



# Inflow Infiltration Reduction & Long Term Water Conservation Strategies

Local Municipal Council Presentations  
January 25, 2011

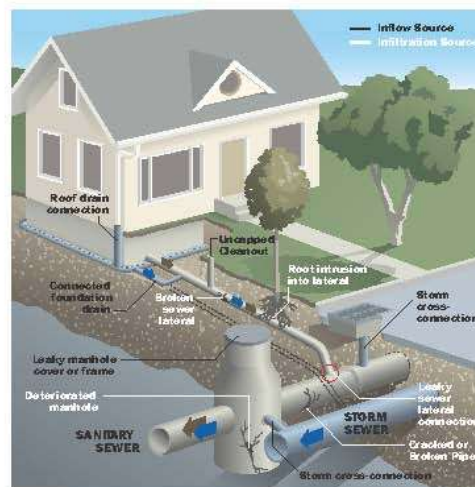


# Agenda



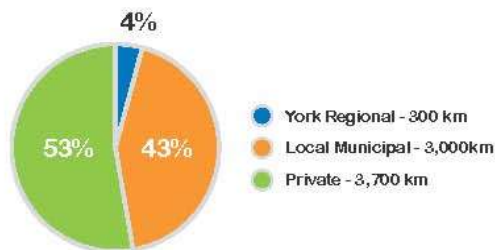
- Why are we here? What are the issues?
- Regional and Municipal Water and Wastewater Task Force
- Strategy Development Process
- Inflow and Infiltration Reduction Strategy Overview – *York Region*
- Long Term Water Conservation Strategy Overview – *York Region*
- Strategy Next Steps – *York Region*

As sewage systems age it is more likely that inflow and infiltration will enter the collection system.



Source: Capital Regional District CRD, Victoria, B.C.

## YORK DURHAM SEWAGE SYSTEM (YDSS) PROFILE



Approximately 7,000 km: Total length of sewage mains including public and private sewers and laterals. (December 2010)



# Inflow and Infiltration Reduction and Water Conservation



## **Inflow and Infiltration Issues:**

- Consumed capacity
- Risk of flooding/overflows
- Cost of transmission and treatment
- Further deterioration

## **Water Conservation Issues:**

- Conserve and protect long-term water supply
- Maximize sustainability
- Minimize energy consumption

## **Region-wide complex issues require:**

- Working together collaboratively as equal partners
- Additional effort and resource requirements

## **Status:**

- \$11.5M over the last 8 years for I & I investigations and sewer repairs
- \$1.5M/yr included in reserve study for sewer repairs and replacements
- “Every Downspouts” program in the Grandview area
- I/I Reduction Pilot project underway in the McCowan Rd/Hwy 7 area
- Promote sustainable development through LEED and SHIP Programs
- Identified in the Green Print as a Principle
- June 2, 2010 Council authorized staff to participate in the I/I Reduction Task Force

# Regional and Municipal Water and Wastewater Task Force

- Since April, 2010
- Develop long term integrated Regional and Local strategies for Water and Wastewater Services
- Develop sustainable funding mechanisms and explore cost sharing opportunities.
- Senior staff working together to drive success and report to respective Councils



# Strategy Development Process

## Best in Class Review

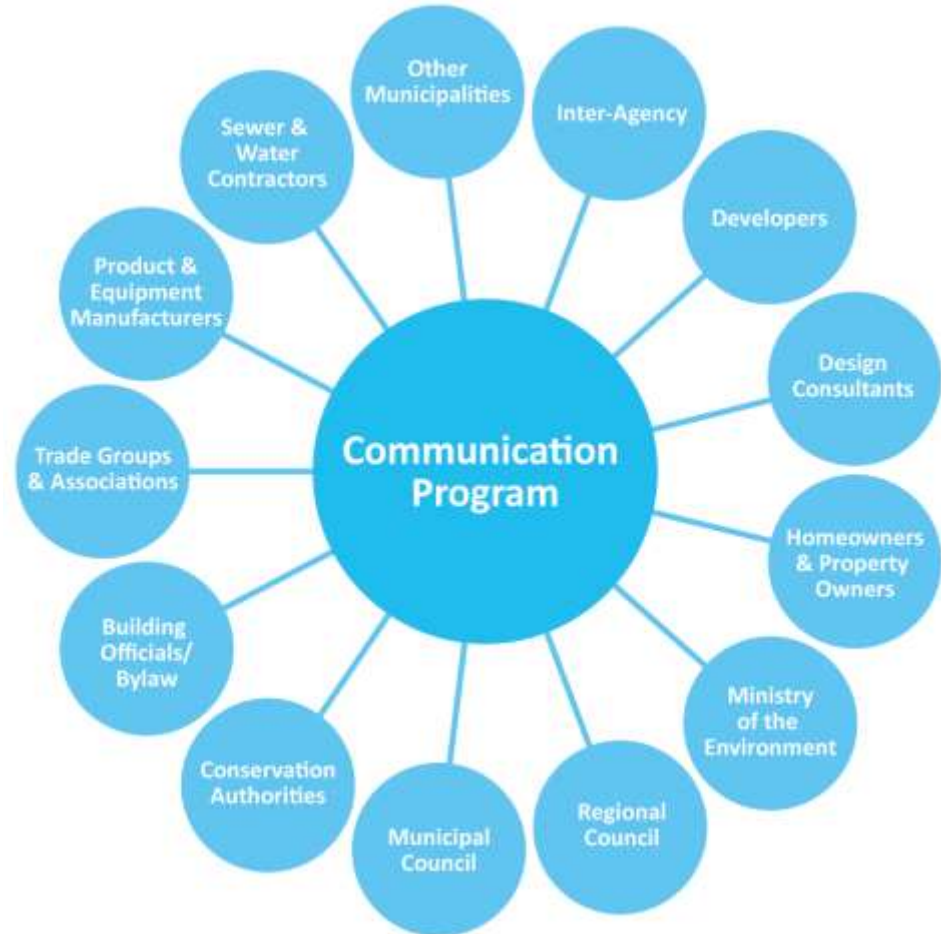
- Municipal programs
- Policy and regulation
- Design and alternative sources

## Stakeholder Engagement and Consultation

- Public consultation
- Local Municipal Water Wastewater Steering Committee

## Development of the Strategy

- Based on best in class programs
- Peer Review of Strategy





# Funding Strategy



- A set rate will be collected at local and regional level to build reserve funds and as the program gains momentum, asset management reserve funding will prevail.
- The revenue collected at the local level will be used to address programs within the Strategy and as determined by each local municipality.
- The amount collected at the Regional level will be used to address Regional and Municipal priorities.
- Regional funds used in the local systems will be **managed by a joint board** and will be granted based on the most effective application to achieve the desired I/I improvements.
- Staff will report further in the February 2011 report as to cost estimates and funding sources.





# Inflow and Infiltration Reduction Strategy



# Inflow and Infiltration Reduction Strategy Goals

- Reduce Inflow and Infiltration rates over a 20 year period into the Regional/Municipal System and Southeast Collector Sewer (SEC)
- Minimize total conveyance, treatment and disposal system costs
- Implement a long term program that meets the Conditions as set forth by the Ministry Of Environment for the SEC Environmental Assessment.

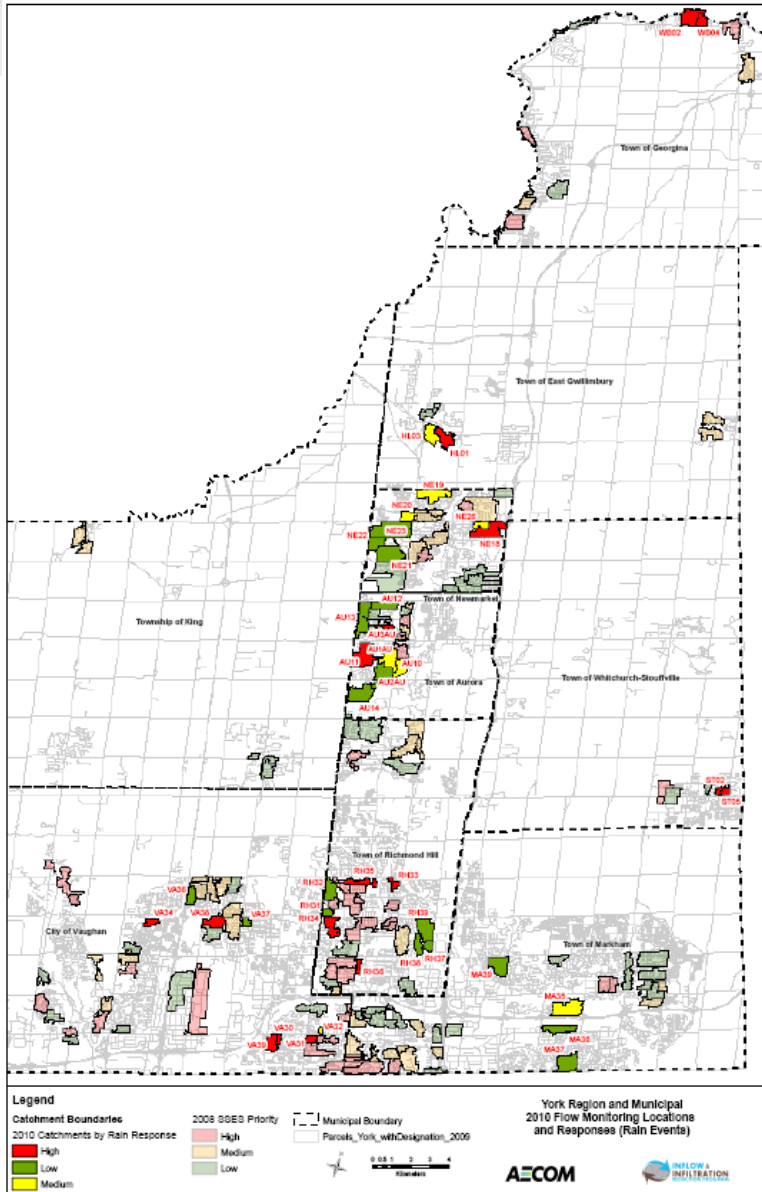


# Inflow and Infiltration Reduction Strategy Components

1. Overall Program Goals and I/I Targets
2. Monitor and Analyze Flows
3. Investigate and Mitigate
4. New Construction and Capital Projects
5. Financial Management
6. Communication & Education
7. Report I/I Reduction
8. Continuous Improvement



# Inflow and Infiltration Reduction To Date



- Approximately 1 / 3 of the system has been flow monitored and analysed (2008–2010)
- A number of priority rehabilitation programs identified
- Flow monitoring and analysis continues
- 2011 / 12 – 9 high priority projects to be completed (\$10M)

# How to Achieve Successful Reduction of Inflow and Infiltration

- Implementation of a system wide Flow Monitoring Program
- Implementation of a Joint Communication and Education strategy for inflow and infiltration reduction efforts through Task Force participation
- Implementation of a Private Property program component targeting the key inflow and infiltration areas of the Region
- Standards Development and Enforcement
- Sustainable Funding Model





LONG TERM

# Water

Conservation Strategy



Shaping York Region's Water Future

# Long Term Water Conservation Strategy Goals

## The Sustainable Approach to Water Use

1. A new way to think about how we use water
2. Reduce water use through innovation, conservation, policy and behavioural change
3. Plan from 40 years in the future back to the present
4. Sustainable Funding Model





# Long Term Water Conservation Strategy Program Components

## Regional – Local Municipal Coordination

### Develop and Evaluate:

- Process to measure water consumption
- Detailed implementation plans
- Measurement and reporting
- Guidelines for retrofits of public buildings
- Full cost conservation oriented pricing structure
- Multi-stakeholder advisory group
- Watermain leak reduction programs
- Incorporate outcomes of strategy into infrastructure master planning processes





# Long Term Water Conservation Strategy Program Components

## New Developments

- Increase uptake of Sustainable Home Incentive and LEED for high rise programs
  - Evaluate and test incentive programs – increased servicing, expedited approvals, development charge credits
- Create commercial/ industrial water efficiency and reuse guideline
- Develop detailed monitoring programs



# Long Term Water Conservation Strategy Program Components

## Marketing, Education and Outreach

- Outreach through local groups
- Outreach targeted at subsidized housing
- Develop new partnerships
- Continuation of:
  - o Children's Water Festival, school contests
  - o Seminars and workshops, partnerships with garden centres
  - o Landscape assessments



# Strategy Next Steps

- Presentations to Local Municipal Councils January 2011
- Strategy Reports to Regional Environmental Services Committee February 9, 2011
- Local Municipal reports late February / early March
- Submission of Strategies to Ministry of Environment March 31, 2011
- Implementation and funding strategies