Private Plumbing Rebate Program and Markham Village & Unionville Flood Control Study

Community Information Meeting

Markham Village C.C.
April 26, 2018

Purpose

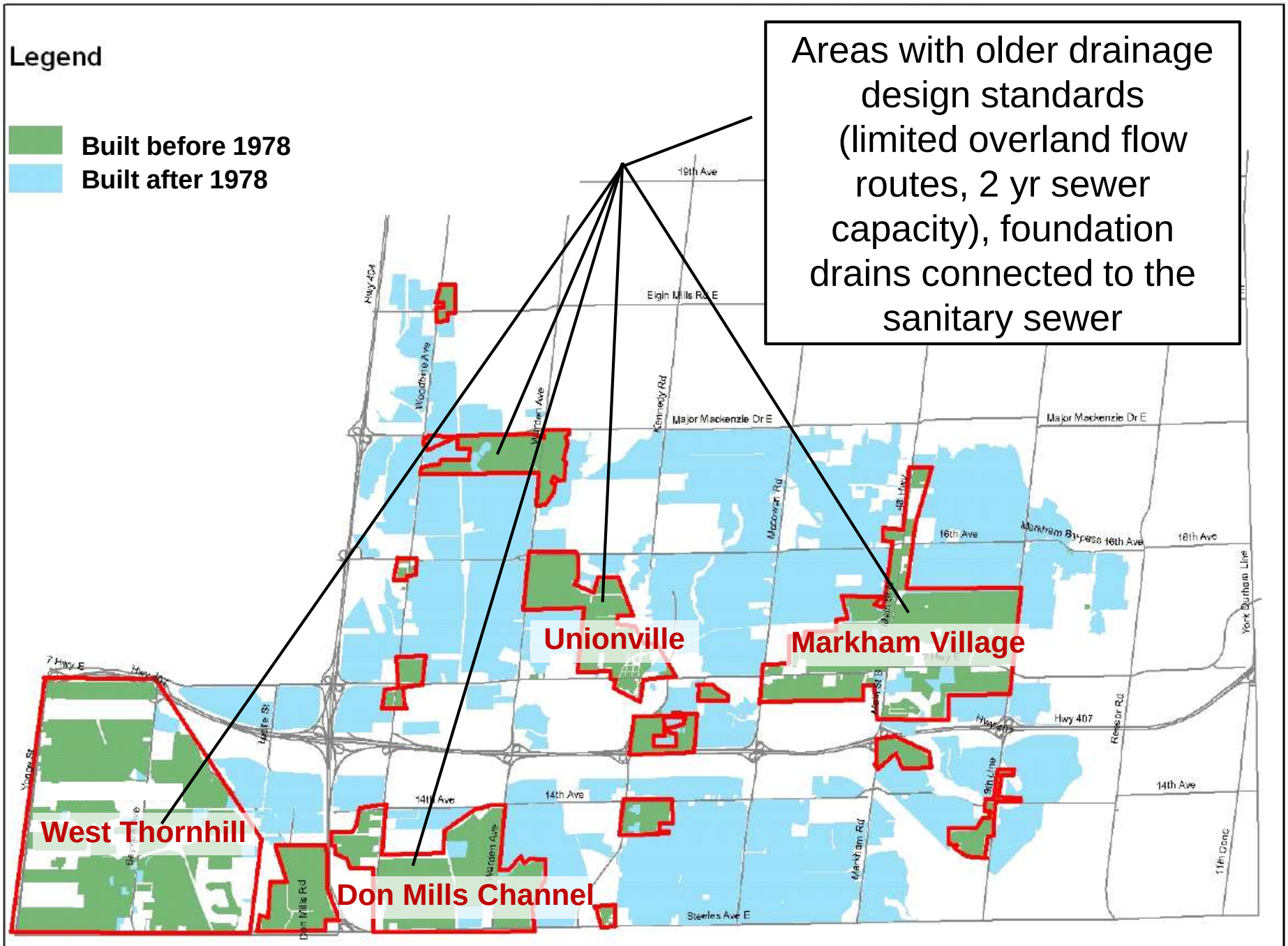
- To introduce the City's upcoming plumbing protection rebate program.

- To advise residents and businesses of the Markham's Flood Control Program ongoing and upcoming activities in the Markham Village area.

Markham's Flood Control Program

- Following the August 19, 2005 storm Markham initiated several flood risk reduction initiatives and actions:
  - Mandatory downspout disconnection program to eliminate stormwater into City-wide wastewater systems.
  - Initiated Class Environmental Assessment studies to identify "100 year storm" sewer system upgrades.
  - Developed a long-term City-wide Flood Control Program and sustainable funding source (Stormwater Fee) for city-wide stormwater system upgrades.
  - Completed a Wastewater Master Servicing study to identify capacity constraints to wastewater (sanitary sewer) systems to accommodate existing and future growth.

WHERE ARE FLOOD CONTROL ACTIVITIES NEEDED ?

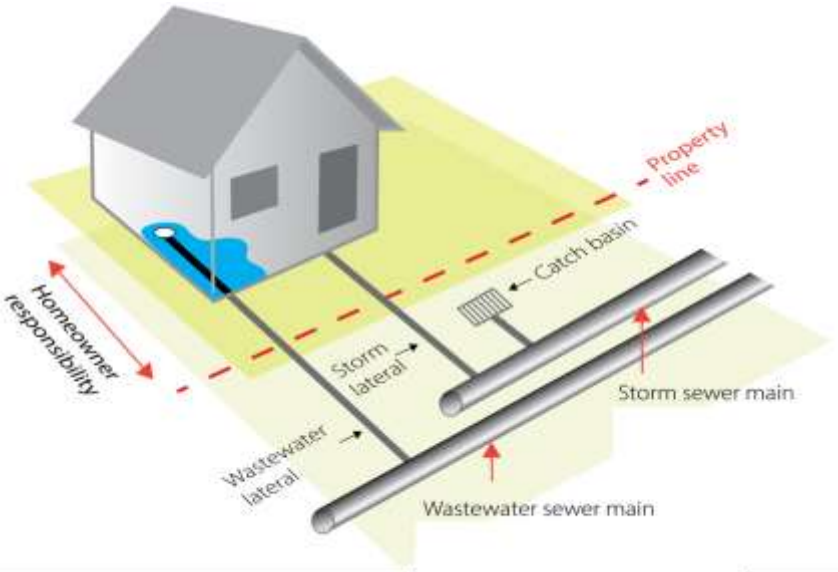


Current and Ongoing Activities

- The following programs and projects contribute to reduced flood risks in the Markham Village Area:
  - New Private Plumbing Protection Rebate Program
  - Sanitary Downspout Disconnection Program
  - Markham Village & Unionville Flood Reduction Study

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.

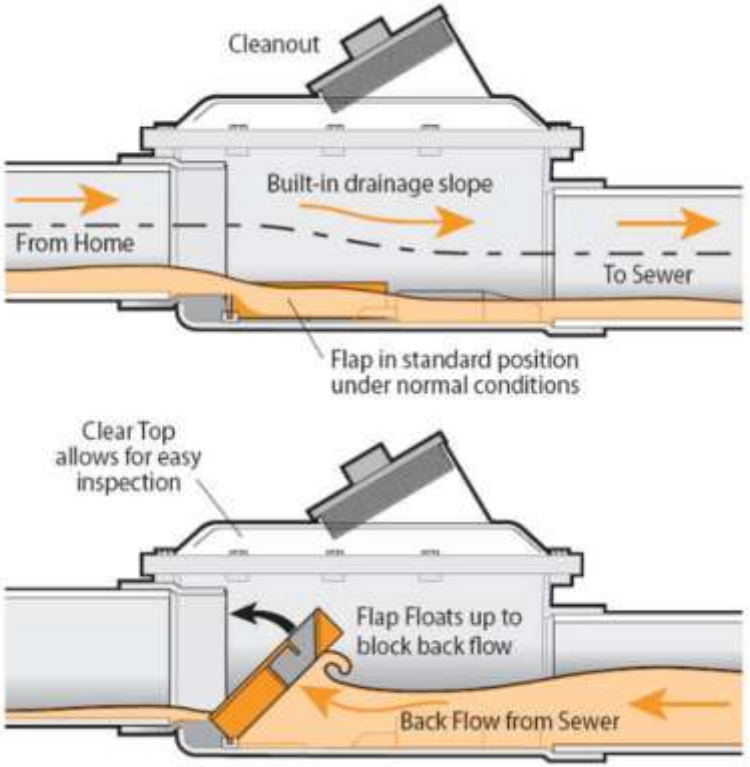
- Measures promoted under the program include:
  - Backwater Valve
  - Weeping Tile Disconnection and Sump Pump Installation
  - Sanitary and Storm Lateral Relining and Repair

Private Plumbing Protection Rebate Program

- **Backwater Valve:**

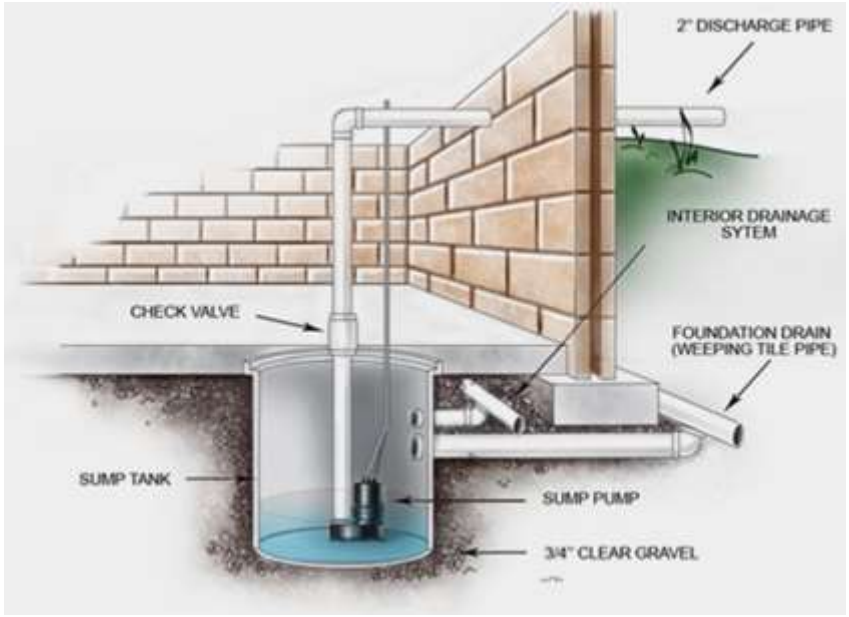
  - A device installed to stop stormwater or sewage from flowing back into your home.

  - 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

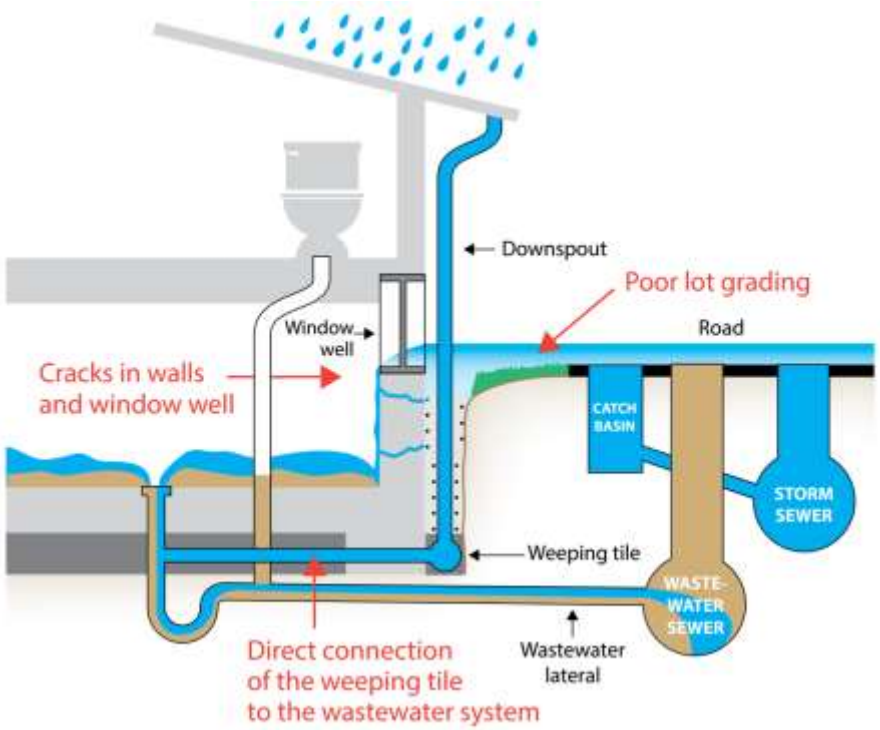
- **Weeping Tile Disconnection and Sump Pump Installation**:
  - Weeping tiles (also called foundation drains) collect groundwater or infiltrated rainwater from around the outside of homes and may directly connect to municipal sewer systems.
  - Disconnecting weeping tiles from municipal sewers and installing 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 installations area as follows:

Protection Measures	Rebate Amount
Backwater Valve - Indoor Sanitary	$1,750
- Indoor Storm	$1,750
- Outdoor Storm	$2,000
Weeping Tile Disconnection - Redirect to Storm	$3,000
- Sump Pump	$5,000
Lateral Relining - Storm	$2,500
- Sanitary	$2,500

Private Plumbing Protection Rebate Program

- **Who will receive a rebate?** Property owners who install protection measures are eligible to receive City rebates subject to certain conditions and submission of a rebate application form.

  - **Retroactive Rebate** – Property owners who completed installations between May 1, 2017 and May 1, 2018 are eligible for a retroactive rebate subject to City inspections.

  - **New Installation Rebate** – Property owners who complete work after May 1, 2018 are eligible for a new installation rebate subject to obtaining necessary building permits and City inspections. This pilot program will run for the next two years.

Private Plumbing Protection Rebate Program

- **Am I eligible?** Property owners are eligible for rebates subject to the following:
  - Your home is connected to the City's sewer system
  - Your property is not subject to any contraventions, work orders or outstanding municipal requirements
  - No outstanding municipal fines, tax payments, or fees
  - Downspouts have been disconnected from the City sewer system
  - As the Property Owner, provide the necessary documentation required in the application forms, and comply with program requirements
  - You have obtained any necessary permits for the New Installation
  - As the Property Owner, ensure the new installation adheres to the Building Code Act
  - You agree to sign a release form in favour of the City.

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 under “Water & Wastewater” or call 905-477-5530 to obtain further information and necessary application forms.

- To determine which measures may provide protection to your home, contact a licensed plumber for an assessment.

Sanitary Downspout Disconnection Program

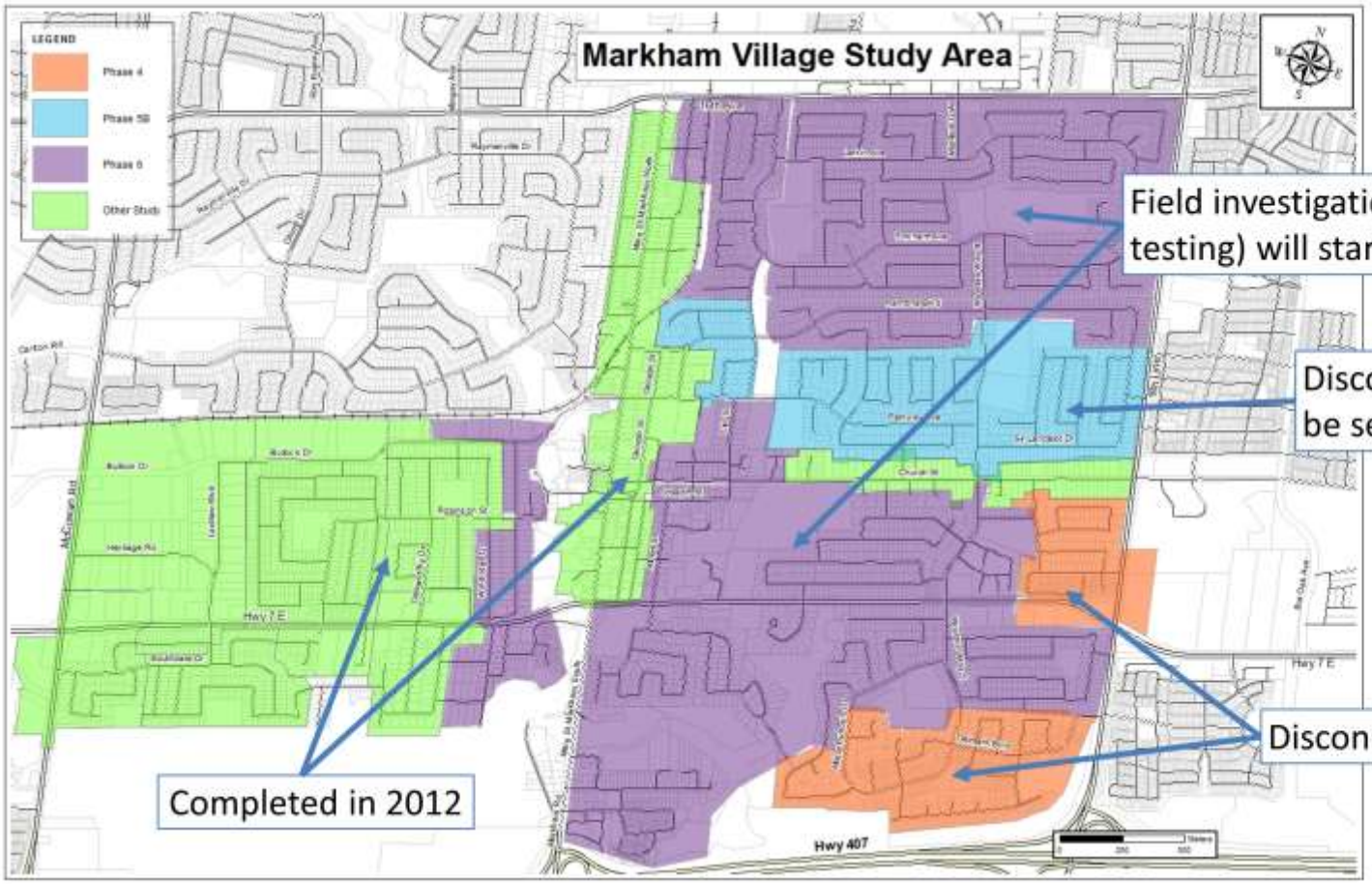
- This long-term program was initiated to improve the performance of the City's sanitary (wastewater) collection system by reducing wet weather inflows that can limit capacity during extreme storm events and contribute to back-ups and flooding.
- Downspouts that drain rooftops into the City's sanitary 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

Sanitary Downspout Disconnection Program

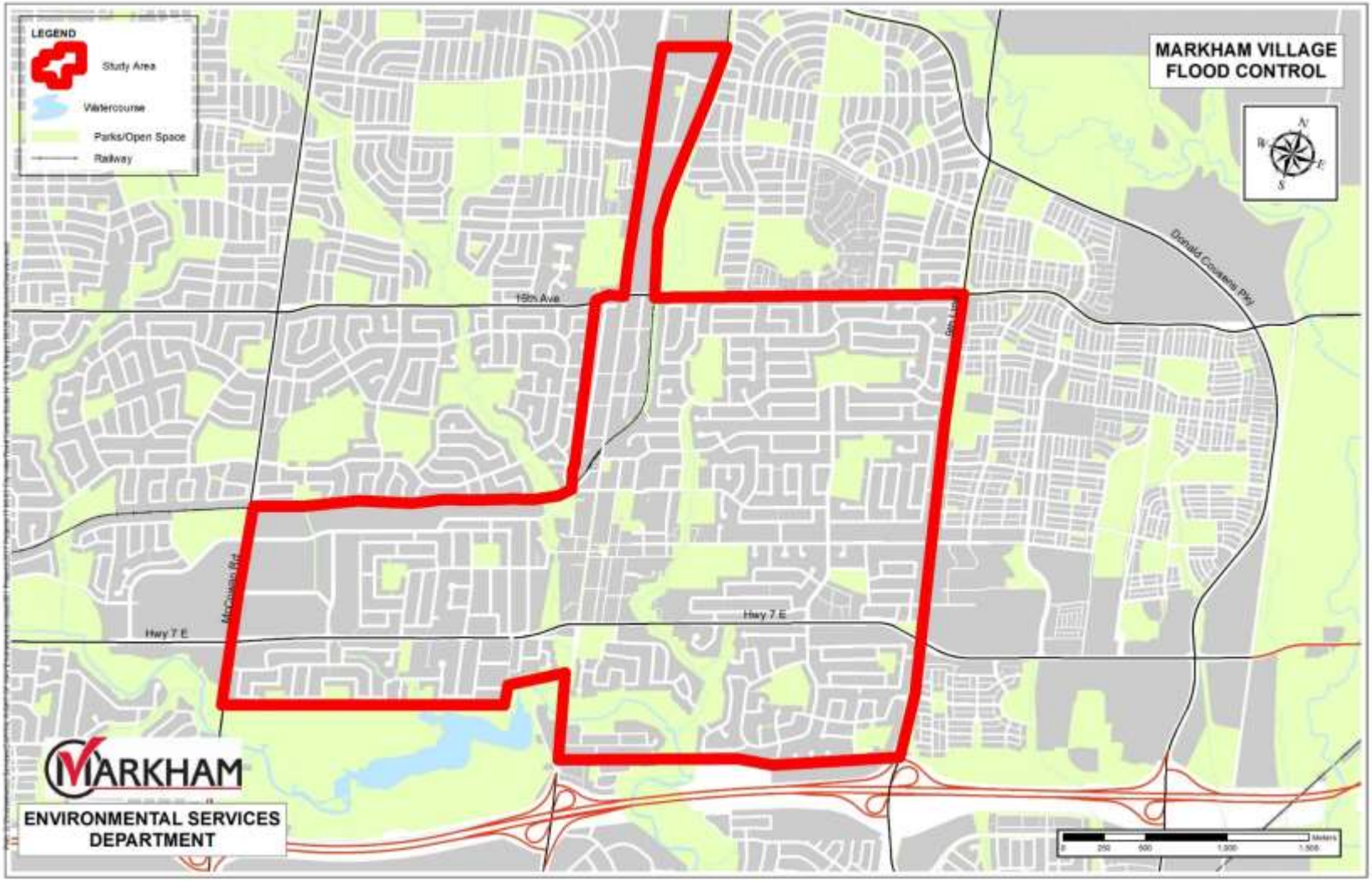


Sanitary Downspout Disconnection Program

- Financial assistance is provided to those with downspouts connected to sanitary system (e.g., 80% of cost up to $500, rain barrel up to $150).

Citywide Multi-phase Sanitary Downspout Disconnection Program Status			
	Field Investigation (Lot Survey & Smoke testing)	Downspout Disconnection (12 months)	Post Disconnection Flow Monitoring
Pilot	2008	2010	2012
Phase 1	2013	2015	2017
Phase 2	2014	2016	2017
Phase 3	2015	2017	2018
Phase 4	2016	2017/2018	2018
Phase 5A	2017	2018/2019	2021
Phase 5B	June/July 2018	2019/2020	2021
Phase 6	July-August, 2018	2019/2020	2021

Markham Village & Unionville Flood Reduction Study



Markham Village & Unionville Flood Reduction Study

- Purpose of Study: Investigate flooding associated with drainage systems in Markham Village and Unionville. The Markham Village area experienced considerable flooding during the July 2017 storm events.

- The study aims to:
  - Assess existing drainage conditions and identify causes of flooding in the study area
  - Develop a range of alternative solutions to reduce flooding and flood damage within the study area
  - Recommend a preferred solution to best reduce flooding and flood damage within the study area

Markham Village & Unionville Flood Reduction Study

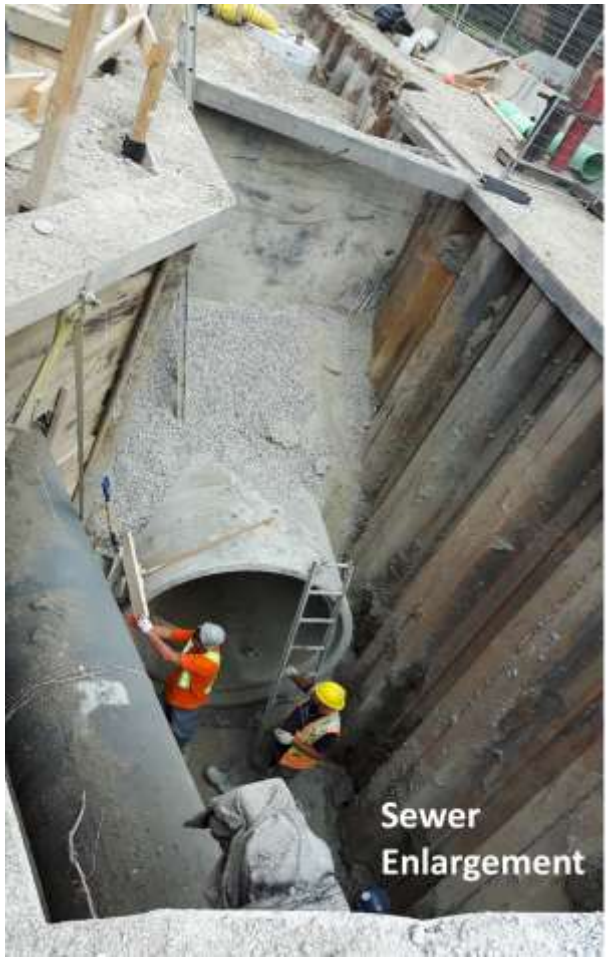
- Causes of Flooding:
  - Majority of the subject area was developed prior to 1978 when the standards for sewer design were updated to provide greater resiliency.
  - As a result, the current storm and sanitary sewer system may not have adequate capacity to handle stormwater runoff during large storm events (based on current standards).
  - When the sewer capacity is exceeded, there is potential for flooding of basements, roads and properties.

Markham Village & Unionville Flood Reduction Study

- Potential Solutions – Source Control Options: Measures that control stormwater where it originates (ie. roofs, roads) before it enters the City's storm system
  - Storage facilities (ie. underground tanks)
  - Low impact development (LID) facilities (ie. bioswales)
  - Private Plumbing Protection Rebate Program

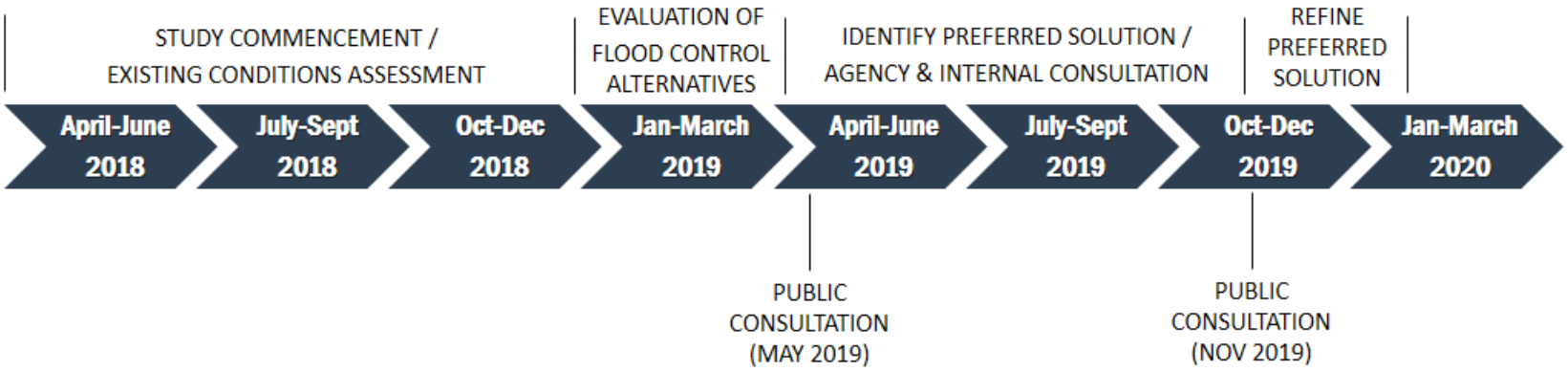
Markham Village & Unionville Flood Reduction Study

- Potential Solutions - Conveyance Options: Drainage system improvements
  - Improvements to overland flow drainage (ie. roads)
  - Sewer enlargement
  - Downspout disconnection
  - Inlet controls



Markham Village & Unionville Flood Reduction Study

- Project Schedule:



- Next Steps: Existing Conditions Assessment
  - Create an inventory of all locations that were flooded in the past
  - Complete analysis of existing conditions through drainage modelling and confirm with inventory
  - Analyze drainage model results to identify causes of flooding and areas of concern

Questions