

Town Actions

In the past two years the Town has taken the following actions, among others:

- The bus loop at Steeles Ave. and Bayview Ave. was repaired
- The base and pavement of Blue Spruce Road was repaired
- Baythorn Dr. walkway and culverts to Thorny Brae Dr. were repaired
- The culvert and walkway crossing Woodland Park to Woodland Public School were repaired
- The Proctor Park storm sewer outfall east of Henderson Ave. was repaired
- An inspection and hydraulic analysis of the storm culvert between Woodland Park and Proctor Park was completed
- Repairs to the storm water management pond on the Glynnwood Residence on Bayview Ave. north of John St. was completed
- The storm sewer outfall in Pomona Mills Park west of Henderson Ave. was repaired
- An inspection of the German Mills Watercourse / Don River Tributary with Toronto Region Conservation staff was conducted to determine requirements for the next stage in rehabilitation of damage
- The 216 metre long Almond Creek sub trunk sanitary sewer was repaired. Capacity was restored by eliminating groundwater infiltration and tree root intrusion through joints
- 120 kilometres of sanitary sewers were inspected by a closed circuit camera system. 100 kilometres of storm sewers were also inspected by camera. Repairs to identified deficiencies will take place later this year

- A study of the Grandview area sanitary sewer inflow/infiltration system was completed and is under review
- A study of the Baythorn area sanitary sewer inflow/infiltration system was conducted and is under review
- The Town of Markham retained R. V. Anderson Consulting Engineers to review the Town's infrastructure and maintenance practices and to assess why the storm caused such damage. An executive summary of the report is posted at www.markham.ca. The full report is available at: The Markham Civic Centre, Clerks Office, 101 Town Centre Blvd.
- Major storm sewer inlets and outlets are being continuously monitored for blockage and debris
- A review of the need for a comprehensive die testing and roof downspout disconnection program will be completed this year.

Town staff will be reporting to Council this fall on initiating further detailed studies of the sanitary sewer and storm drainage systems in Thornhill, particularly in the areas that were developed prior to 1980, in order to identify opportunities to reduce the potential for flooding in a cost effective manner.

These detailed studies will likely identify options for the Town to install inlet controls in parts of the storm sewer system; replace existing sewers with larger sewers; construct storage facilities; implement a regular storm sewer cleaning and inspection program; eliminate extraneous flows from the sanitary sewer system; and establish overland flow routes.

Protect Your Home

You can take actions to help better floodproof your property and help reduce water flowing into the storm sewers.

By taking these actions, you can help reduce the amount of flooding which would help protect you and your neighbours.

- Disconnect your downspout if it flows into the stormwater system



- Protect basement window wells and basement doors — these are major entry points for water
- Ensure water drains away from foundation walls
- Keep drainage ditches/areas and rear yard catchbasins accessible and free of blockage



- Ensure cut grass, blown leaves or other debris does not block road catchbasins

- If you have a driveway that slopes toward the house, clean out drain grates and protect entrances to the basement and your home

- Consider planting more trees or shrubs to help diffuse rainwater

- Install a rain barrel for your downspout

- Avoid increasing pavement coverage on your property (review the Town's bylaw on extended driveways) or install permeable paving.



To help you with these solutions and how you can take some of these actions, information is posted on the Town's website www.markham.ca.

Additional plumbing changes to better protect your property may be available. To prepare a protection plan designed specifically for your property, hire a professional engineer familiar with municipal flood protection technology.



Protecting Your Home Against Flooding

For more information, call 905-477-5530.

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Key Town of Markham priority is environmental protection, ensuring we maintain the beauty and value of our neighbourhoods. To this end, we are continually updating our processes and systems.

A major part of maintaining a healthy environment is ensuring that our water and sanitary sewer system work effectively. In recent years, these systems, which in some cases are more than 50 years old, have been overwhelmed by severe storms. Some experts are concerned that we may be facing changing weather patterns associated with climate change.

This information outlines some actions Markham has undertaken over the past two years and provides suggestions that could help you increase protection from flood damage in your area.

Cause of Flooding

On August 19, 2005, Markham experienced a storm with an intensity exceeding what would be expected about once every 150 years.

Travelling in a narrow 10-kilometre wide path from Brampton to Pickering, the storm dropped more than 120 millimetres of rain in the Thornhill and Woodbine / Milliken areas causing wide scale flood damage to both private and public property.

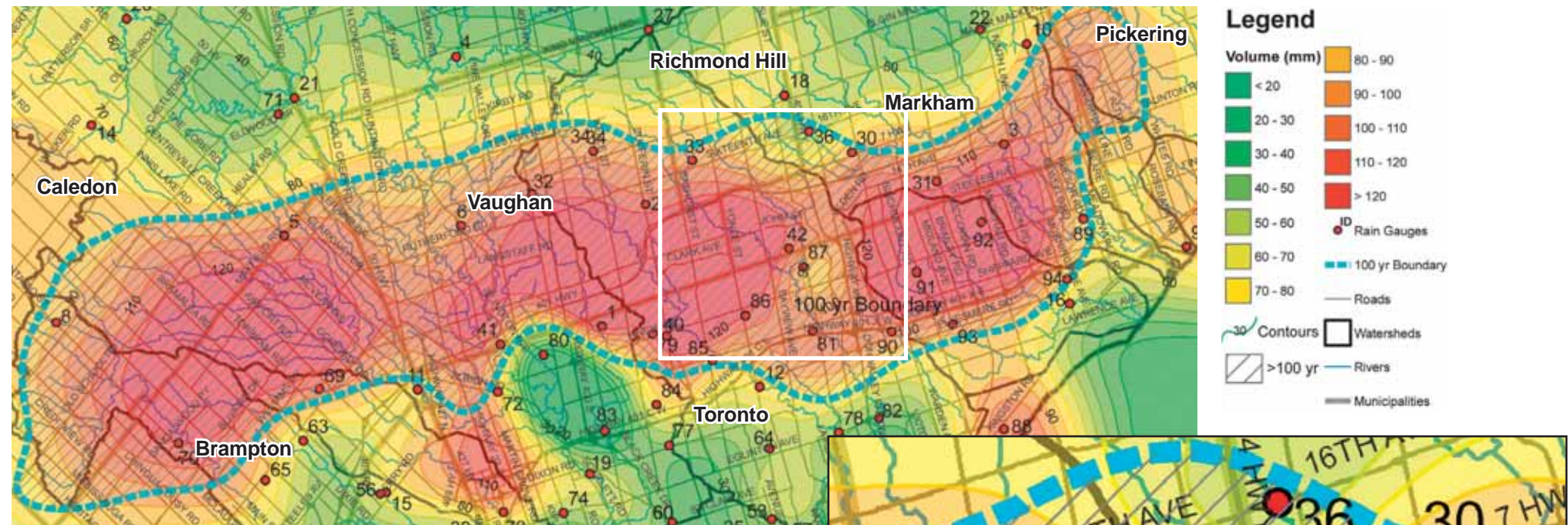
The drainage and sanitary systems in Thornhill were built to handle about 30 millimetres of rain over a three-hour period – an amount that would normally be experienced once every two years.

The volume of rain on August 19 completely overwhelmed our storm and sanitary sewer systems.

Rainwater that could not get into the storm sewer flooded roadways and private lands and caused basement flooding in many areas. Stormwater entered the weeping tiles around homes, causing the sanitary system to back up adding to basement flooding.

Capacity Limit of Existing Systems

Constructed during the 1950s to 1980s, the Thornhill storm and sewer systems were designed to meet a level of service that was accepted and adopted by all municipalities in the GTA at the time. Since the late 1980s, design standards for water and sewer systems have changed significantly. While upgrading the systems in the older areas to handle the volume of rain associated with a storm such as experienced in August 2005 would cost several hundred million dollars, the Town is investigating ways of increasing the level of protection from flooding.



The map shows the path and intensity of the August 19, 2005 storm as it moved across the GTA. The enlarged section shows the area in Thornhill that was most affected.

Damage from the Storm

Many homes in low-lying areas and in the path of overland flow were flooded. River channels were overloaded causing erosion and the destabilization of slopes. A number of culverts were washed out, as were walkways in park and ravine areas. Several road and storm drainage facilities were also damaged. The Town has estimated the cost for repairs to these public facilities to be over \$3 million.

The damage to private property was extensive. Many basements were flooded. Some basement floors suffered structural damage and several properties experienced land erosion.

According to the Insurance Bureau of Canada, the expected payout from the approximately 15,000 claims made across Ontario from this storm will reach \$400 million.

