

Illicit Discharge Detection “in Reverse”



Russell Kring, CFM
Sewer Collections Manager/
Stormwater Administrator
City of Cuyahoga Falls, Ohio

Cuyahoga Falls Storm Events

- On May 27th, 2003 Cuyahoga Falls experienced significant flooding citywide.
- 7.1 in. of rain in under 8 hours (500 yr. Storm)
- Again on July 30-31st, 2004 – 6 inches of rain in 24 hours
- Back-to-back 500 yr. Storms???





Basement Flooding due to Sanitary Sewer Back-ups

- Several neighborhoods experienced widespread sanitary sewer back-ups
- Up to 36” of raw sewage in basements
- 4 major neighborhoods (1940's-1964)



Flood Prevention Initiative (FPI)

- The Flood Prevention Initiative (FPI) was launched to address both public and private property storm water related flooding.
 - In the Summer of 2004, Cuyahoga Falls contracted with McCoy and Associates, Inc, to test and study the areas hardest hit by the flooding. The also develop a system for reporting flooding – Phone and Internet
- Representatives then visited more than 500 residents that reported flooding.
- Smoke and Dye testing

Fundamental Problem

- The FPI found that the underlying problem is clean water entering the sanitary sewer from:
 - Infiltration – groundwater entering the sanitary system through broken pipes and leaking, defective joints and structures
 - Inflow – surface runoff entering the sanitary sewer through manhole lids and **direct (illegal) connections**;
 - Foundation drains
 - Downspouts
 - Sump Pumps
 - Exterior/ yard drains

Project Partner

- A program to detect and correct private properties contributing clean water into the sanitary sewer.
- Free, **voluntary** inspection available with homeowners' permission. Owner or his representative must be present for inspection.
- Any homeowner or potential buyer of a property in Cuyahoga Falls may request inspection.
- Disclosure is Required by Ordinance

The Inspection

- Inspections include a thorough evaluation of gutters and downspouts, downspout leaders, floor drain(s), sump pumps, discharge points, and sanitary laterals.
- Laterals are inspected from house to city main using a fiber optic camera. Common problems include:
 - Root intrusion and infiltration at joints
 - Broken/ cracked pipe sections
 - Direct connections (to lateral or floor drain)

Illicit Discharge Detection (IDDE)

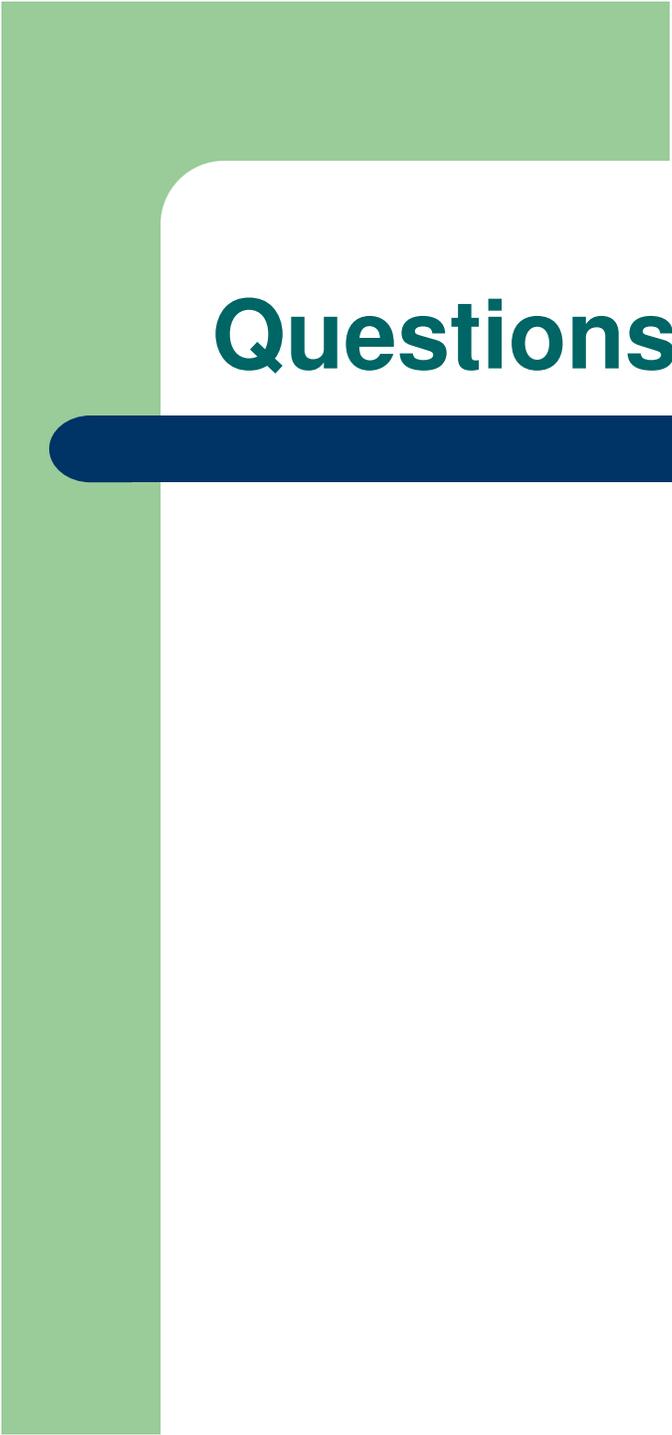
- Unforeseen Benefit – Discover hard to detect inner-city gray water discharges.
 - Sump pumps w/ laundry sinks and/ or washing machines draining into them along w/ the foundation drains
 - Cross-connection – sanitary backing-up or leaking into foundation drains
- Clean water vs. gray water
- 14 ID's detected in this manner throughout city

Recognition

- Crowned Community Award – N. Carolina
 - One of six national honorees
- National League of Cities – Reno, NV
- Engineering Excellence Award – 2005
 - McCoy and Associates, Inc.
- Public Works Week, Engineering Times, Water and Waste Digest
- American City & County (December, 2005)
- Crain's Cleveland Business

Information/ Forms/ Requests

- Please check out the City's website at www.cityofcf.com to download the brochure and permission forms. Appointments can be **requested** online.



Questions?

