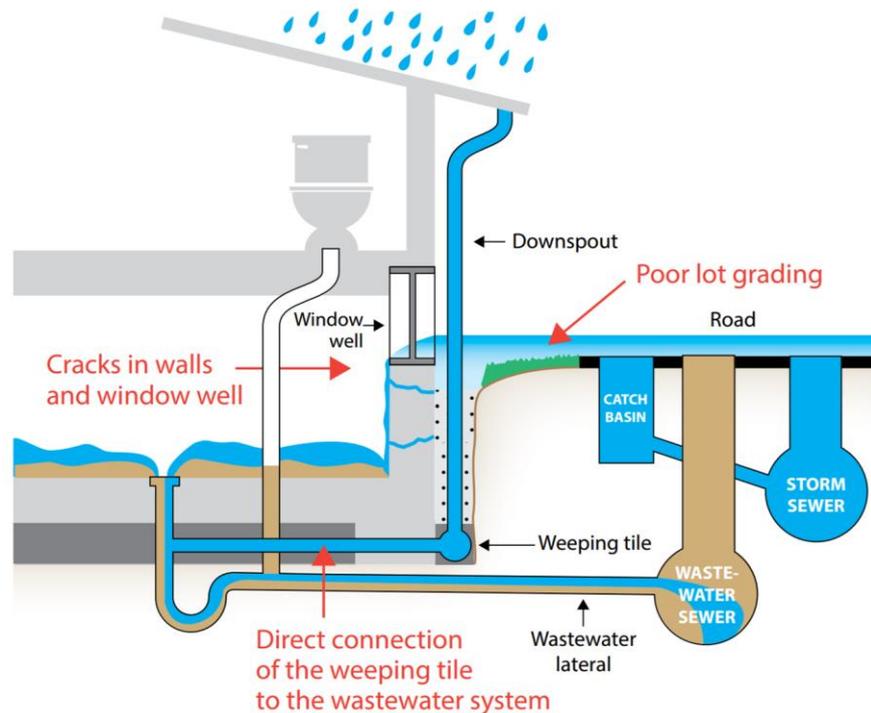
- **Weeping Tile Disconnection and Sump Pump Installation:**
 - Weeping tiles (also called foundation drains) collect groundwater or infiltrated rainwater from around the outside of homes and may directly connect to municipal sewer systems.
 - Disconnecting weeping tiles from municipal sewers and installing a sump pump can help prevent infiltration flooding through foundation walls or the floor when municipal sewers are surcharged during large storm events.





Private Plumbing Protection Rebate Program

- **Sanitary and Storm Lateral Relining and Repair:**
 - The replacement and restoration of private laterals (pipes) connecting your home's plumbing to the City's sewer system.





Private Plumbing Protection Rebate Program

Rebates amounts for eligible measures as follows:

Private Plumbing Protection Measure	Maximum Rebate Amount
Backwater Valve – Indoor Installed on Sanitary Lateral	\$1,750
Backwater Valve – Indoor Installed on Storm Lateral	\$1,750
Backwater Valve – Outdoor Installed on Sanitary Lateral (NEW)	\$2,000
Backwater Valve – Outdoor Installed on Storm Lateral	\$2,000
Weeping Tile - Disconnected from Sanitary Lateral and Redirect to Storm Lateral by gravity connection	\$3,000
Weeping Tile - Disconnected from Sanitary Lateral and Sump Pump Installation	\$5,000
Lateral Reline/Repair – Storm	\$2,500
Lateral Reline/Repair – Sanitary	\$2,500



Private Plumbing Protection Rebate Program

Am I eligible?

- The property must be located in known flood prone areas, or demonstrate existence of flood risk in the area
- The property is not subject to any contraventions, work orders or outstanding municipal requirements
- No outstanding municipal fines, tax payments, or fees
- The property owner has obtained approval of the work from the Environmental Services Department prior to installation
- Downspouts have been disconnected from the City's sewer system
- The property owner provides the necessary documentation required in the application forms, and complies with program requirements
- The property owner has obtained building permits for the new installation
- The new installation adheres to the *Building Code Act, 1992*, S.O. 1992, c. 23 and the Ontario Building Code O. Reg. 332/12, as amended or any successor thereof;
- The property owner signs a release form in favour of the City
- The work is not required as part of other works in meeting Ontario Building Code requirements
- The deadline to obtain the building permit is April 30, 2022 and submit applications for rebate is July 31, 2022.



Private Plumbing Protection Rebate Program

Application Steps:

- Property owners determine required work in consultation with qualified contractor and confirm eligible work
- Property owners fill out the [Technical Review Application Form](#) and submit to City for review/approval
- After receiving an initial approval, property owners hire a licensed plumber to conduct CCTV inspection of laterals and submit inspection record to the City for review
- City issue the Technical Review Approval form to property owners to proceed or change the work plan
- Property owners submit building permit application along with the Technical Review Application and Approval Form
- Building Department issues the permit
- Property owners hire qualified contractor to complete the installation
- Building Department inspects completed works
- Property owners submit [Rebate Application Form](#) including invoices to Environmental Services Department
- City issues rebate cheque to property owners



Private Plumbing Protection Rebate Program

- **How to Apply?** To learn more about this rebate program or if you would like to apply, please visit the City website www.markham.ca/water or send an email to privateplumbing@markham.ca
- To determine which measures may provide protection to your home, contact a licensed plumber for an assessment.





Sanitary Downspout Disconnection Program

- This long-term program was initiated to improve the performance of the City's sanitary (wastewater) collection system by reducing wet weather inflows that can limit capacity during extreme storm events and contribute to back-ups and flooding.
- Downspouts that drain rooftops into the City's sanitary sewer are first identified using smoke and water testing, and homeowners are advised of the need to disconnect in accordance with the City by-law.



Rain Barrel



Downspout Disconnection



Smoke Testing



Questions