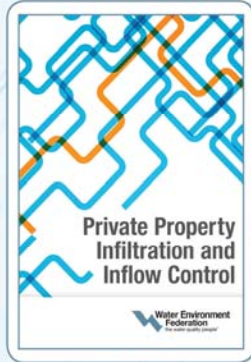


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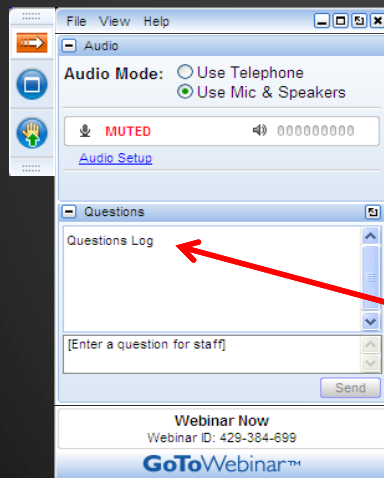
Planning for I/I Reduction and Strategies to Get the Job Done

June 7, 2017

1:00 - 3:00 pm Eastern



How to Participate Today



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Today's Moderator

Andy Lukas
Vice President
Brown and Caldwell,
Milwaukee, WI



Today's Speakers



Lisa Ochsenhirt Esq.
Attorney
Aqualaw



Scott Belz
Program Manager
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Marcus Bush, P.E.
Principal Engineer
Metropolitan
Council of the Twin
Cities



**LEGAL, POLICY, AND FUNDING ISSUES WITH
PRIVATE I/I REDUCTION PROGRAMS**

Lisa Ochsenhirt Esq.
Attorney

AQUALAW



**LEGAL, POLICY, AND FUNDING
ISSUES WITH PRIVATE I/I
REDUCTION PROGRAMS**

Lisa Ochsenhirt
AquaLaw, PLC



Overview

- ◆ Policy Considerations to Managing I/I
- ◆ Legal Requirement to Manage I/I
- ◆ Financing I/I Reductions
- ◆ Key Legal Issues to Consider
 - ◆ Scope of Local Authority Over Private Laterals
 - ◆ Tax Implications
 - ◆ Equal Protection



POLICY REASONS FOR MANAGING I/I

POLICY REASONS TO MANAGE I/I

- ◆ **Dry Weather Capacity** (avoid secondary expansion)
- ◆ **Wet Weather Capacity** (minimize overflows)
- ◆ **Excessive I/I Forces Premature Capacity Expansion**
- ◆ **Conflicts with ENR Designs? Bypassing ENR?**
- ◆ **Reduces Potential Problems for Program**
 - ◆ Overflows Are Newsworthy
- ◆ **Often Private Lateral I&I Reduction Is A Cost-Effective Control Alternative**
 - ◆ But note that recent 8th circuit blending decision could warrant revisiting your cost-benefit (convey/treat versus I/I removal) calculations for wet weather I/I now and going forward

A FEW REASONS TO MANAGE I/I

- ◆ **Laterals Can Be Significant Part of System**
 - ◆ 30-70% of sewer lines
- ◆ **Laterals Are Typically A Major Source of I/I**
 - ◆ Generally 30-50%
 - ◆ I/I Reduction by Private Lateral Varies by Sewer Basin/Sub-Basin
 - ◆ Getting pretty good numbers from systems nationwide
 - ◆ Same with lateral “equivalents” such as foundation drains, driveway drains, etc.
- ◆ **Legal Requirement**

KNOWING WHERE COST-EFFECTIVE I/I REDUCTIONS LIVE WILL AFFECT YOUR DECISIONS

- Do you need to address:
 - Private property laterals at all?
 - If “yes,” all or just a portion of the private lateral?
 - Just the deep laterals connecting to main sewers?
 - Are those the ones most likely to be influenced by groundwater
- The age of Smart Sewer systems may yield key information about where the cost-effective I/I reductions live....

LEGAL REQUIREMENT TO MANAGE I/I

LEGAL FOUNDATION

- State/EPA generally can't regulate I/I directly
- Supposed to regulate discharges to waters of the State/United States



LEGAL FOUNDATION

- However, agencies try to regulate I/I indirectly through three primary methods:
 - Percent removal requirements in Secondary Treatment Regulation (40 C.F.R. § 133.102)
 - Effective against POTWs which struggle to meet % removal.
 - Proper O&M Requirement (40 CFR § 122.41(e))
 - Bootstrap this treatment plant concept to include collection system
 - Wet weather overflow control programs where a system has wet weather (SSO or CSO) overflows

PERCENT REMOVAL

- Indirectly regulates I/I for both CSO and SSO systems
- CSO systems have significant flexibility as long as the infiltration is not excessive....
- SSO systems can get a lower percent removal if:
 - Non-excessive I/I and
 - <275 gpcd (domestic flow plus I/I)

PROPER O&M REQUIREMENT

- ◆ EPA tries to use proper O&M requirement to address all aspects of collection system O&M
- ◆ Satellite/Collection Only Systems Typically Do Not Hold NPDES Permits
 - ◆ Thus, Proper O&M Requirements Do Not Apply Through Federal CWA Program
 - ◆ However, there may be a State permit for collection systems which imposes a proper O&M requirement (e.g., NC, SC, etc.)
 - ◆ Increasingly popular approach to directly remind satellite systems of (1) system O&M obligations, (2) SSO reporting obligations, and (3) wet weather flow minimization requirements....
 - ◆ Others include requirements covering satellite systems in State legislation (such as SSO reporting)

SSOs TRIGGER WET WEATHER CONTROL PROGRAMS WHICH OFTEN ADDRESS PRIVATE LATERALS

- ◆ **EPA Has Enforced Against Large Systems (100 MGD+)**
 - ◆ These Enforcement Cases Have Triggered Lateral Programs

- ◆ **EPA working through medium-sized systems (10-100 MGD)**

- ◆ **Continuing EPA National Enforcement Priority**
 - ◆ Many Systems Have Wet Weather Issues

- ◆ Private lateral programs are increasingly common
 - ◆ This wheel has been created in several dozen localities

Agencies Seek to Address Satellite System I/I Through Enforcement Against the POTW

- EPA seeks to require POTW to regulate the peak flow (and, thereby I/I levels) of satellite systems.

- Developing flow targets as well as ensuring that satellite systems have “nonexcessive I/I” in accordance with 40 CFR § 103(d) & (e)



- Often seeks to force the POTW to memorialize these targets in updated wastewater service agreements

FINANCIAL CONSIDERATIONS



WHO SELECTS CONTRACTOR & PAYS FOR PRIVATE I/I WORK?

- ◆ **Utility**
 - ◆ Potential Liability Issues
- ◆ **Homeowner**
 - ◆ Many Ordinances Require
- ◆ **Incentive Programs – Grant, Loans, etc.**
 - ◆ Hybrid approach (utility sets up program & oversees; homeowner makes contractor selection decision)
 - ◆ Most Popular Option
 - ◆ Important Legal & Tax Considerations in Using These Programs



AUTHORITY TO REGULATE V. INCENTIVES

- ◆ **Most Utilities Go With Incentives**
 - ◆ **Participation**
 - ◆ **Public Relations**
 - ◆ **Practical Reality**
 - ◆ **Speed (for pilots & to stay on track with permit/enforcement deadlines for wet weather control)**
 - ◆ **Efficiency**

FUNDING MECHANISMS

- ◆ **Real Estate Taxes**
- ◆ **Universal Sewer Fee Add-Ons**
- ◆ **Individual Sewer Fee Add-On**
 - ◆ Like Phone Company-Inside Maintenance
- ◆ **General Fund**
- ◆ **Timing Can Be Up-Front or (Via) Reimbursements**



INCENTIVE APPROACHES (with varying public \$\$ safeguards)

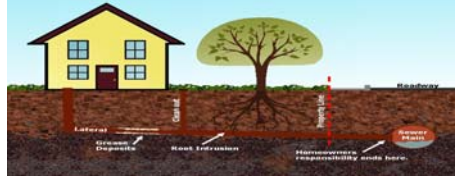
- ◆ **Full Cost Less Deductible**
 - ◆ Or Up to Ceiling Amount
- ◆ **Percentage of Actual Cost or Lowest Bid**
 - ◆ 75-100 %
- ◆ **Flat Amount (\$500, \$2,000, etc.)**
- ◆ **Tiered Reimbursement**
 - ◆ 100% of X\$\$\$; 50% Above Up to Y\$\$\$
- ◆ **Funding Pool**
 - ◆ Everyone gets \$1000; then Pro Rata for All
- ◆ **Low-Income Grants; Loans For Others**



KEY LEGAL ISSUES

EXTENT OF LATERAL RESPONSIBILITY

- ◆ **What is the Extent of Private Responsibility?**
- ◆ **Maintenance and Repair – Homeowner responsible for lateral to the:**
 - Property line
 - Public main
 - In between
- ◆ **How about street repaving costs if private ownership beyond property line?**
 - ◆ Taking ownership?



AUTHORITY TO REGULATE I/I THROUGH PRIVATE LATERALS

- ◆ **Generally “Yes” in Most States/Communities**
- ◆ **Typically Implemented Through Community Sewer Use Ordinance**



TYPICAL ORDINANCE FEATURES

- ◆ **Prohibits all I/I (???)**
- ◆ **Prohibits “Excessive” I/I**
 - ◆ Defined
 - ◆ Watch the acre feet metric....
 - ◆ Undefined
 - ◆ We know it when we see it . . .
- ◆ **Provide for Utility Access to Inspect**
- ◆ **Provide Inspection Process**
 - ◆ Written Notice
 - ◆ Permission Slip/Release

TYPICAL ORDINANCE FEATURES

- ◆ **If Inspection/Entry Permission Denied**
 - ◆ Violation of Sewer Use Ordinance
 - ◆ Shut Off Water (Gold Standard)
 - ◆ File Civil Action/Seek a Court Order
 - ◆ Install Meter in ROW & Bill Homeowner for Excessive I/I

LOCAL AUTHORITY OVER PRIVATE LATERALS



VA COUNTY ORDINANCE

◆ Prohibit Infiltration; Misdemeanor and/or Service Cutoff for noncompliance:

◆ Sec. 18-68. Infiltration into wastewater system.

- (a) It shall be unlawful for any person to permit infiltration into the wastewater system or for any person to connect to the wastewater system in a way that causes infiltration into the system.
- (b) When the director notifies a consumer by certified mail that the wastewater system is being infiltrated by conditions located on a property that is within the control of the consumer, the consumer shall eliminate the infiltration within 60 days.
- (c) If a consumer fails to correct infiltration as set forth in this section, the consumer shall be guilty of a violation of subsection (a), and the county may terminate the consumer's wastewater service.



VA COUNTY ORDINANCE

◆ Prohibits Problematic I/I by Commercial Customers

- ◆ Article V, section 20-24.
- ◆ If the county determines that an I/I problem exists on private property or within the control of the user, the director shall notify the user of such infiltration and inflow problem by certified mail, return receipt requested, and within sixty (60) days of the date on the notice, the user shall eliminate such problem by replacing or repairing the fixtures, lines or facilities.

VA COUNTY ORDINANCE

◆ Bill For (Excessive?) I/I

- ◆ Article V, section 20-24.
- ◆ If the I/I is not abated after the sixty-day period, the director shall require installation of a raw sewage recorder at the owner's expense and the user will be billed based upon readings of the raw sewage recorder.
- ◆ Be careful about how excessive flow is defined....

WHY ISN'T THIS ENFORCEABLE AS A PRACTICAL MATTER?

CODE -- City of _____, SC: PRIVATE SANITARY SEWER

CONSTRUCTION; Sec. 11-99. Infiltration requirements.

The maximum allowable infiltration allowance for the new service lines and connections is 200 gallons per day/inch-diameter/mile. The city shall require repairs or replacement of the existing service lines and connections in order to meet the same infiltration requirements as specified for new service lines and connections. In such cases, all work shall be performed by or under the supervision of a licensed plumber, in accordance with the applicable local and state plumbing codes, at the expense of the owner/user.



TAX IMPLICATIONS



TAX ISSUES FOR PROGRAMS PROVIDING FINANCIAL SUBSIDY TO ADDRESS PRIVATE LATERALS

- Using public dollars to improve private property....
- Generally, this results in taxable income to the property owner
- Unless there is a legal exemption, community/utility must issue 1099s....
- Unless there is a legal exemption/exclusion, homeowner must report and pay any income tax due on such income.



INCENTIVE PROGRAMS CAN TRIGGER TAX CONSEQUENCES

- ◆ **Does State Law Allow for Public Dollars to be Used to Improve Private Property?**
- ◆ **Would it Matter if Important Public Benefit Exists to Offset Incidental Private Benefits?**
 - ◆ Need to Reach Private I/I to Comply (Minimize SSOs)
 - ◆ Reaching Private I/I Via Incentive Program Cheaper in Basin or System-Wide Than Other Public Infrastructure Solutions
 - ◆ Be Careful How You Describe Incentive Programs

ARE INCENTIVE PROGRAMS TAXABLE?

- ◆ **When Setting Up Your Program, Consider Finance Options Triggering Tax Liabilities For Land Owners.**
- ◆ **Some go with pilot programs and ask forgiveness....**
- ◆ **Others Seek an IRS Private Letter Ruling**
 - ◆ Clarifying That Program Is Not Intended to Benefit Individual Land Owner
 - ◆ Instead it is a Community/Public Benefit That has Incidental Private Benefit Which Should Not Be Taxed to the Private Homeowner
 - ◆ General welfare exemption; means testing
 - ◆ Fee for letter ruling

ARE INCENTIVE PROGRAMS TAXABLE?

Recent IRS Letter Opinion Regarding Private Lateral Program Found:

- Private Lateral Rehab by the utility in question is a Public Purpose & Is Done Without Regard to How It Affects Land Owner
- Rehab Will Not Result In Income To Property Owners
- Taxpayer Not Responsible For Reporting The Funding Received From The Private Lateral Rehab Program

ARE INCENTIVE PROGRAMS TAXABLE?

- ◆ Caveat: Opinion Assumes Program Is Voluntary & Land Owner Cannot Be Forced To Participate.
 - ◆ This Is Not Nec. The Case in Many Jurisdictions
- ◆ Different Programs May Have Different Tax Implications
 - ◆ For some communities, Important to Establish Program That Will Not Result in Land Owners Being Taxed
 - ◆ For others okay if subsidy triggers taxable benefits

EQUAL PROTECTION CONSIDERATIONS

CONSTITUTIONAL EQUAL PROTECTION

- Treating similarly situated ratepayers the same
- Careful how you start your program
 - 100% grant funding to obtain I/I reduction information to inform if and how broader program will be pursued
 - Subsequent program features no subsidy or reduced subsidy (e.g., low interest loan instead of 100% grant)
 - Later citizens may sue wanting same treatment as those in the pilot program



ENSURING YOUR I/I PROGRAM MEETS CONSTITUTIONAL REQUIREMENTS

Recent Supreme Court Case: *Armour v. Indianapolis*

- ◆ Addresses Whether Unequal Treatment of Land Owners Meets The Requirements of Equal Protection Under The 14th Amendment
- ◆ Treating Homeowners Differently Likely Acceptable, But Need to Ensure Differential in Treatment Is Reasonable & Has A Rational Basis

BACKGROUND

- ◆ INDY wanted residents on septic to connect
- ◆ Pay lump sum or 5 year installments
- ◆ In year 2, City Council waived remaining installments
- ◆ Homeowners who paid lump sum brought suit for refund.
- ◆ IN S.Ct. Upheld City decision to waive installments (rational basis test)
- ◆ US S.Ct. took the case.... But Agreed 6-3 with IN SC.

ARMOUR DECISION

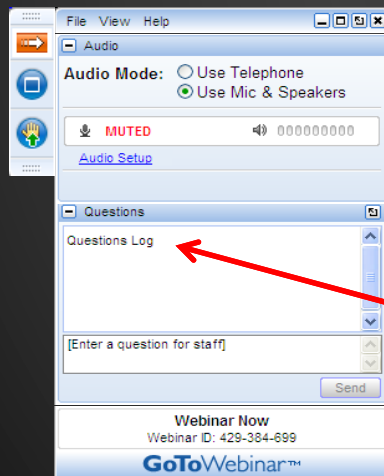
- ◆ If You Have An Incentive Program Can You Ever End it?
- ◆ Yes Under *Armour* , As Long As Differential Treatment is Reasonable
- ◆ Protect Your Locality with Qualifications:
 - ◆ “Pilot Program”
 - ◆ “No Guarantee of Funding”
 - ◆ “Program Subject to Reevaluation”
- ◆ Gives Notice to Homeowners of Risk of Foregoing Early Participation

GETTING IT RIGHT

- **Need for speed & appetite for risk**
- **Pilot first...**
- **Avoid Creating Liability for Your Utility**
 - Have your legal team make sure you have authority to be on and/or improve private property with public \$\$
 - Anticipate political issues;
 - Watch constitutional equal protection issues
- **Avoid Creating Unexpected Liability for Homeowners**
 - Tax issues
- **Need to Involve Legal Team**



Questions?



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Gaining Public Support for Reducing Private Property I/I Sources

Scott Belz
Program Manager
Field Services



Gaining Public Support for Reducing Private Property I/I Sources



Presentation by:
Scott Belz
Program Manager
Field Services



Agenda

- Identifying I/I Sources on PP
- Public vs Private Property
- Private Property Drainage
- Private Property Defects
- Private Property Rehabilitation
- Public Outrage
- Engaging the Public
- Facilitation Committee
- I/I Removal Action Plan
- Corrective Action Plan
- Examples of Community Programs

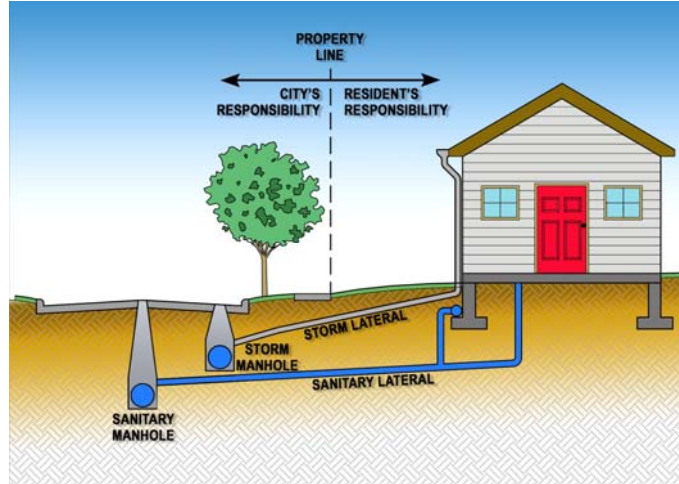


Identifying I/I Sources on Private Property

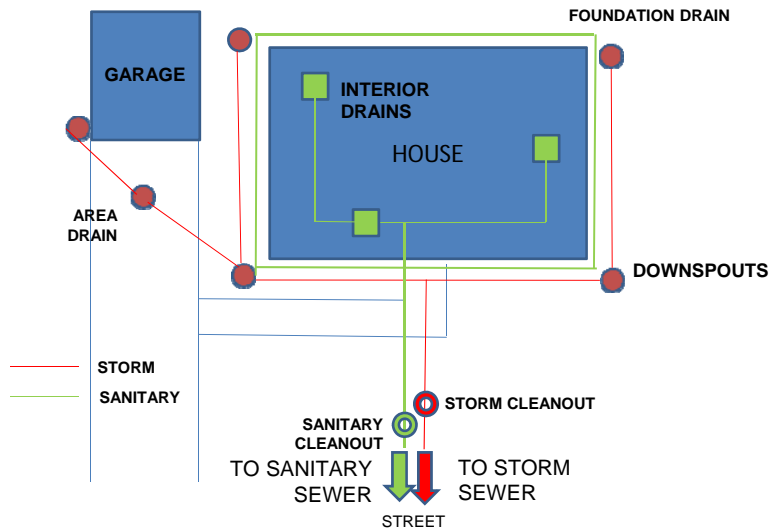
- Typically found during SSES studies
 - Manhole Inspection
 - Flow Monitoring
 - Smoke Testing
 - Dye Testing
 - CCTV Inspection
 - Dye Testing
 - CCTV Inspection



Public vs. Private Property



Private Property Drainage



Private Property Defects

- Roots
Roots block laterals or leaders and cause water to exit through joints
- Downspout Leader Compromised
Settled portion of the pipe allows water to infiltrate sanitary below



Private Property Defects

- Crushed Pipe
Crushed lateral pipes or downspout leaders
- Direct Connection
Direct connections to sanitary



Private Property Rehabilitation

- Spot Repair
- Root Removal
- Lateral Cleaning/
Rehabilitation/Lining
- Downspout Redirection/
Reconnection/Extension
- Area Drain Reconnection
- Install Sump Pumps



Public Outrage Causes

- Initial Frustration
- Double Frustration
- Misunderstanding
- Distrust of Community
- Eluding the truth



Engaging the Public

- Public Meetings
- Flyers Promoting Investigations
- Stakeholder Workshops
- Initiating a Facilitation Program



Facilitation Committee Developing the I/I Removal Plan

- Form a committee to study and develop recommendations to reduce the private property contribution of (I/I)
- Committee to consist of stakeholders- Council members, city engineer, law director, building director, service department, and most of all residents
- Conducted through technical presentations and with design and facilitation of the committee's efforts in a series of facilitated meetings
- Designed to encourage discussion and understanding of I/I in general and how other communities locally and nationally have addressed the problem
- Identify the legal and financial context framing the solution and development of recommendations

Facilitation Committee Mission Statement

- The mission of the I/I Reduction Program Committee is to develop a feasible plan that will be utilized by the City to reduce inflow and infiltration (I/I) problems on private property.
- The reduction of I/I problems creates a safer and healthier community by relieving flooding issues and improving water quality.



I/I Removal Plan Considerations

- How do we get the message out to the community so they understand and accept the need for this program?
- Community wants the city to “fix it” but public sector repairs alone will not solve the problem; residents also need to make repairs to their properties.
- The inter dependency of the problem: convincing all property owners in an area to make repairs to alleviate the problem, even to those who have not experienced Water in Basement (WIB).



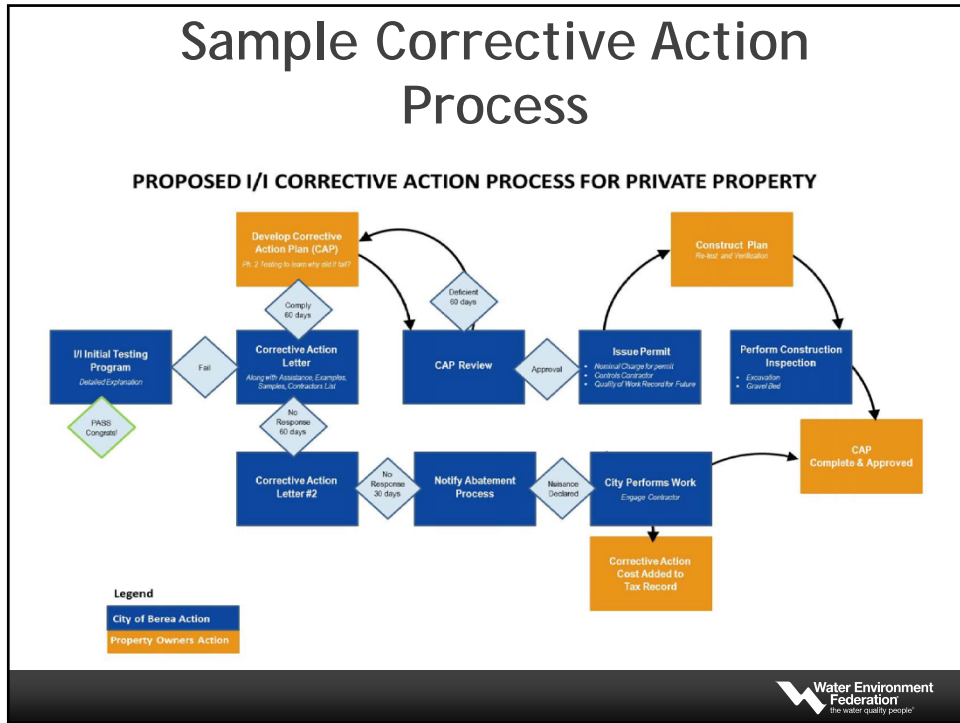
I/I Removal Plan Considerations

- Concern about people's ability to afford the repairs and realistically considering if the community can afford not to make the repairs and suffer more flood damages?
- Most homeowners don't realize that it's a legal requirement to make these repairs. What is the city's enforcement process? How will the public respond to mandated compliance?
- Timing- how quickly can the deficiencies be corrected?
- What are the city's resources to support the program?



Develop an I/I Removal Corrective Action Process

1. Send homeowner letter, called a "Corrective Action Letter"
2. After the 60 day time period for submission of a Corrective Action Plan, if no plan has been submitted, send second notice giving 15 days.
3. If no plan submitted:
 1. Legal Action
 2. Initiate Nuisance Abatement Procedure or other City policy
4. If plan is submitted:
 1. Review plan and timeline
 2. Provide oversight for work
 3. Send letter acknowledging completion



Other Common Program Issues

- Who identifies the sources?
- Is the program voluntary or mandatory?
- Which sources of I/I should be removed?
- Who pays for the work?
- Is there financial assistance to the resident?
- What is the schedule to remove the I/I source?
- What about the use of backflow preventors?

Programs in Other Local Cities

- City of Seven Hills, OH
- City of Middleburg Heights, OH
- City of Brecksville, OH
- City of Wadsworth, OH
- City of Westlake, OH



Programs in Other Local Cities

- City of Seven Hills, OH 2015
 - City hires consultant to test limited areas each year based on flooding or County Health Department Outfall Sampling
 - Consultant finds defects from smoke and dye testing and submits report to the City
 - City identifies house and sends letter to resident with test findings
 - Resident has 30 days to perform work, or contact City for extension
 - If resident does not comply or contact City, second notice is sent
 - If resident does not comply or contact City, City files charges and summons to court
- Summary
- City pays 100% of testing done by consultant
- Resident pays 100% repairs



Programs in Other Local Cities

- City of Middleburg Heights, OH 2015
 - Cuyahoga County Public Works and the City conduct testing in areas that are known to have problems
 - City notifies resident via letter of problem on property
 - City works with resident to identify problems or resident can hire contractor to identify problem and repair
 - City provides oversight of contractor
- Summary
- Residents pay 100% in sewer fee for testing done by County
- Resident pays 100% repairs with City oversight



Programs in Other Local Cities

- City of Brecksville, OH 2016
 - Cuyahoga County Public Works installs cleanouts and conducts dye tests for house that have basement flooding
 - Resident given inspection form and City sends 30 day notification
 - Resident hires contractor of choice (approved by County)
 - City Building Department works with resident and contractor through the process to correct problem
 - City Building Department keeps information on file about work on residence
 - Brecksville pays County through storm and sanitary fees
- Summary
- Residents pay 100% in sewer fee for testing done by County
- Resident pays 100% repairs with City oversight



Programs in Other Local Cities

- City of Wadsworth, OH 2016
 - City has volunteer program called “Dry Basement Program”
 - City hires consultant to do detailed private property testing
 - Approval for up to 50% of approved construction costs
 - Typical construction included installation of backflow preventors
 - City oversees all contractor work
- Summary
- City pays up to \$1000 of testing done by consultant
- City pays 50% repairs done by contractor up total costs \$2500

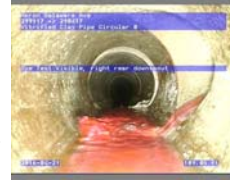
Programs in Other Local Cities

- City of Westlake, OH 2017
 - City identifies ‘hot spots’ based on basement flooding calls
 - Hires consultant to do high level private property testing
 - City goes back and conducts ‘Phase II’ testing and recommends rehabilitation technique, spot repair or lining
 - City hires contractor to perform rehabilitation or repair on private property
 - After work is done, contractor conducts dye test to pass house
 - City oversees all contractor work
- Summary
- City pays 100% of testing done by consultant
- City pays 100% repairs done by contractor



Closing

- City administration must have a plan or develop one prior to engaging in private property I/I removal
- Building/Legal/Service Departments must work together
- Engage public early and include in development of the plan
- Different plans work for different communities, not one type for all



Closing

- Utilize examples of other communities-
 - WEF Private Property Virtual Library (PPVL)
<http://www.wefppvl.org/WEF-PPVL-library/>
- Other WEF Resources:
 - PPII Factsheet
http://www.wef.org/globalassets/assets-wef/3---resources/topics/a-n/collection-systems/technical-resources/ppii-fact-sheet_sep-2015.pdf
 - PPI Special Publication- Private Property Infiltration and Inflow Control
<https://www.ewef.org/Default.aspx?TabID=251&productId=49595036&/>

Thank you for your time!



Scott Belz
Program Manager - Field Services



Cleveland, OH
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*Regional Approach to
I/I Mitigation*

Marcus Bush, PE
Principal Engineer
Metropolitan Council
Environmental Services
(MCES)



Regional Approach to I/I Mitigation



Metropolitan Council Environmental Services (MCES)

- History and drivers
- I/I Program
- Results
 - Regional
 - Metershed
- Next steps
 - Direction from Task Force
 - Private Property focus
 - Comprehensive Plans

Marcus Bush, PE
Principal Engineer



Mississippi River and Great Lakes



- July 1987 superstorm
 - 16" of rainfall over one week in region
 - Agreement with EPA; no consent decree
- 1990 system evaluation
 - ~20% of annual flow from I/I
 - MWCC grants and loans to communities
- 2002 interceptor master plan
 - ~20% of annual flow from I/I
 - Projected peak flow exceeds capacity; not sustainable
 - More cost effective to address sources than build capacity
- 2004 I/I Task Force
 - Incentive and resource for infrastructure investments

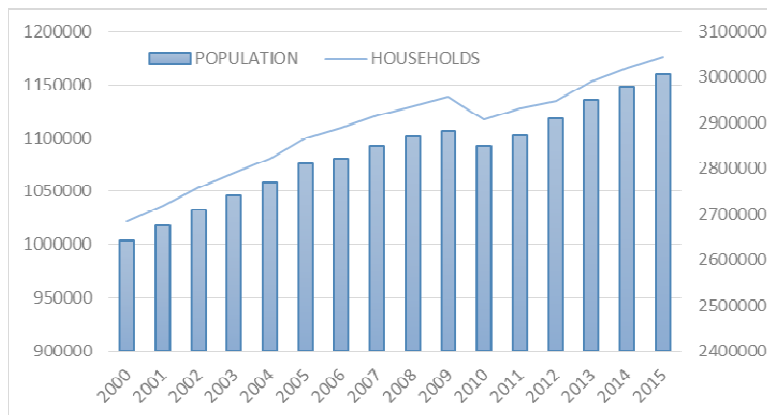


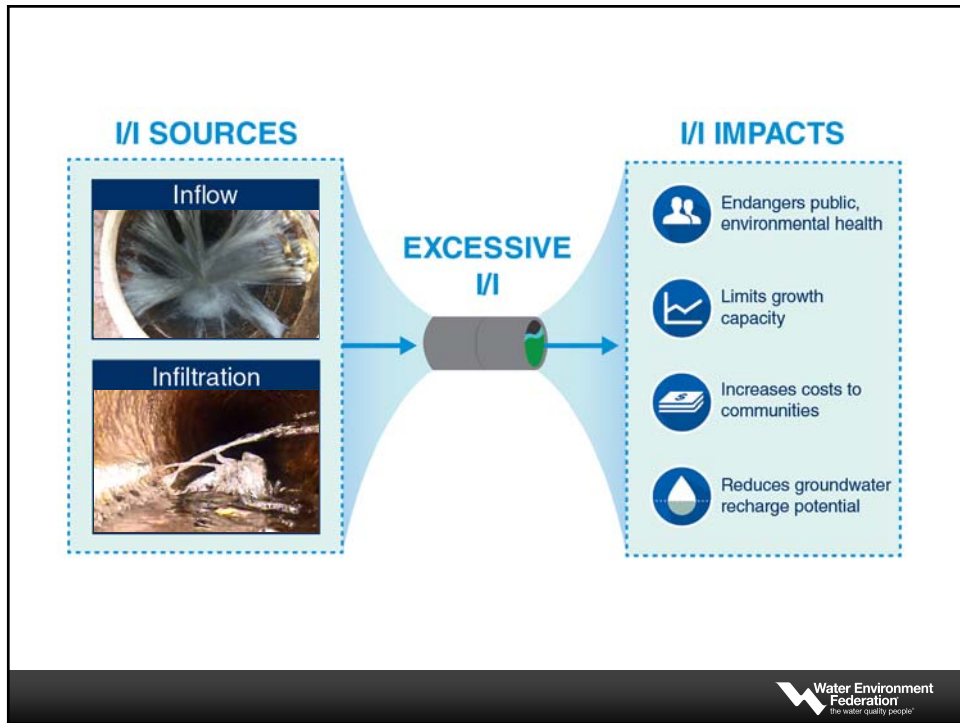
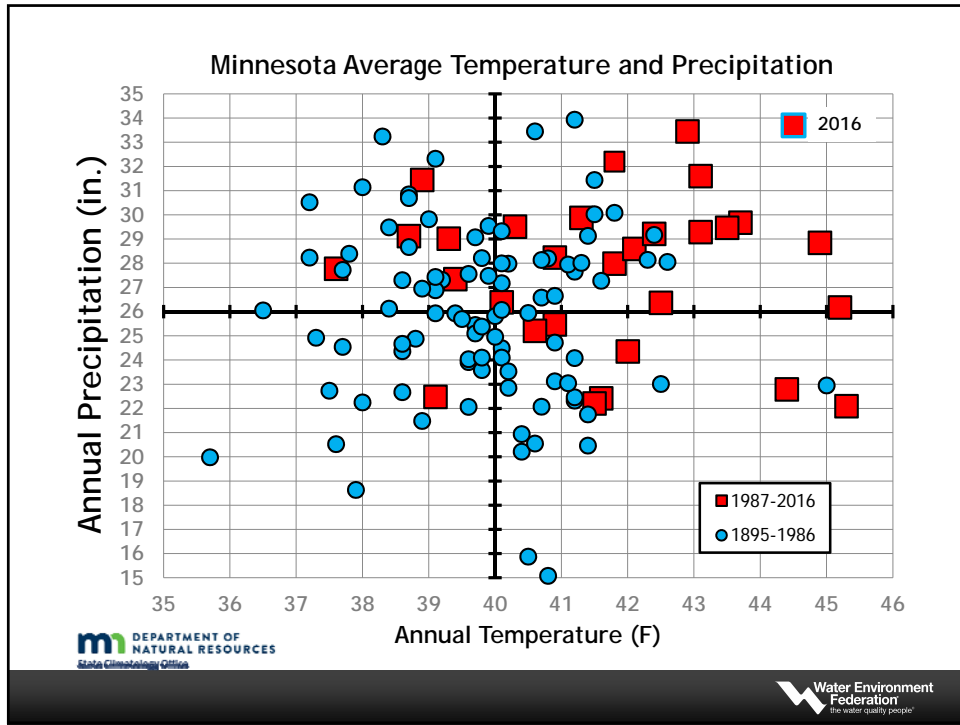
Task Force

- Community representatives
 - Public works, finance, city manager
 - Varied size, geography, experience
- Recommendations to MCES
 - Scope and direction
 - Consistent with regional policy
- Meet ~5-year intervals



Growing region

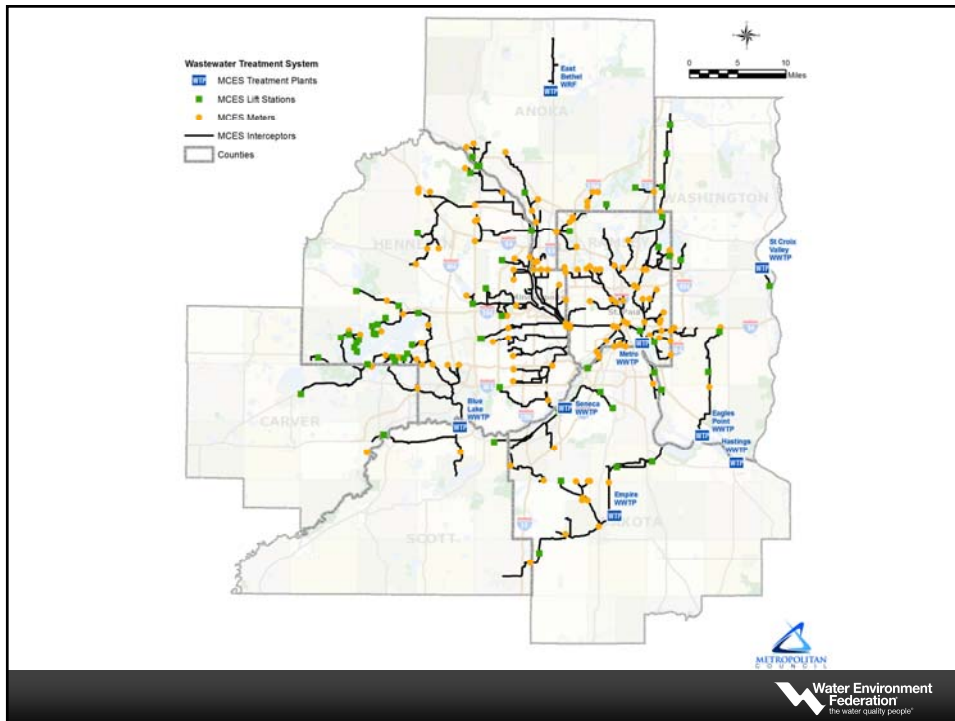
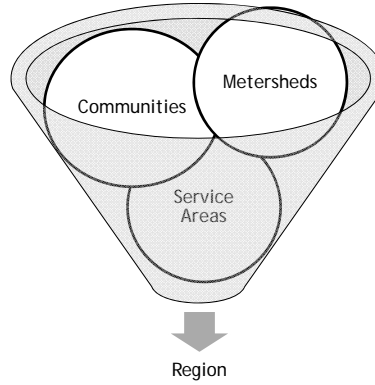


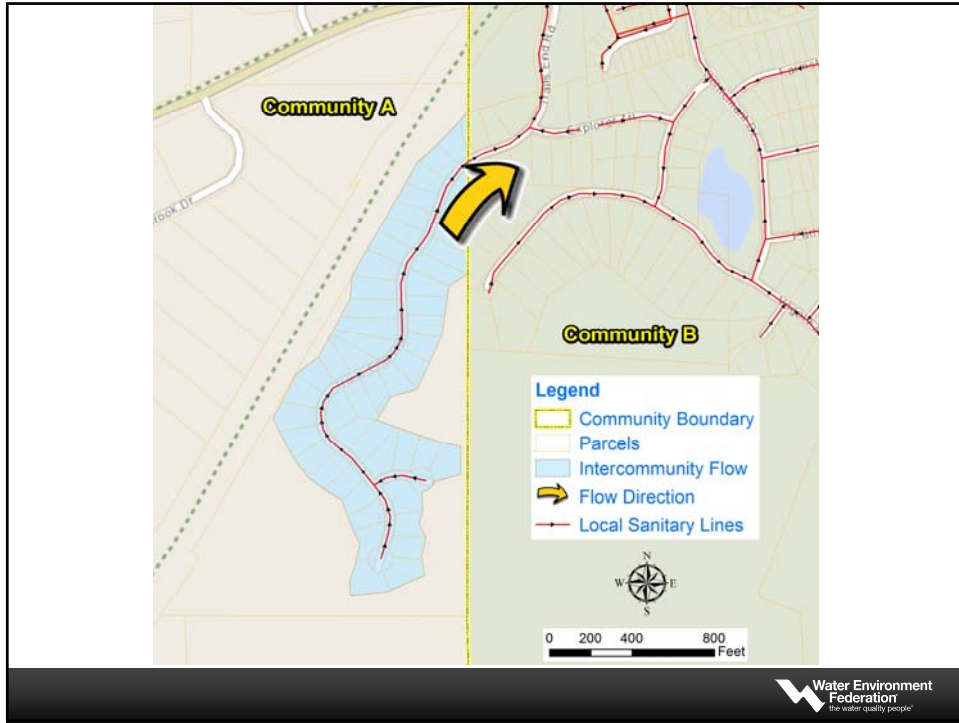


Combined efforts

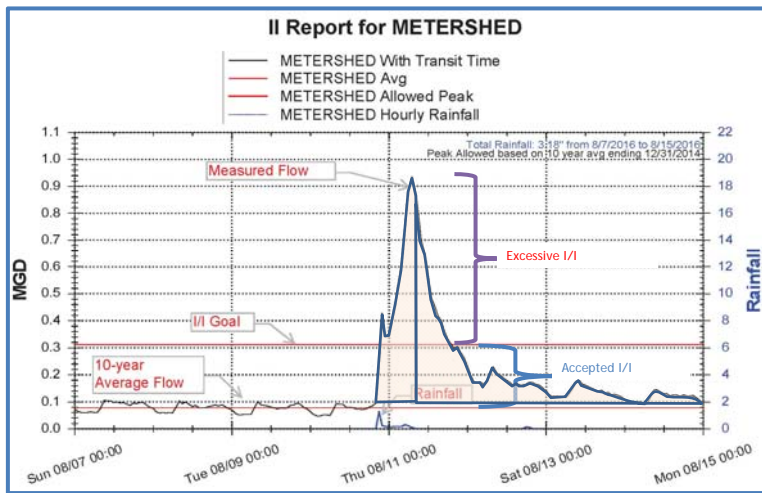
- 1 million connections
- 7,500+ miles private service laterals
- 5,000+ miles sewer main

- 610 miles regional interceptor

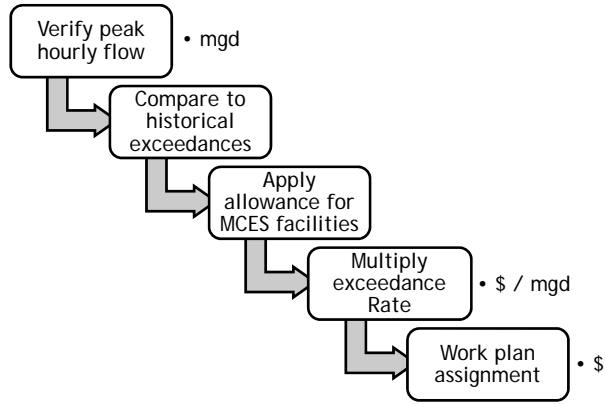




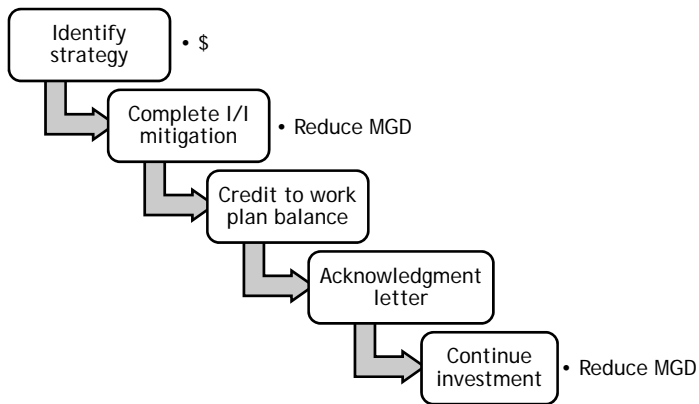
Excessive I/I

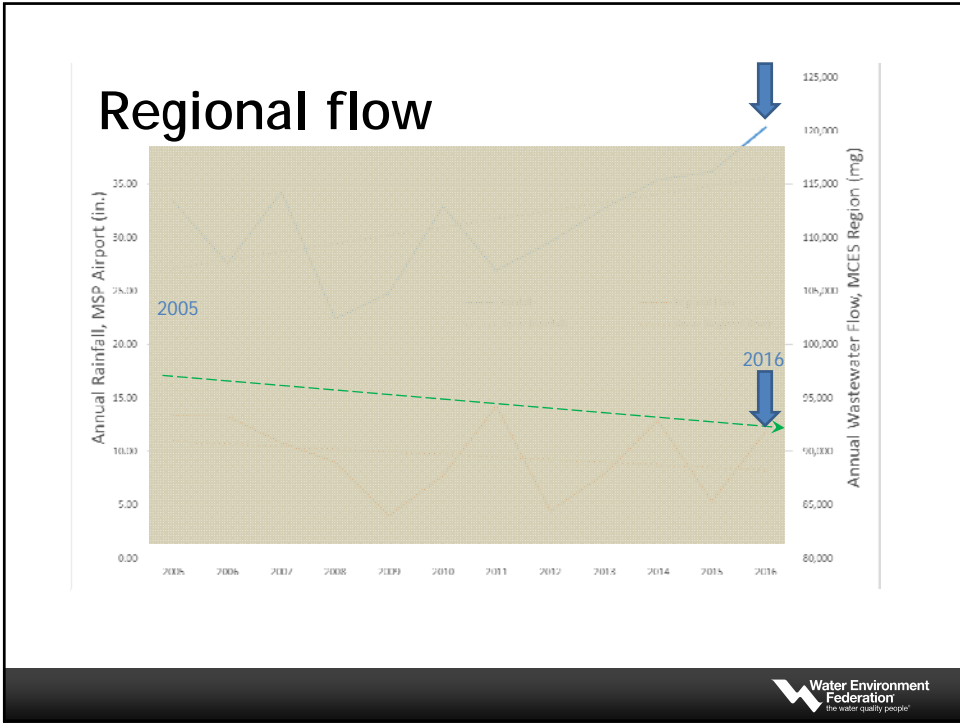


Work plan assignment



Work plan completion





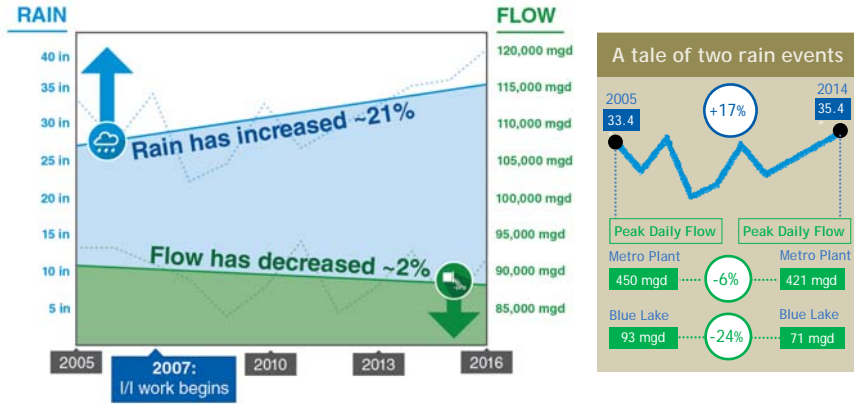
Major storm comparison

	Oct 4, 2005	June 19, 2014	Difference
Regional Precipitation (in) ¹	6.6	10.8	+62%
Annual Precipitation (in) ²	32.2	37.7	+17%
I/I Goals Exceeded	50	49	
Peak Daily Flow³			
Metropolitan Plant (St Paul)	449.6	420.9	-6%
Blue Lake (Shakopee)	92.8	70.9	-24%
Peak Hourly Flow^{3,4}			
Metropolitan Plant (St Paul)	633.4	559.9	-12%

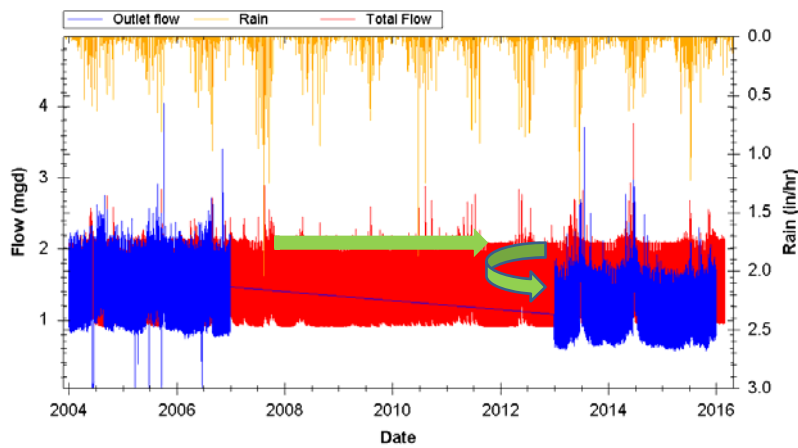
¹ Average total rainfall over the region that occurred September 19- October 4, 2005 and June 1- June 19, 2014.
² Average total rainfall over the region that occurred in the 12 months preceding the event.
³ Flow in million gallons per day (mgd)
⁴ Peak Hourly Flow during events exceeded the capacity of Blue Lake Plant meters.

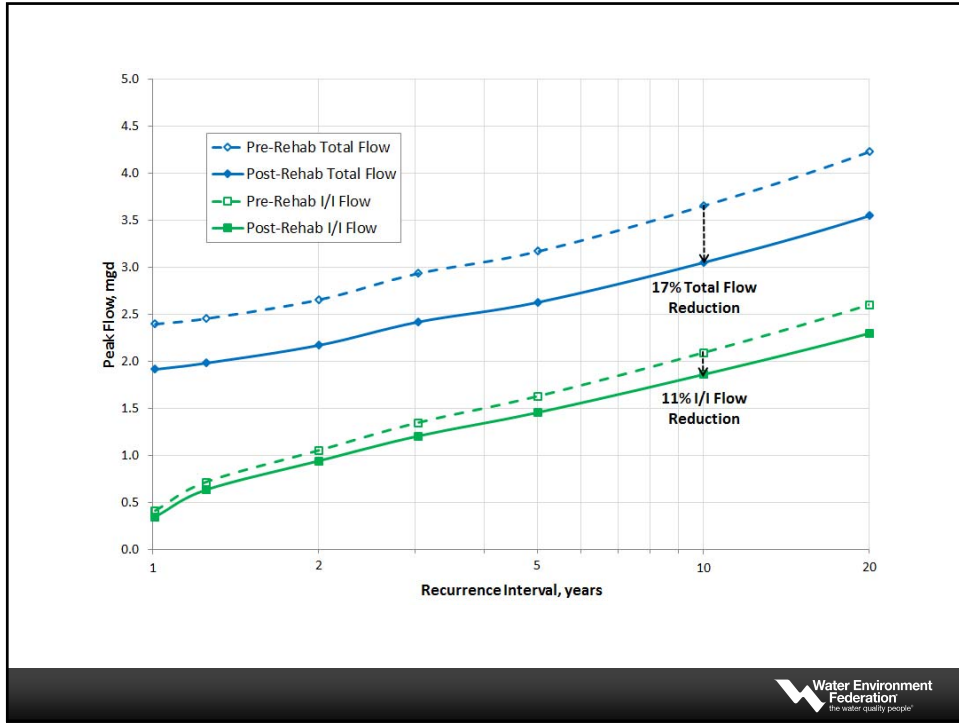
Water Environment Federation
the water quality people

Regional flow



Metershed flow





Metershed flow

Results Summary								
Pre-Rehab (mgd)			Post-Rehab (mgd)			Reduction		
Base Flow	Peak Flow	I/I Flow	Base Flow	Peak Flow	I/I Flow	Base Flow	Peak Flow	I/I Flow
1.5	3.7	2.1	1.2	3.1	Public	24%	17%	11%
1	Extensive Private and Public	3	7	7	Public	11%	69%	75%
2.3	12.9	Private and Public	8	8	Public	5%	24%	28%
7.8	17.8	9.3	7.4	Baseline	Public	6%	4%	0%

Task Force Recommendations



Continue existing I/I program



Pursue consistent funding



Robust public outreach program



Service lateral inspection and repair best practices



Demonstration Program

- Renewed focus on PPII
 - Financial, technical challenges

Data quality

- Generalizations are always false
- Community metering
 - Allocate contributing flow
 - Identify sources of I/I
- Responsive to customers
 - Partnering in mitigation
 - Customer service



Public outreach

- Simple, consistent messaging
- Municipal consultants
 - One-hour lunch presentation
- Media toolkit
 - For community use
 - Consistent language and messaging
- Video series



Best practices

- Speak softly and carry a big carrot
- Partnering
 - Metro Cities and League of MN Cities
- In progress
 - Legislative session just ended



Consistent Funding

- Equitable and consistent support
- PPII funding
 - Previously, no expressed authority
 - Statute related to Duluth, MN I/I mitigation
 - “City” may provide funding for PPII
- Grants from State to Communities
 - Public infrastructure
 - Shown wet weather system response
- Considering pursuing regional resources



Demonstration program

- Prove it, locally
- Demonstration project
 - Measure effects of I/I mitigation
 - Community partner
 - Sub-metershed project area

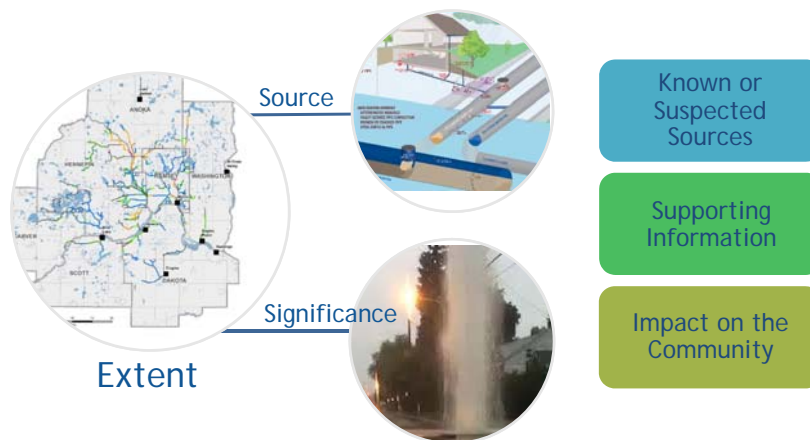


Comprehensive sewer plan

- Define the problem, locally
- Goals, Policies, and Strategies
- Local ordinances
 - Clear water discharge
 - Disconnection of sources
- Aggregate data
 - Needs, gaps, plans



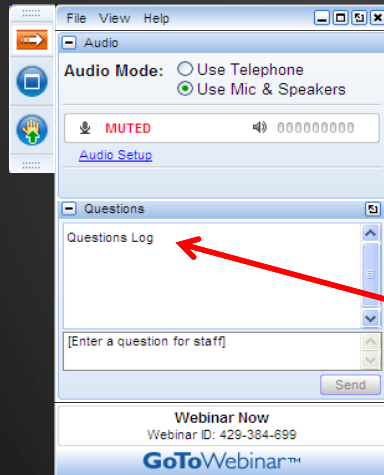
Comprehensive plan



Connected



Questions? How to Participate:



- Audio Modes
 - Listen using Mic & Speakers
 - Or, select "Use Telephone" and dial the conference (please remember long distance phone charges apply).
- Submit your questions using the Questions pane.
- A recording will be available for replay shortly after this webcast.