



# Public Information Meeting Cooksville Creek Flooding Issues

August 2009 Storms

November 9, 2009  
Mississauga Civic Centre  
Council Chambers  
7:00 pm to 9:00 pm

## Roles and Responsibilities

- Credit Valley Conservation (CVC)
  - Regulation of the flood plain
  - Flood warnings
- City of Mississauga
  - Road drainage, storm sewers
  - Parks, greenbelts, trails and City trees
  - Creek erosion and flow management
- Region of Peel
  - Sanitary sewers

## PUBLIC INFORMATION MEETING - COOKSVILLE CREEK FLOODING ISSUES

- Cooksville Creek Watershed

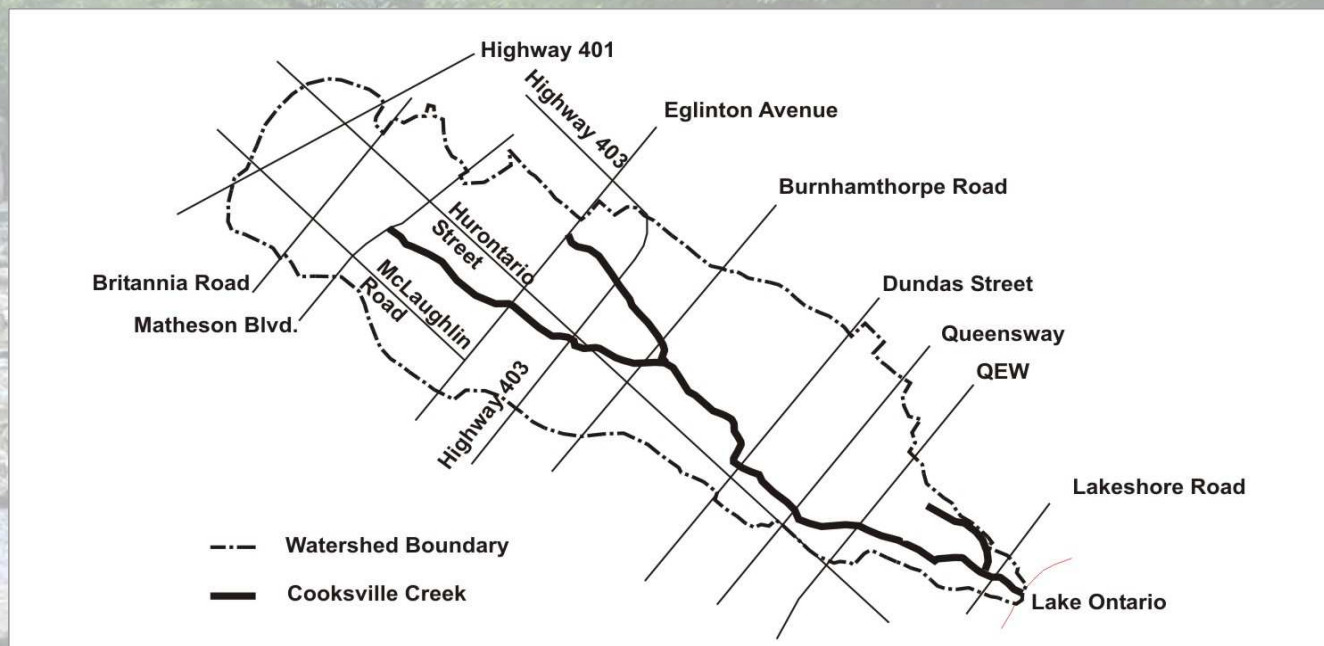
- 16 km x 2 km

- Land Use

- Res. 60%
- ICI 34%
- OS 6%

- Flood Plain

- Area subject to overland flooding; 4.5% of watershed
- Originally mapped in 1975; updated 1996
- Existing dwellings within Flood Plain constructed prior to 1975; most located south of King Street East
- FP widths: 100-300 m D/S of Mississauga Valley Blvd; 50 m U/S



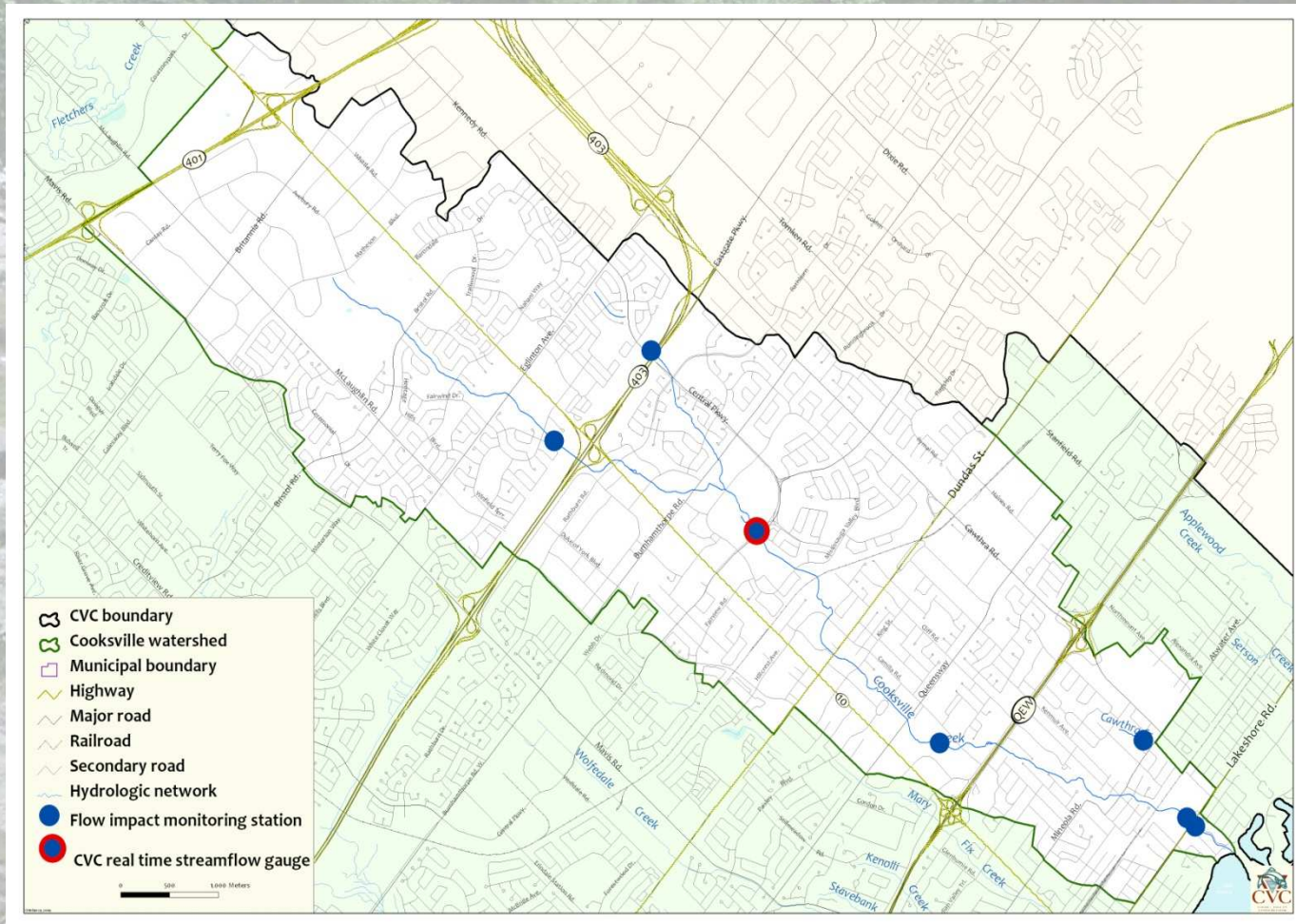
## Flood Plain Regulation

- Governance - Provincial Policy, CVC Regulation, Mississauga Official Plan
- Prohibits new lot creation, major redevelopment and intensification within Flood Plain
- Reconstruction and minor additions to existing structures may be permitted subject to flood proofing
- Alterations not permitted where they would increase off-site hazards

## Flood Forecast and Warning

- Shared responsibilities - Province (MNR) and CVC
- Components - weather forecasts and monitoring, rain and stream flow gauging, modeling
- Provincial Flood Advisories provide trigger
- CVC issues warnings to municipalities, police and media
  - 3 levels based on anticipated severity
- Cooksville and other urban watercourses subject to flash flooding
  - short response times limit warning effectiveness

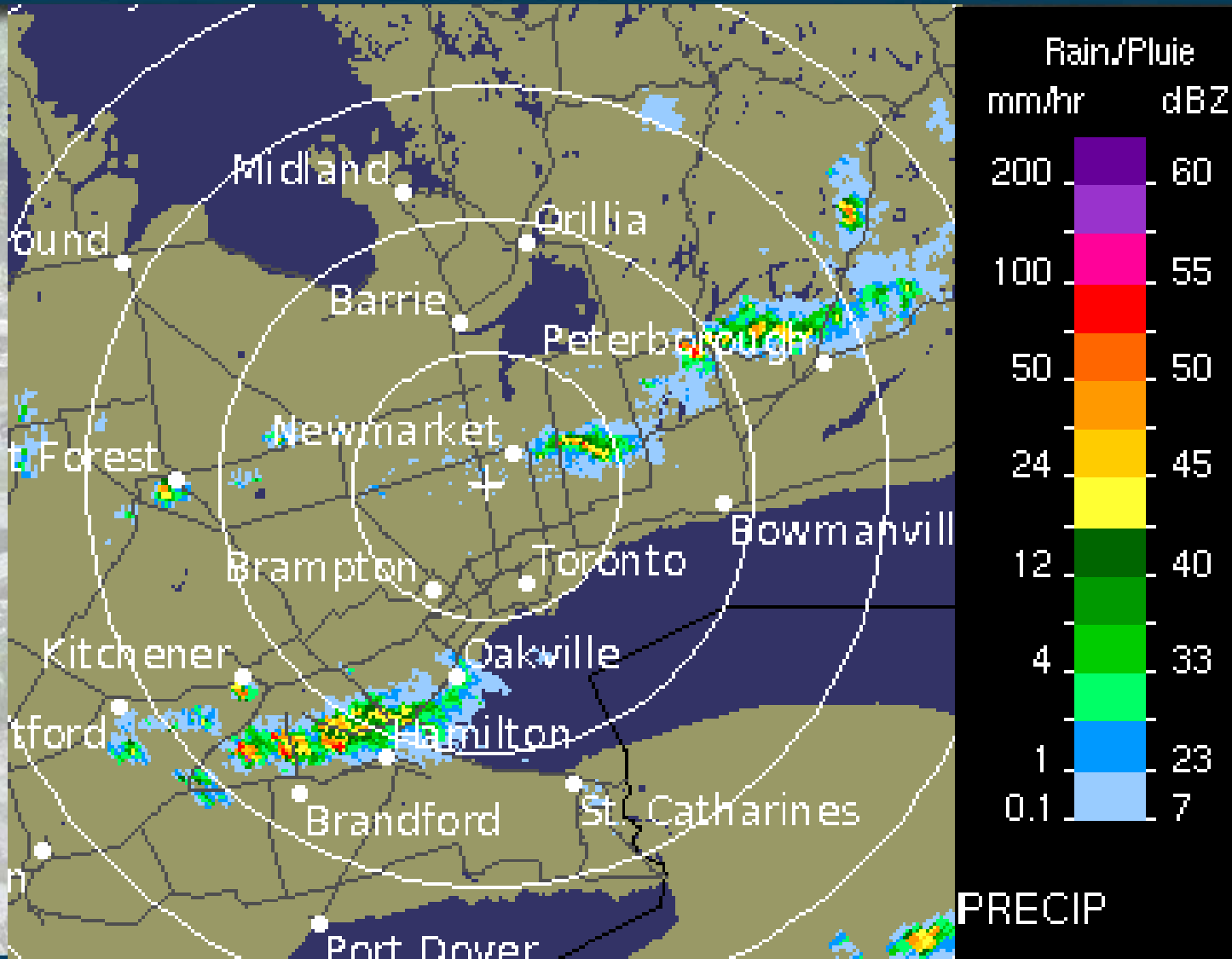
# Streamflow Gauging



## August 4<sup>th</sup> Storm

- Several significant storms experienced in various parts of the City on August 4<sup>th</sup>, 9<sup>th</sup>, 20<sup>th</sup>, 22<sup>nd</sup> and 28<sup>th</sup>/29<sup>th</sup>
- Most intensive and damaging storm occurred on August 4<sup>th</sup>
- On the afternoon of August 4<sup>th</sup>, a highly intense rainstorm occurred for approximately 1 hour
- Concentrated in the vicinity of the Mississauga Valley Community Centre
- **1 in 100 year storm (1% chance per year)**
  - 68 mm (2.7 in) of rainfall fell within 1 hour

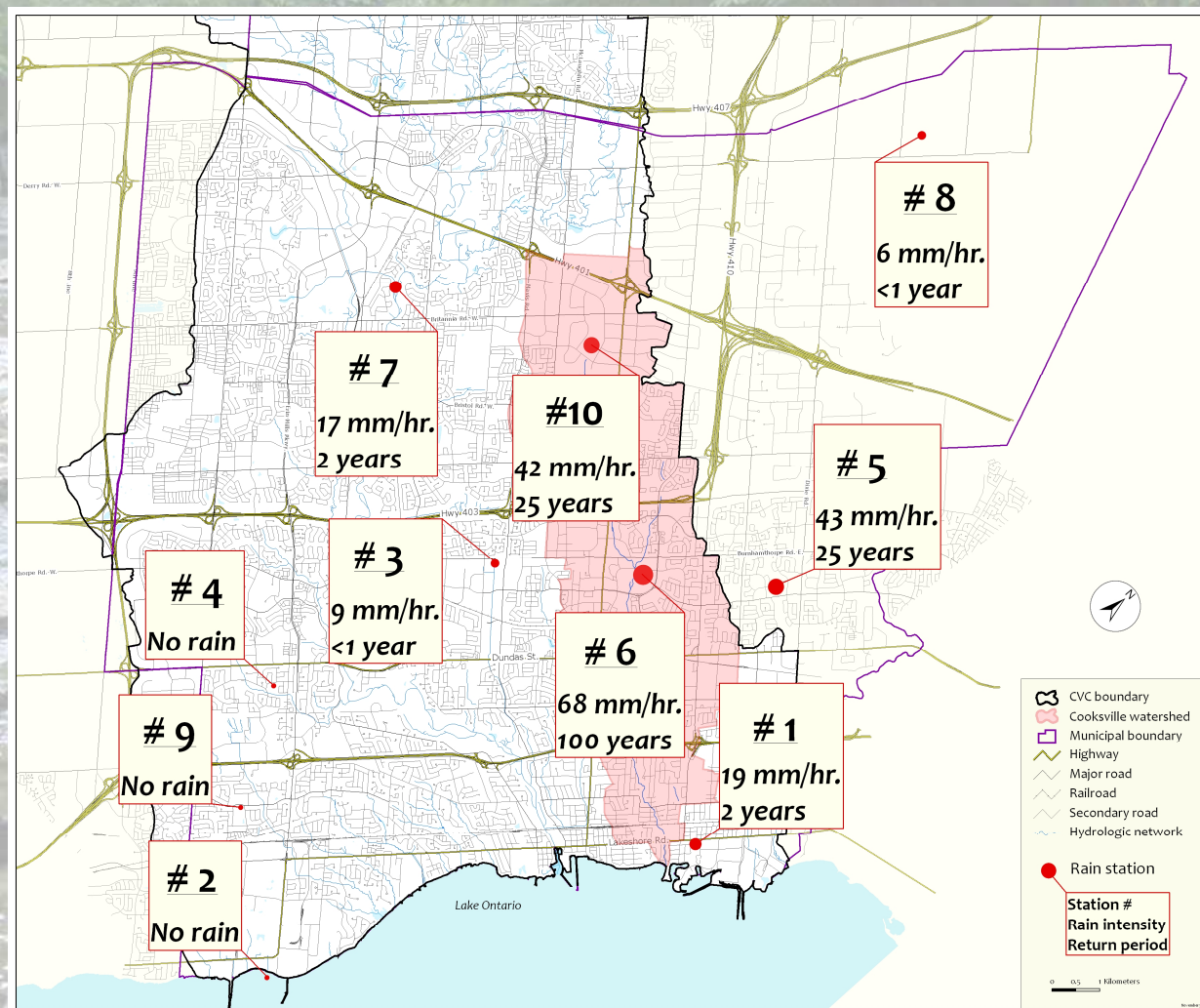
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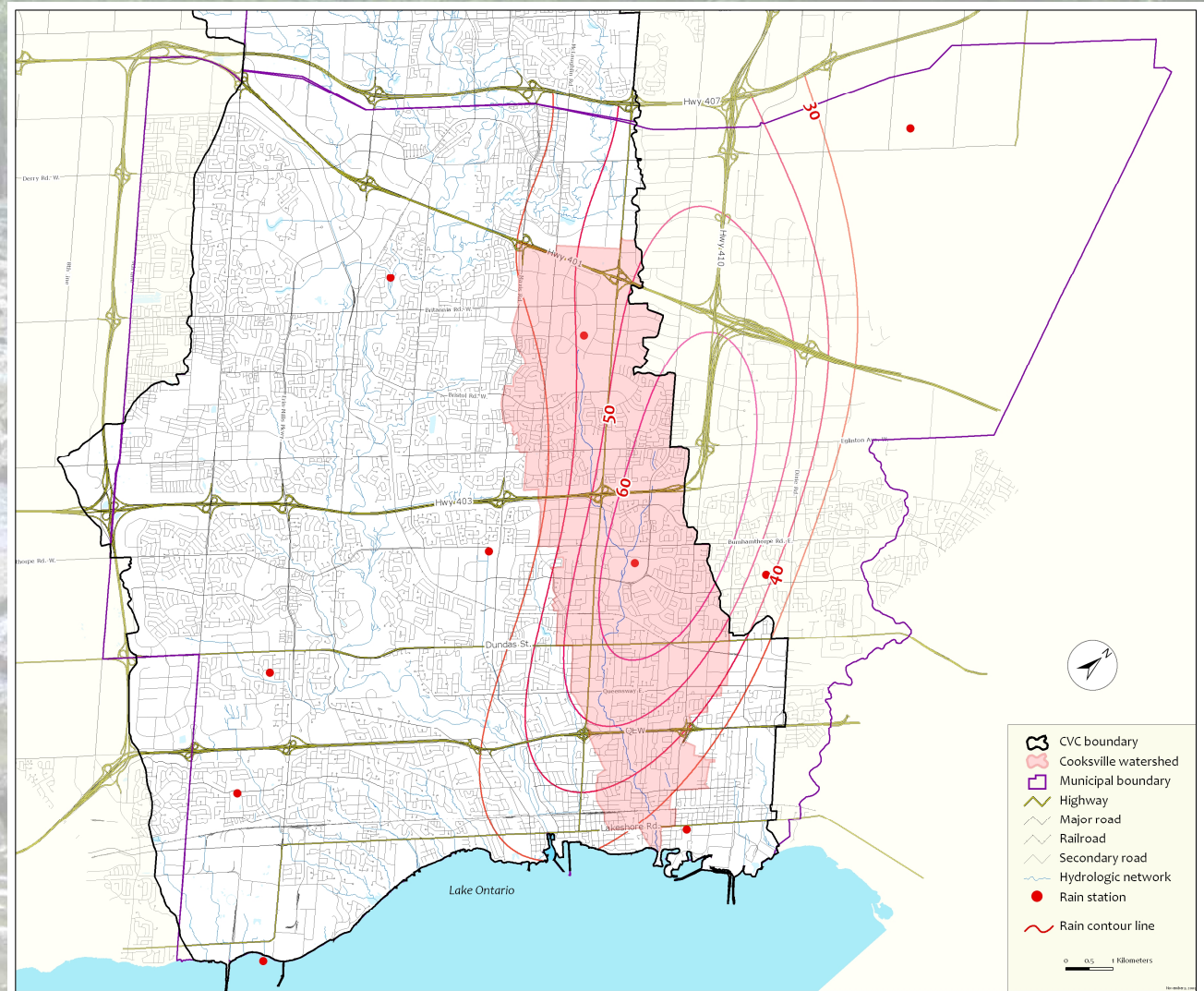
# PUBLIC INFORMATION MEETING - COOKSVILLE CREEK FLOODING ISSUES

## Rainfall Readings on August 4th



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## Rainfall Distribution on August 4<sup>th</sup>

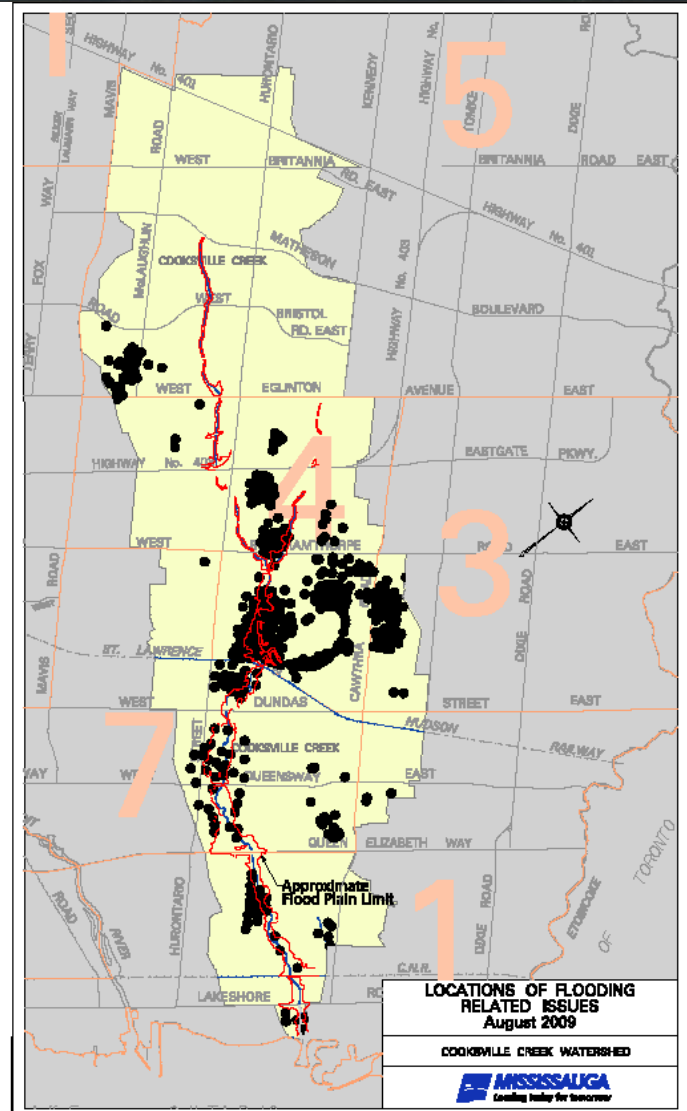


## Impact of the Storm

- Cooksville Creek overtopped its banks
- Storm water flowed overland as the storm sewer system reached its capacity
- Rainwater entered and surcharged sanitary sewer system
- Flooding and damages to public and private properties

# Locations of Flooding Related Issues

- Documented issues, City and Region
- Majority of problems outside the flood plain



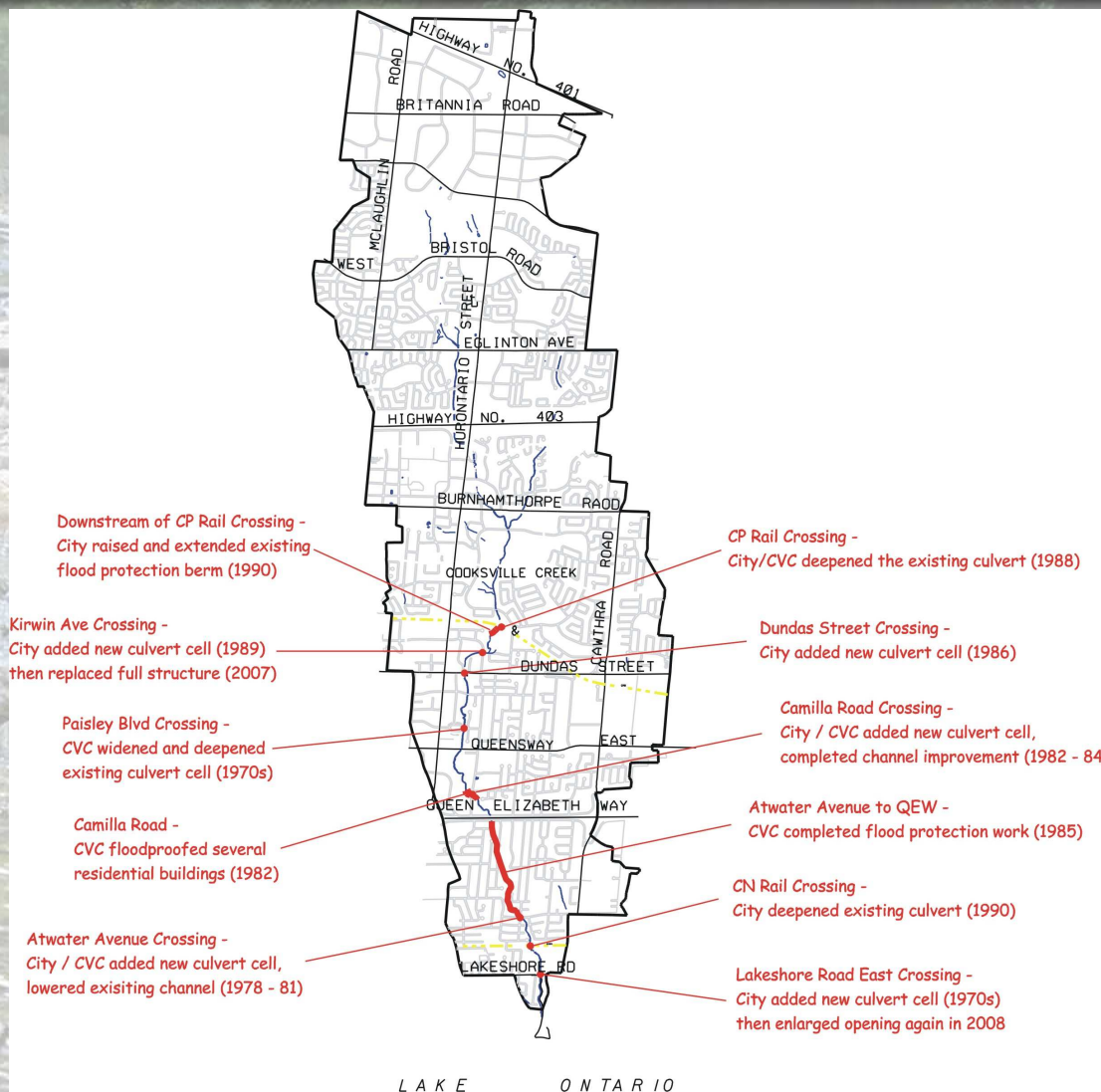
## Inspection and Maintenance (City)

- Best practice maintenance programs are in place
  - Ensure City's infrastructure is in a good state of repair and functions as designed
- Large drainage inlets and outlets were inspected the week before and after the August 4<sup>th</sup> storm
  - All found to be clear of debris and operational

## Actions to Date (City)

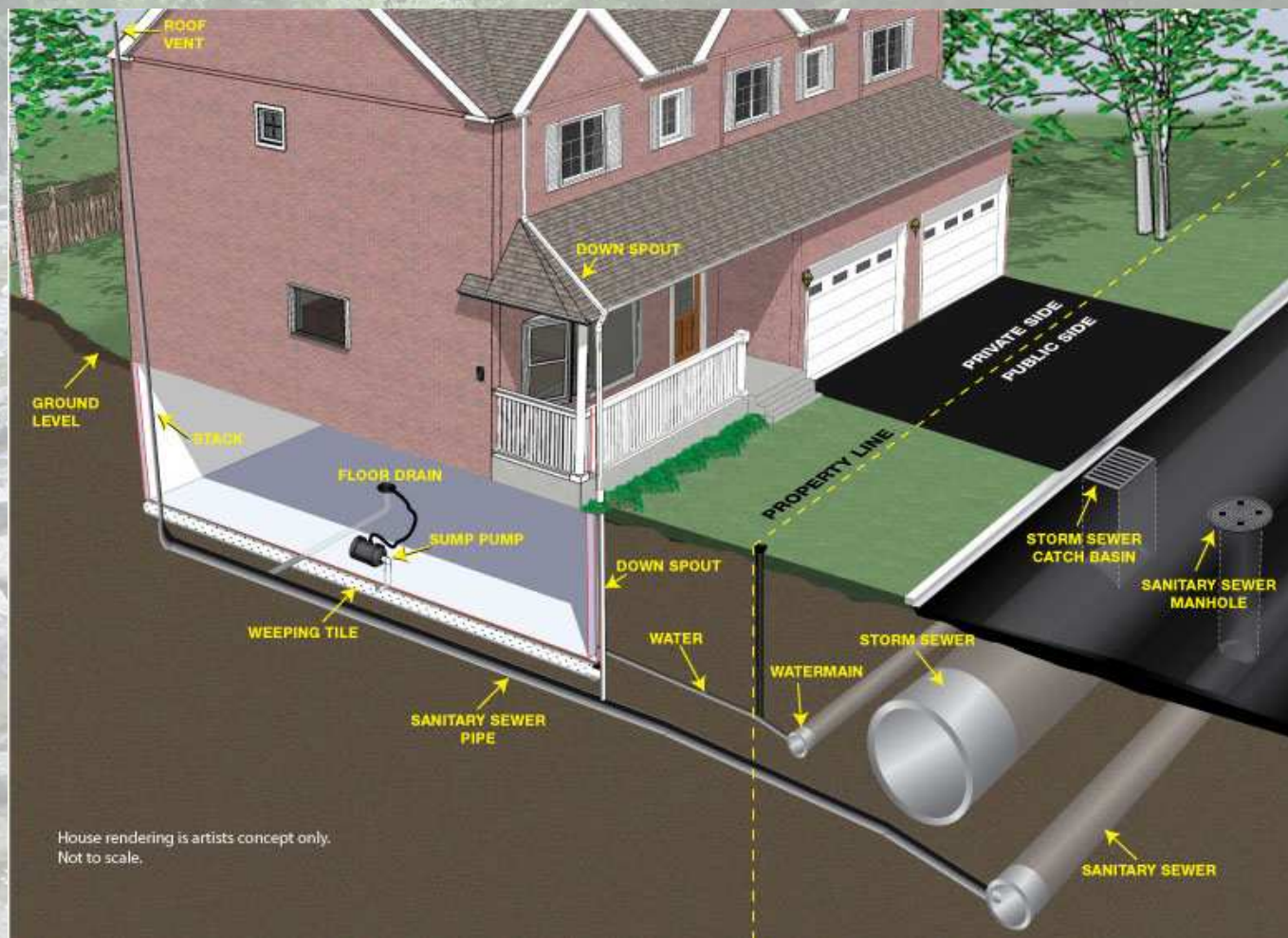
- Blockages cleared from the creek
- Creek erosion and trail damages assessed, with repairs underway or planned
- Assessed areas for further clean-up
- Coordination with Region of Peel and Credit Valley Conservation on next steps
- Capital improvements to reduce flooding

# Cooksville Creek Flood Protection Works



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Ways  
water can  
enter  
your  
basement





## Inspection and Maintenance (Region)

- Utilizing OMBI Best Practice Guidelines for maintenance activities
- Sanitary Sewer in Cooksville Creek area flushed in 2008 and 2009
- CCTV inspection of sanitary sewer within the last 9 years
- Flow monitor located in the Cooksville Creek sewer shed

## Actions to Date (Region)

- Thorough investigation of the sanitary sewer
  - Closed Circuit TV inspections indicate the sanitary sewer was in good working condition
  - Smoke testing performed in preliminary test areas based upon early data of flooded basements
  - Smoke testing in secondary areas based upon questionnaire, recent calls
- Coordinated with City of Mississauga and Credit Valley Conservation on next steps

## Next Steps: In Progress

- Reviewing Region's questionnaires to determine additional smoke testing areas
- Conducting long term Inflow and Infiltration study which may recommend capital projects
- Continue with Best Practices for inspections and maintenance

## Next Steps: In Progress

- Repairs to the trail system and the creek
- Targeted removal of fallen trees and other debris adjacent to the creek and in the flood plain
- Projects are being recommended to Council in 2010 budget to address major damages
- Implement planned Capital Improvements in Cooksville Creek watershed

## Next Steps: Under Active Consideration

- Prevention of rain water from entering sanitary sewer system such as downspout disconnection
- Further review of potential large-scale engineering solutions to reduce flooding risks
- Annual inspection of entire Cooksville Creek
- Public flood warning system, including signs and sirens along trails
- The City, Region and CVC plan on reporting back to the Community in Spring 2010

# Audience Comments and Questions

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## Summary of Significant Rainfall Events for the Month of August, 2009 for Select Monitoring Stations

Station	Rainfall (mm)				
	August 4th 1 hour duration	August 9th 12 hour duration	August 20th 1 hour duration	August 22nd 1 hour duration	August 28/29th 2 hour duration
6	67.6	41.8	39.0	-	18.8
10	42.6	44.2	22.2	15.4	9.4
3	8.8	34.4	41.2	-	20.2
5	43.4	45.6	33.4	-	17.2
1	19.0	48.2	2.6	-	-

	10 year storm
	25 year storm
	greater than a 1 in 100 year storm