Private Property Virtual Library
Where We’ve Been and Where We’re Going…

Water Environment Federation
Collection System Committee

IWPCA Annual Conference
June 4, 2008
Acknowledgements

- WEF Collection System Committee
- Christine Handog, WEF Liaison
- WEF Information Technology Staff
- Participating Utilities
- Private Property Virtual Library Development Team
  - Laurie Chase, Chair
  - Jaime Davidson, Vice Chair
  - Bill Carter
  - Bruce Cohen
  - Carol Hufnagel
  - Jane McLamarrah
  - Mike Anderson
  - Mike Greene
Presentation Outline

- Introduction
- Why is Private Property an Issue?
- Where We’ve Been...
  - The Private Property Virtual Library (PPVL)
  - Project Participants and Summary of Data Gathered
  - How to Navigate the PPVL
  - Program Highlights
  - PPVL Workshop
- Where We’re Going...
  - WEF Webcast
  - Future Efforts
- Questions
Introduction

- The WEF Collection Systems Committee (CSC) recognizes that private property I/I sources and lateral maintenance are some of the most difficult issues many wastewater utilities face.
Why is Private Property an issue?

- Private property I/I sources include:
  - Illicit connections to public sewer main such as
    - Downspouts
    - Basement sumps
    - Foundation drains
  - Private sewer laterals
    - Improperly constructed
    - Improperly repaired
    - Poorly maintained
Why is Private Property an issue?

- Private property I/I sources can contribute to:
  - Potential sanitary sewer overflows
  - Reduced conveyance system capacity
  - Potential water-in-basement occurrences
  - Reduced structural integrity of the sewer pipe

- Regulatory authorities are requiring utilities to eliminate overflows; one approach to eliminating overflows is by removing I/I

- If public utilities cannot eliminate overflows or meet I/I removal goals by addressing public I/I sources alone, they are faced with a **major dilemma**

- Additionally, many states are requiring sewer lateral installation, inspection and maintenance issues in CMOM programs
Why is Private Property an issue?

- Roadblocks that prevent utilities from implementing a private property program can include:
  - Don’t know where to begin
  - Difficulty working on private property
    - Legal issues
    - Easements / defining ownership
  - Funding the program
    - Limited funds
    - How can a public utility spend public money on private property?
  - Gaining stakeholder support
    - Residents
    - Businesses
    - Media
    - Contractors
    - Real Estate
Where We’ve Been...

2005

2006

2007
Need for Shared Information

- WEF Private Property Webcast August, 2005
  - Highest viewed WEF webcast
  - Participants requested example ordinances, letters, and other documents from speakers

- WEF Collection System Committee took next step
  - Gather more information
  - Make it available to WEF membership
Private Property Virtual Library (PPVL) Project Objective and Approach

- Develop a virtual library of private property program-related resource materials to be available through the internet

- Focus on “successful” private property programs targeting:
  - Sanitary lateral repair or replacement
  - I/I source detection and elimination
  - Condition assessment
Identified “successful” private property programs through team experience and request for participation published in WEF newsletter

Developed a standard questionnaire of information to be gathered

- General Information
- Lateral Definition
- Program Description
- Program Implementation
- Program Funding
- Program Construction
- Public Education / Outreach
- Lessons Learned
PPVL Project Methodology

- Contacted identified program authorities and solicited:
  - Completed questionnaire, including program description
  - Sample program documentation, including ordinances and public education materials
- Cataloged details of the program in a standard format with links to related documents
The Private Property Virtual Library

- Online now at www.wef.org/PrivateProperty
- Easily accessible, central location for all private property program information
  - Completed questionnaires
  - Supporting documentation
- Multiple search options, such as:
  - Utility size, location, program type, supporting documents
- Will be regularly updated
Project Participants to Date

- Aberdeen, WA
- Auburn Hills, MI
- Austin, TX
- Chesterfield, MO
- Columbus, OH
- Duluth, MN
- Florrisant, MO
- Grand Strand, SC
- Greenfield Wastewater Utility, IN
- Greenwood, SC
- Houston, TX
- Johnson County, KS
- Lansing, MI
- Little Rock, AR
- McMinnville, OR
- Montgomery, AL
- Port Huron, MI
- Richardson, TX
- San Antonio, TX
- Shelbyville, IN
- Vallejo, CA
Summary of Data Gathered

- Types of programs identified include:
  - Sanitary lateral repair or replacement
    - Full replacement
    - Sewer main to right-of-way or curb
    - Lining
      - The above methods are completed in conjunction with sewer main replacement or rehabilitation in some areas
    - Emergency repairs
    - Low income residents where health hazard exists
    - Insurance programs
  - Sanitary lateral cleaning and cleanout installation
Summary of Data Gathered

- Types of programs identified include:
  - Enforcement of homeowner repairs
  - Dye testing of all connections
  - Downspout extension or disconnection
  - Sump pump disconnection
  - Footing drain disconnection
  - Installation of backflow prevention devices
How to Navigate the Private Property Virtual Library

Private Property Virtual Library

Welcome to the Private Property Virtual Library – a growing repository created by WEF’s Collection Systems Committee (CSC)

Private property infiltration (IP) sources and sewer lateral maintenance have been difficult issues for wastewater utilities. The CSC has been addressing this subject since the mid-1990s.

After the success and enthusiastic feedback of the “Control of Infiltration and Inflow in Private Draining sewer connections” workshop held at the 2004 Collection Systems Specialty Conference, held in 2005, WEF released entitled “Dealing with Private Property Programs – What Really Happens,” CSC volunteers believe that having a database of private property program-related documents would be vital to the wastewater community.

The Private Property Virtual Library will serve as a resource to utilities that are or will be working on private property programs. Utilities can use the database to compare what other utilities are doing across the nation, and even share their experiences with others.

The initial virtual library includes information gathered from “successful” private property programs targeting:

- Sanitary lateral repair or replacement
- Inflow detection and elimination
- Condition assessment

WEF CSC intends to update and expand the information as more communities share their successes. As other private property-related challenges are identified (e.g., sewer assessments and directional drill access drilling), the library will be modified to accommodate additional issues. Data will continue to be collected and evaluated by the CSC as it becomes available.

Detailed programmatic information gathered includes:

- Utility benchmarking data
- Lateral definition
- Program description
- Implementation
Welcome to the Private Property Virtual Library (PPVL), a growing repository of information about wastewater utilities’ private property-related programs. The information in this library has been compiled from case studies of utilities who work on private property programs and from information provided by utilities and consultants. It is intended to be a resource for other utilities seeking information or advice about private property programs. The PPVL aims to bring utilities together to compare technologies and solutions, alleviate complications, share experiences, and exchange ideas, all to improve private property systems nationwide. Check out our forum to contribute to the ongoing communications.

What Data Does the PPVL Contain?
The library includes information gathered from “successful” private property programs targeting:

- Sanitary lateral repair or replacement
- Inflow and infiltration (II) source detection and elimination
- Lateral condition assessment
- Privately owned pump station operation and maintenance
- Sewer easements

Detailed Information Gathered Includes:
- Utility completed questionnaires
- Public education materials
- Outreach letters to residents
- Ordinances and codes
- Operating and maintenance procedures
- Design details and specifications

Future Growth of the PPVL
The PPVL is a living library – it will continue to expand in breadth and depth as more communities share their successes. As additional private property-related challenges are identified (e.g., sewer easements...
### Utility Database

(Click headings to sort ascending or descending.)

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### Contact Information:

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<th>Scott</th>
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<tr>
<td>Last Name</td>
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<tr>
<td>Title</td>
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### Utility Characteristics:

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<td>Utility Type (Municipal, District, Private, etc.)</td>
<td>Municipal Government</td>
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**Utility Profile**

Click to view a map of this utility

**Private Property Virtual Library**

**Utility Profile**

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<tr>
<th>WEF Representative</th>
<th>Bill Carter</th>
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<tr>
<td>County</td>
<td></td>
</tr>
<tr>
<td>District</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>EPA District</td>
<td>7</td>
</tr>
</tbody>
</table>

**Contact Information:**

<table>
<thead>
<tr>
<th>First Name</th>
<th>Scott</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Name</td>
<td>Smith</td>
</tr>
<tr>
<td>Title</td>
<td>City Engineer</td>
</tr>
<tr>
<td>Phone</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>Zip</td>
<td></td>
</tr>
</tbody>
</table>

**Utility Characteristics:**

<table>
<thead>
<tr>
<th>Number of Customers</th>
<th>55000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Taps</td>
<td>17000</td>
</tr>
<tr>
<td>Miles of Public Sanitary Sewers</td>
<td>174</td>
</tr>
<tr>
<td>Miles of Public Combined Sewers</td>
<td>0</td>
</tr>
<tr>
<td>Are Basements Typical in your Area?</td>
<td>True</td>
</tr>
<tr>
<td>Utility Type (Municipal District Private etc.)</td>
<td>Municipal Government</td>
</tr>
</tbody>
</table>
Utility Profile

Click here to download original questionnaire

1. General Information

Utility Name: Florissant, MO
City: Florissant
County: MO
District: 7
State: MO
EPA District: 

Contact Information:

First Name: Scott
Last Name: Smith
Title: City Engineer
Phone: 
Address: 
City: 
State: 
Zip: 

Utility Characteristics:

Number of Customers: 55000
Number of Taps: 17000
Miles of Public Sanitary Sewers: 174
Miles of Public Combined Sewers: 0
Are Basements Typical in your Area?: True
Utility Type: Municipal Government
PRIVATE LATERAL PROGRAM QUESTIONNAIRE

The WEF Collection System Committee is primarily interested in successfully operating programs for work performed on the privately-owned portion of the lateral line, e.g., building service connection. We want to assemble policy descriptions, enabling resolutions or ordinances, funding details, public education information materials, standard design or construction details, etc., for programs that have proven to be successful. This specific program documentation will be made available to other wastewater utilities through a virtual private property program on-line library.

While we are interested in “planned” programs, we want to first concentrate on programs that have been demonstrated to have been effectively implemented. Planned programs will be included in the virtual library after the program has been implemented and actual experience with the program is available.

Program descriptions of private lateral programs that were previously implemented, but considered “failed” or only “partially successful” will be included if the reasons for the problems with the program have been identified and can be included as a “lessons learned” component of the virtual library.

Interview Conducted by WEF Representative: Name: __________________________ Date: __________________________

1. General Information

Utility Name & Location: City of Florissant, Missouri

Contact Name & Details: Scott J. Smith, City Engineer_______________________

Utility Characteristics:

55,000____ Number of Customers

17,000____ Number of Taps

174____ Total Miles of Public Sanitary Sewers (separated sewers and combined sewers)

0____ Miles of Public Combined Sewers (sanitary only, not including storm sewers) (estimate % of system that is combined if total miles is unavailable or unknown)
### Utility Profile

**Click to view a map of this utility**

<table>
<thead>
<tr>
<th>WEF Representative</th>
<th>Bill Carter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview Data</td>
<td>8/14/2006</td>
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</table>

#### 1. General Information

<table>
<thead>
<tr>
<th>Utility Name</th>
<th>Florissant, MO</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>Florissant</td>
</tr>
<tr>
<td>County</td>
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#### Utility Characteristics:

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</tr>
<tr>
<td>Utility Type (Municipal, District, Private, etc.)</td>
<td>Municipal Government</td>
</tr>
</tbody>
</table>
### Utility Database

6. **Program Construction: Who does the work?**

<table>
<thead>
<tr>
<th></th>
<th>False</th>
<th>True</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Internal Forces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Selects and Pays Contractor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property Owner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property Owner but Only from Utility List</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Both City employees and contractor representatives perform the repair work.</td>
<td></td>
</tr>
<tr>
<td>Standard Details/Specs</td>
<td>False</td>
<td></td>
</tr>
<tr>
<td>Construction Description</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. **Public Education Information Program: How is the Lateral Program Publicized?**

<table>
<thead>
<tr>
<th></th>
<th>False</th>
<th>True</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door Hangers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billing Stufflers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meetings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brochures</td>
<td></td>
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</tr>
<tr>
<td>Customer Specific</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. **Lessons Learned**

- **Performance Measures**: Reduction of basement backups and service calls for large root intrusions.
- **Lessons Learned**: Originally use City employees as the excavation facet of construction instead of using solely contractors for the entire job. Assess a greater amount to each property owner - original program started at $28, increased to $50 per year.

9. **Associated Additional Documents**

- SEWER LATERAL APPLICATION - REVISED.pdf
- SLIP Brochure.pdf
- Virtual Library Questionnaire Florissant MO.pdf
Additional Resources

WF Collection Systems Committee Efforts

- PPVL Fact Sheet
- Collection Systems Specialty Conference Workshop on Private Property, Milwaukee, WI August 8, 2004 - Workshop Notes
- Control of Infiltration and Inflow in Private Building Sewer Connections, 1999. Available for purchase through WEF.
- Building Sewer Installation and Inspection, 1999—video and guidebook. Available for purchase through WEF.
- Smoke Dye TV brochure, 1998. Available for purchase through WEF.
- 2007 Workshop Notes
- 2007 Workshop Collaborative exercise summary
- 2007 Workshop Central Contra Costa, California presentation
- 2007 Workshop Auburn Hills, Michigan presentation
- 2007 Workshop Montgomery, Alabama presentation
- 2007 Workshop Lansing and Port Huron, Michigan presentation

Ordinances and Resolutions

- Salem, Oregon Chapter 73
- Wickliffe, Ohio Point of Sale Ordinance

State Laws
Feedback

For questions or comments regarding the Private Property Virtual Library please contact:

Christine Handog
Water Environment Federation
601 Wythe St.
Alexandria, VA 22314
Phone: (703) 684-2400 x7013
Fax: (703) 684-2492
Email: chandog@wef.org
Project Dry Basement

- City is required, under consent order, to reduce water in basements
- Backflow prevention valves installed by private contractor at houses with documented backup
- Paid for with capital funds
- Authorized under local ordinance
Program Highlights

Auburn Hills, MI

- Program included:
  - Downspout extension
  - Footing drain / sump pump disconnection
  - Backflow prevention valves installed

- Under abatement order to eliminate overflow and basement flooding
Program Highlights

Auburn Hills, MI (cont.)

- Paid for out of General Fund
- Implemented from 2000 through 2006
  - Discontinued because 99% of the homes were disconnected and metering results favorable
- Lessons learned
  - Extremely effective at eliminating the excess flows in the system
  - Public education and relations are critical
Program Highlights
Florissant, MO

- Sewer Lateral Insurance Program (SLIP)
  - Repair defective sewer lateral
    - A $50.00 tax assessment is added to each residential dwelling unit each year
    - Lateral from sewer main to within 5 feet of house is covered under program
    - Work completed by City crews or contractor after homeowner application is accepted
PPVL Workshop

- May 13, 2007 at WEF Collection System Conference in Portland, OR

- Materials available in PPVL
  - Workshop Notes
  - PowerPoint Presentations
  - Collaborative Exercise
  - Summary
Where We’re Going…
Future PPVL Efforts

- Continue to contact utilities and gather data
  - Please let us know if you are aware of a utility that has a program and would like to participate!
- Re-format/expand questionnaire
- Enhance website functionality
  - Search function
  - More “user friendly”
- Develop written support materials, such as fact sheets
On-Going WEF Outreach Efforts

- Public Education and Outreach through:
  - PPVL Presentations
    - WEF Member Associations (MA)
    - Professional Conferences
  - WEF Collection System Committee MA Outreach Project
    - Periodic e-mail updates to MA collection system committee chairs and vice-chairs
    - Provides a method to communicate and learn about each committee’s efforts
    - For more information, contact:
      Barbara Robinson
      (519) 585-7379
      barbara.robinson@stantec.com
Questions?

Bill Carter, PE
GBA
9801 Renner Blvd
Lenexa, KS 66219-9745

913.577.8273
bcarter@gbutler.com