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Metropolitan Sewer District

PROJECT WIN
Waterway Improvements Now

Public Input Meeting

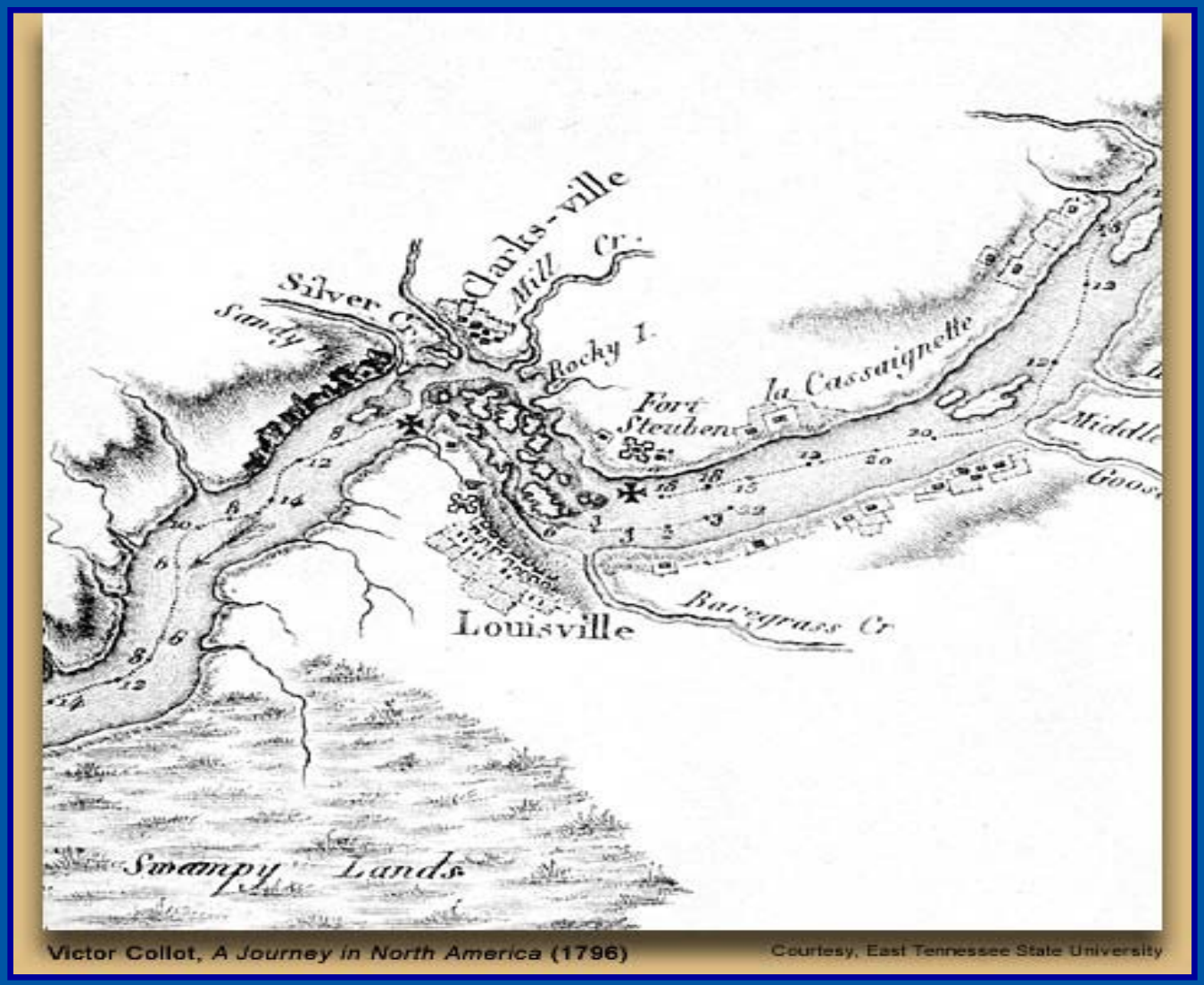
September 27, 2011

CLEAN, GREEN, GROWING COMMUNITY

Questions From The Community

- Why do we have sewer overflows?
- Why a Federal Consent Decree?
- What is MSD's plan to correct the situation?
- What progress is being made?

Louisville's Earliest Days



Victor Collot, *A Journey in North America* (1796) Courtesy, East Tennessee State University

1796 Map

Note "Swampy Lands"

Louisville's Earliest Days

1905

Cholera

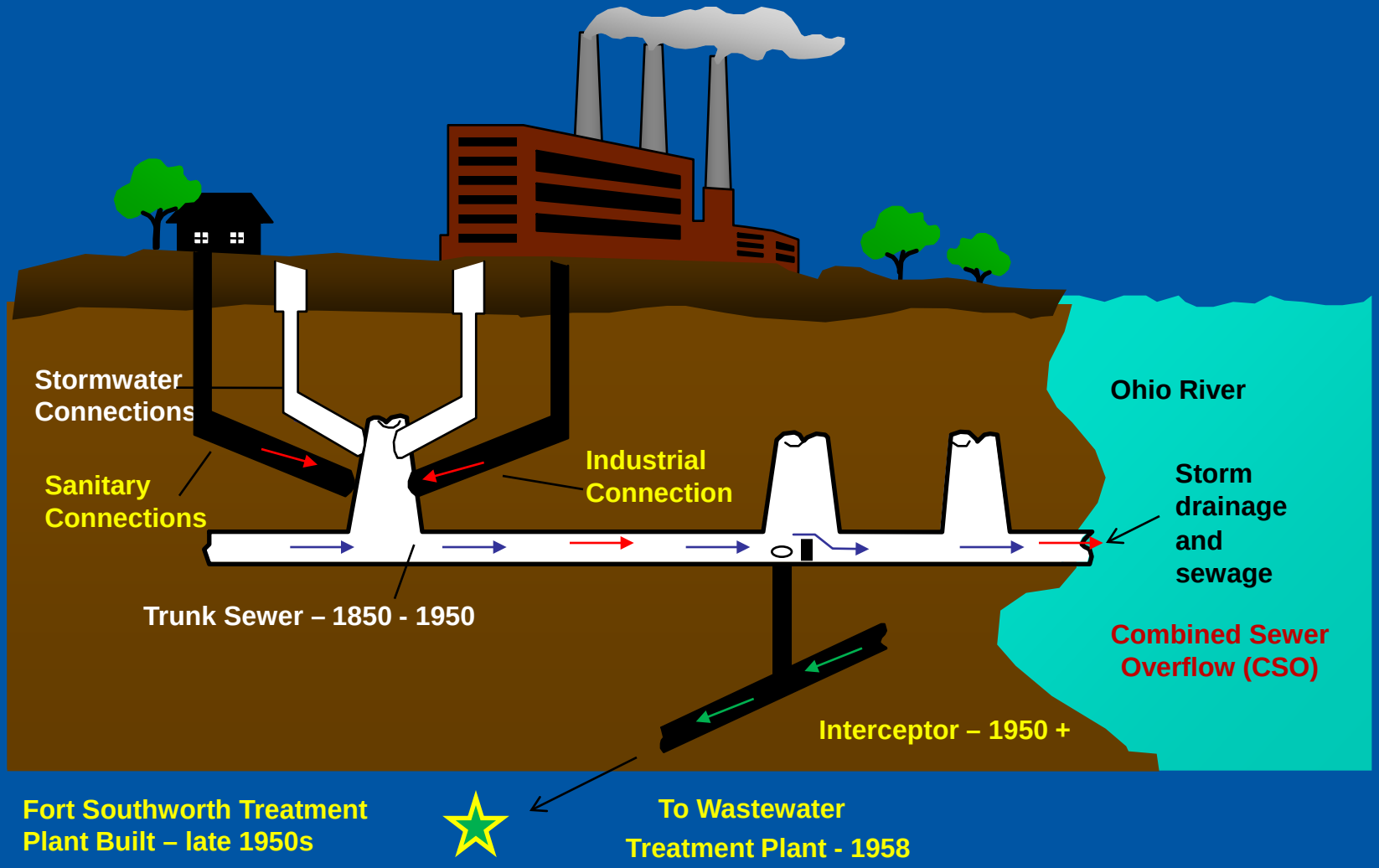
Typhoid

Yellow Fever

Dysentery

Small Pox

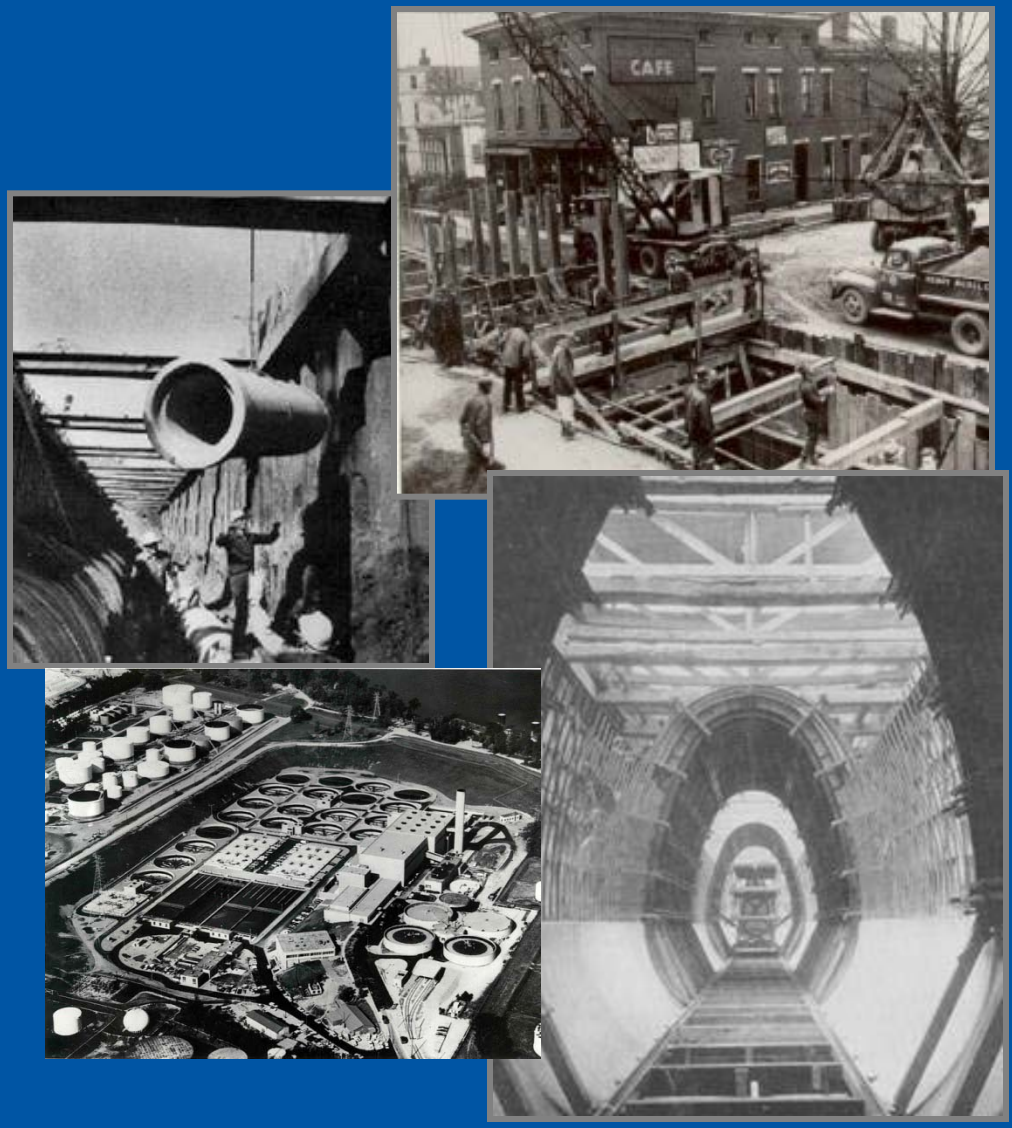
How Sewers Came to Louisville

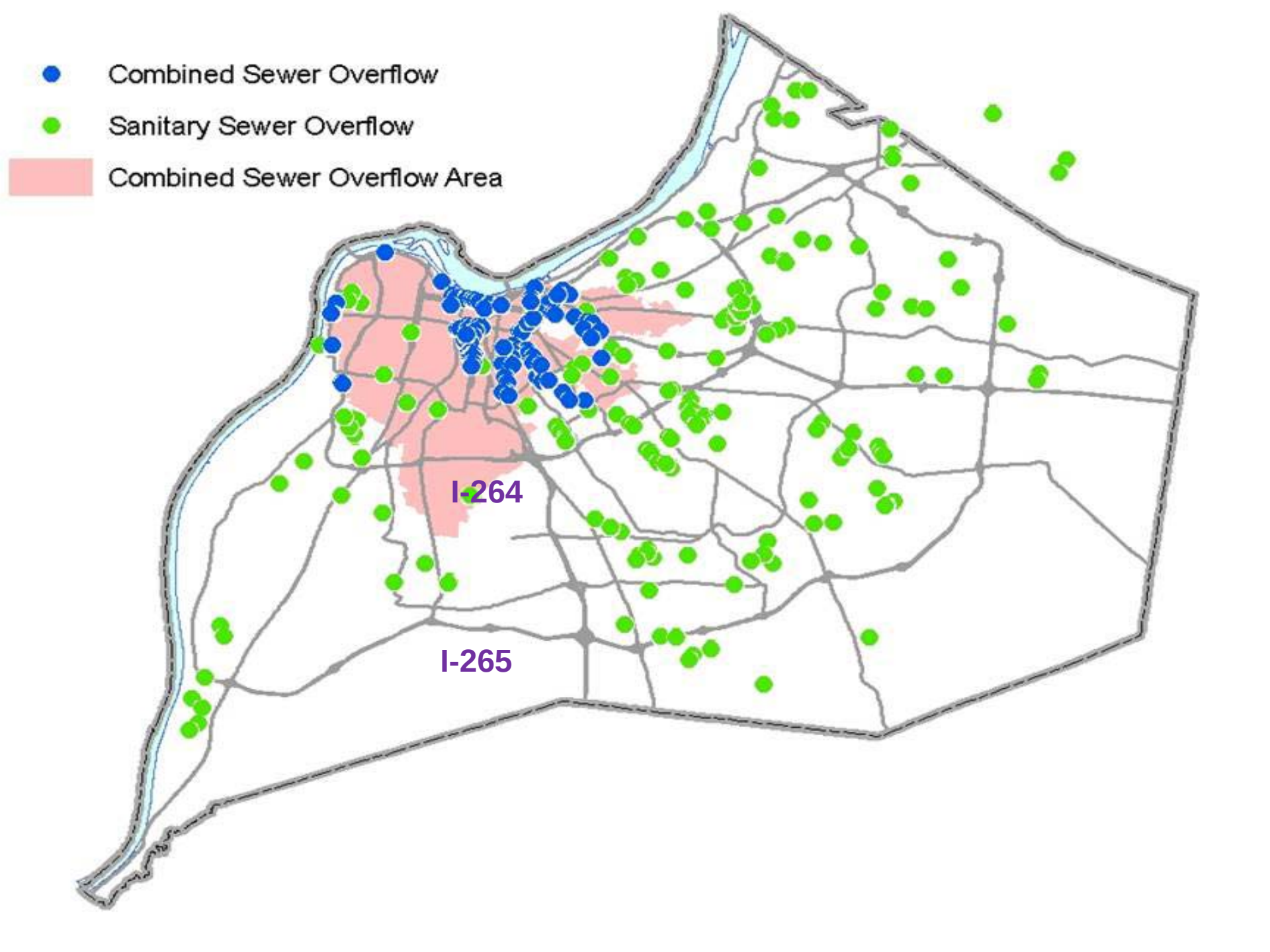


Why Do We Have Overflows?

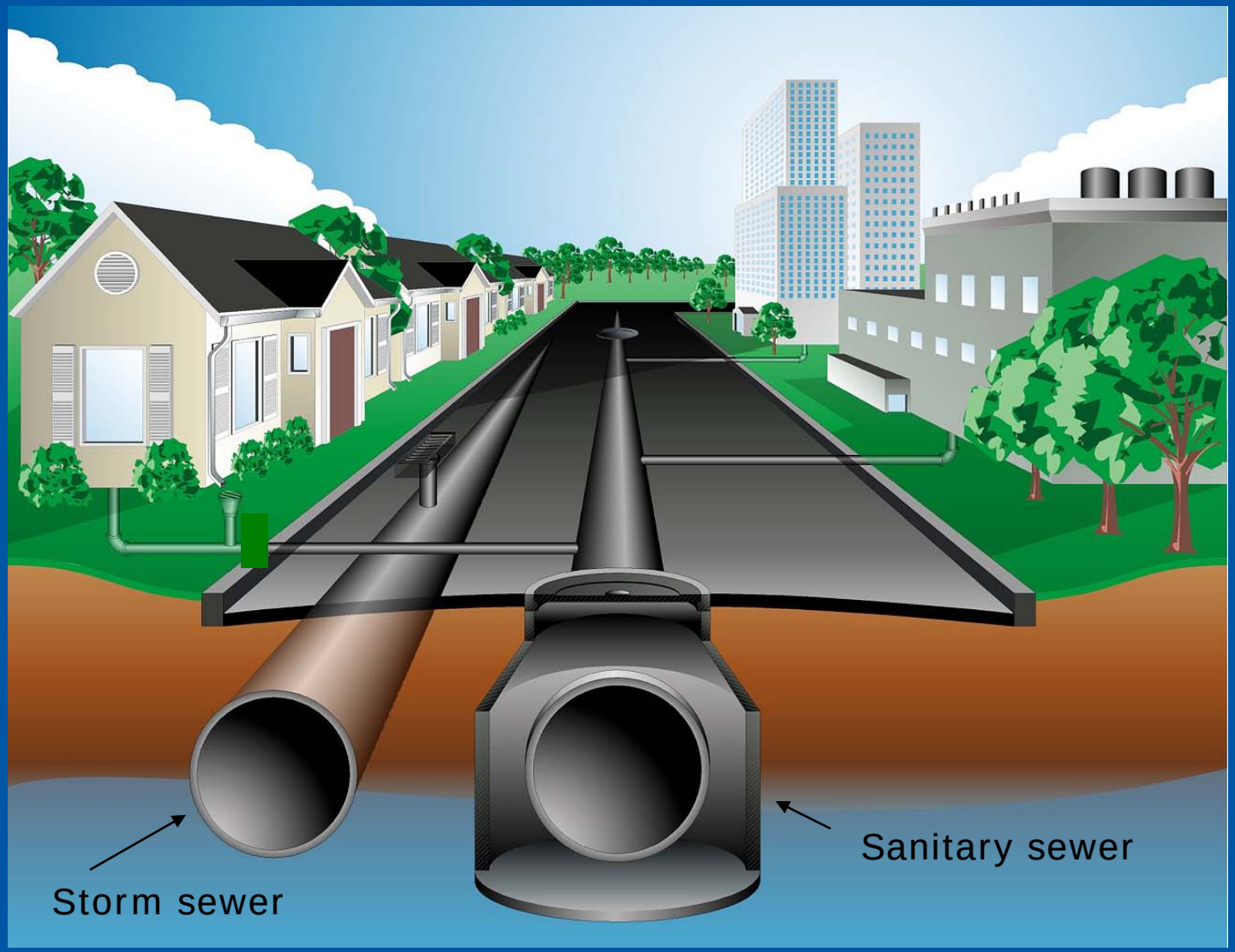
Sewer Service in Louisville Begins Prior to the Civil War

- **1850** – First underground sewers constructed (some still in service)
- **1906** – Commissioners of Sewerage begin constructing combined sewer system out to what is now I-264 (most still in service)
- **1955** – State bans construction of new combined sewers
- **1958** – Fort Southworth Wastewater Treatment Plant begins operation (Morris Forman Plant)




Combined Sewer Overflow
Sanitary Sewer Overflow
Combined Sewer Overflow Area
I-264
I-265

Separate Sanitary Sewers are Designed to Carry Only Sanitary Waste



Why Do We Have Overflows Outside the Combined Sewer System?

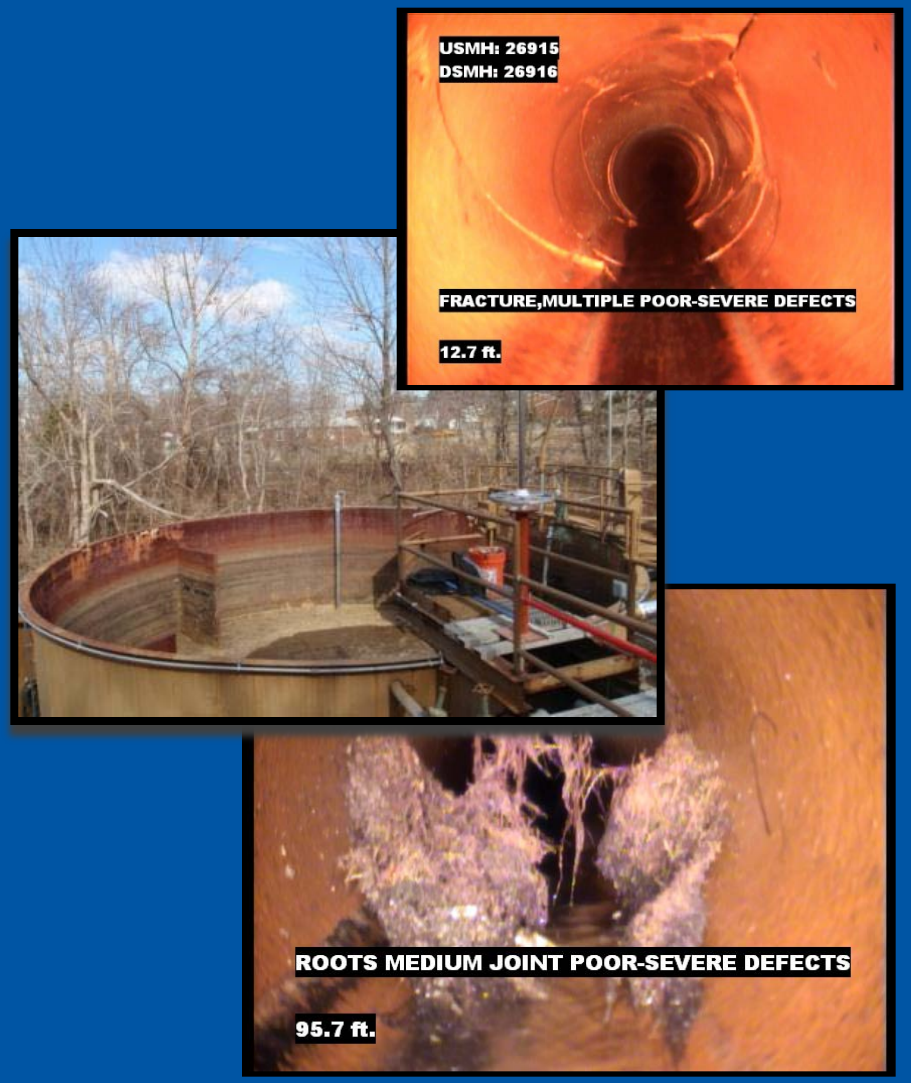
Sewer Service Expansion Outside of MSD Control

1946 - 1980s

- Building boom outside I-264 results in sewer expansion by land development companies
- Leaking sewers, failing septic tanks and poor treatment plant performance led to state action

1984

- MSD agrees to service area expansion for planned septic tanks and remote treatment plant eliminations
- MSD begins taking over failing systems



MSD's Service Area Expansion
1984 - 2004

- 40,000+ septic tanks eliminated
- 200+ neglected sewer systems acquired
- 100+ small pump stations eliminated
- 200+ small treatment plants eliminated
- Five Regional Water Quality Treatment Centers built or expanded
- $1.4 Billion in infrastructure investment
- **But – leaky sewers and sanitary sewer overflows (SSOs) remain in many areas**

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What Are SSO's?

Illegal and Un-permitted Discharges

What is Still Causing SSOs?

Stormwater Inflow & Groundwater Infiltration (I&I)

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Sources of I&I

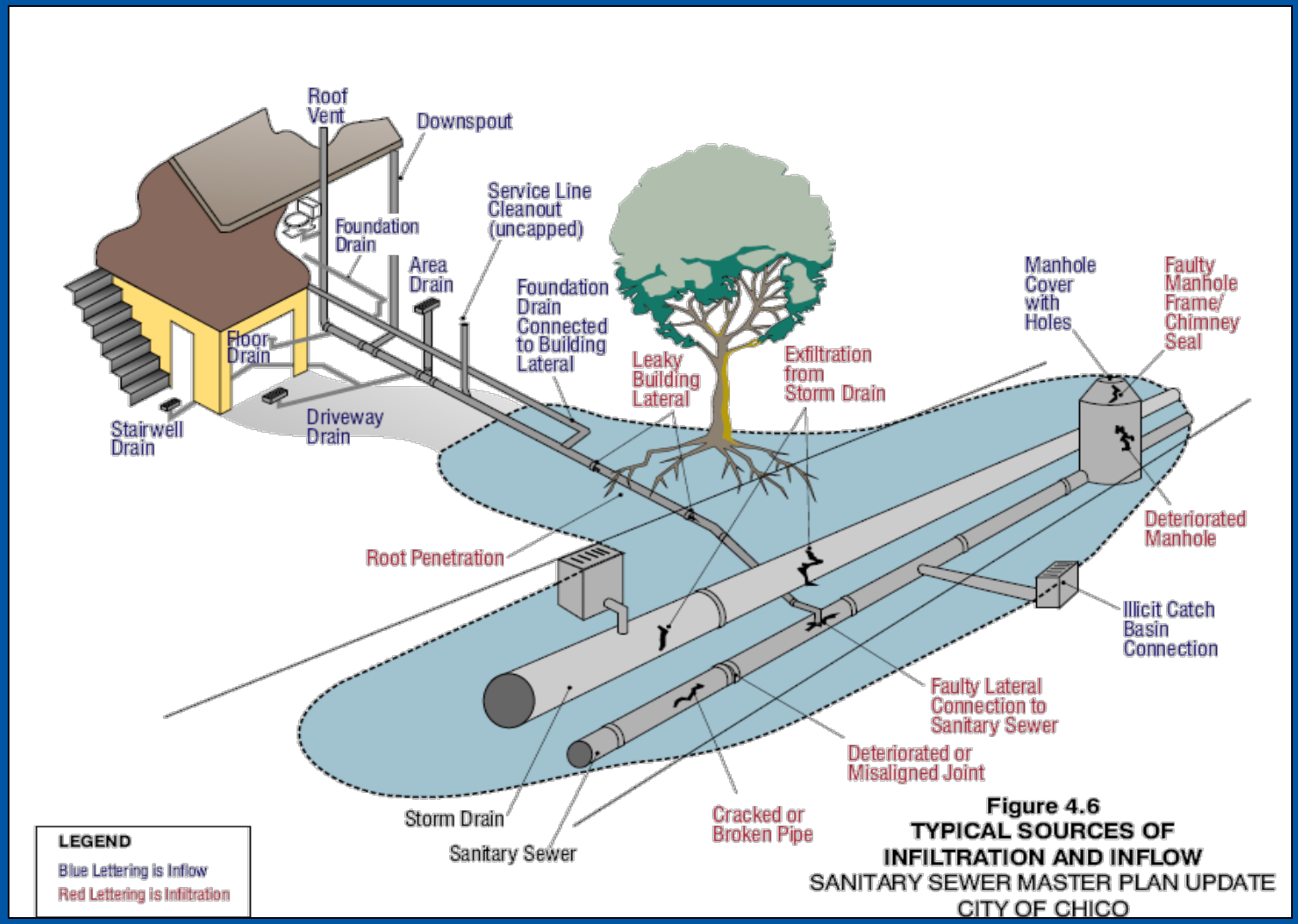
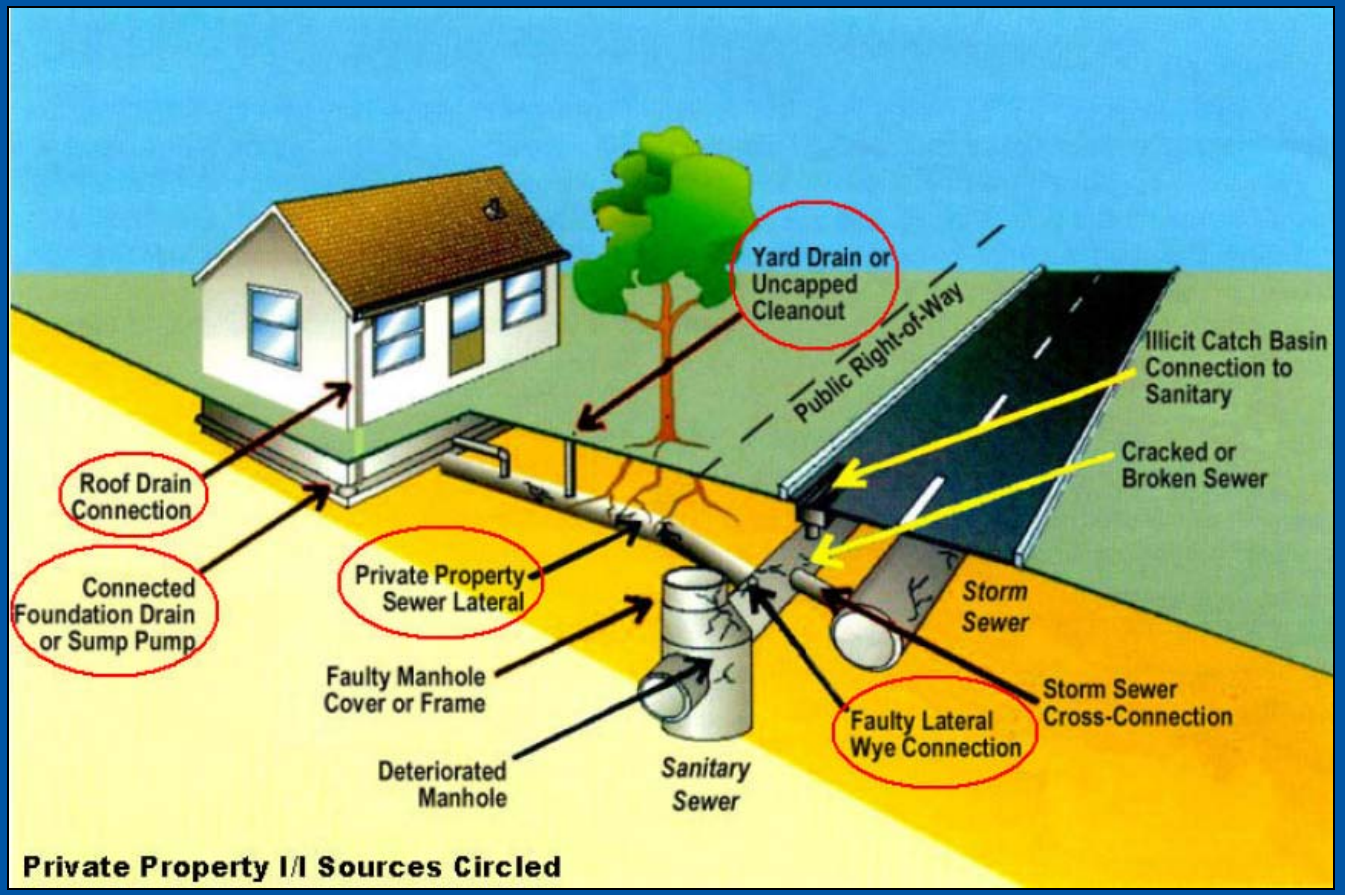


Figure 4.6
TYPICAL SOURCES OF INFILTRATION AND INFLOW
SANITARY SEWER MASTER PLAN UPDATE
CITY OF CHICO

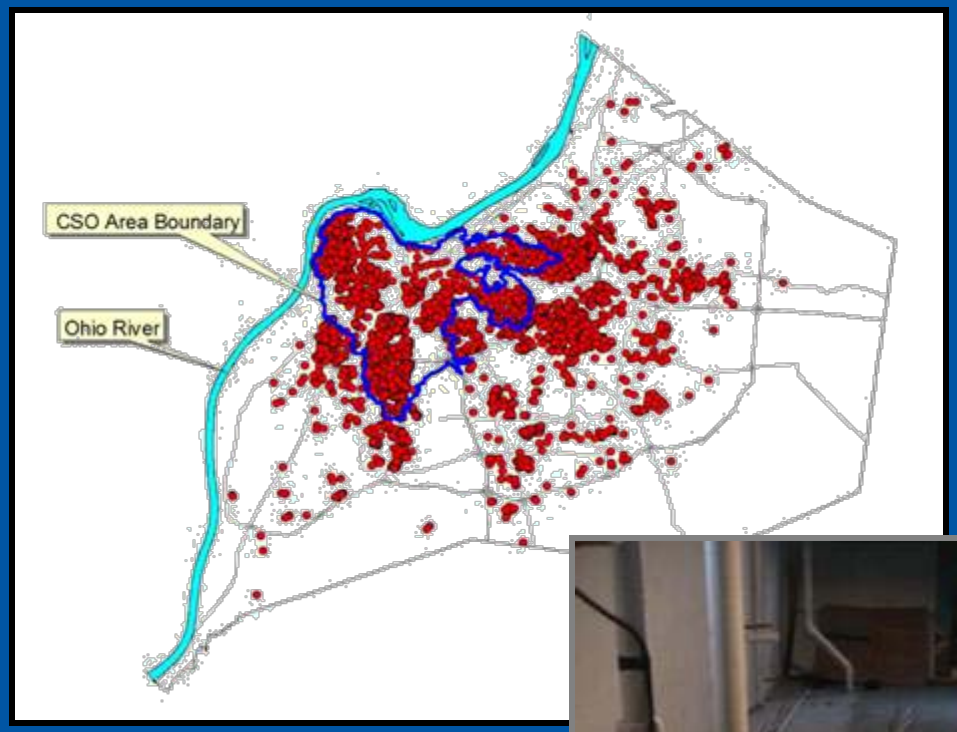
Controlling I&I From Private Sources Presents Unique Challenges

- I&I from private sources is typically 50% of the total I&I problem
- Correcting private I&I sources requires cooperation of property owner



How Can You Help Eliminate Sewer Overflows?

Disconnect sump pumps and downspouts from the sewer system



Plumbing Modification Program

587-0603

Why a Federal Consent Decree?

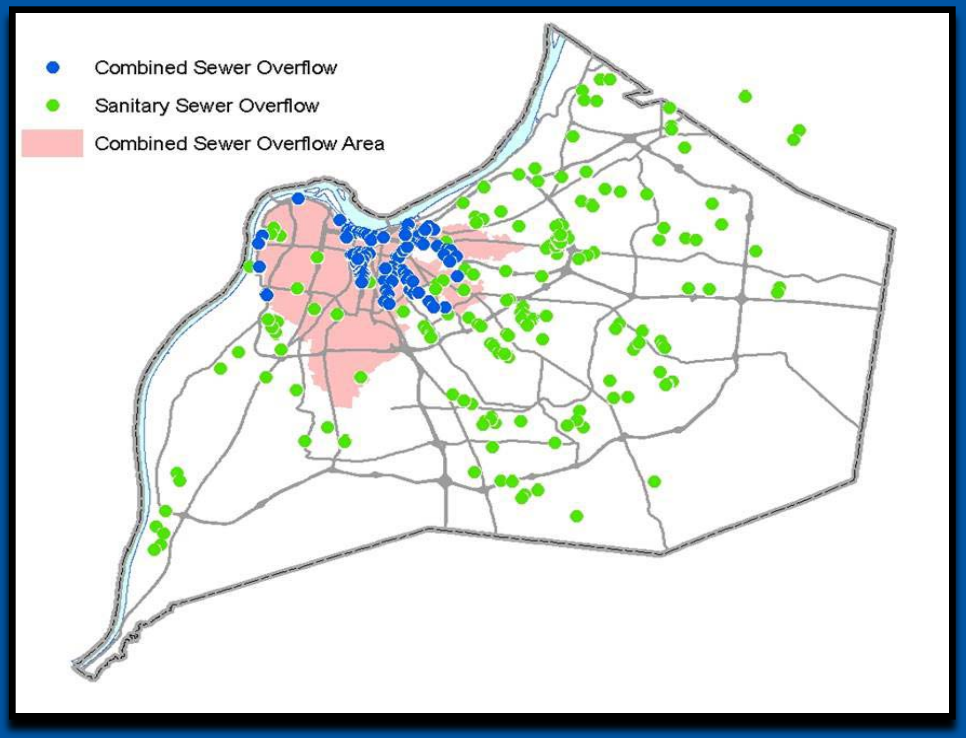
Federal Clean Water Act & USEPA

On CSOs

- CSOs allowed in wet weather; must not cause or contribute to water quality impairment
- CSOs in dry weather are prohibited

On SSOs

- SSOs in dry and wet weather are prohibited



Why a Federal Consent Decree?

Consent Decree Timeline

May 2003

- EPA requests information about sewer overflows under the Clean Water Act (CWA)

Feb 2004

- Kentucky initiates enforcement actions for alleged CWA violations relative to CSOs & SSOs

March 2004

- USEPA over-files, making it a Federal, not State action

July 2005

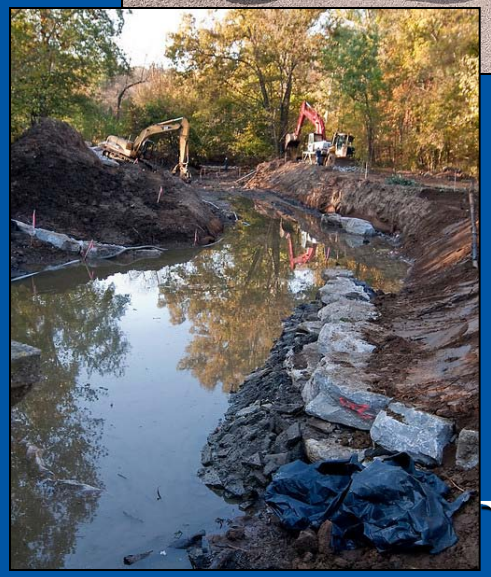
- MSD negotiates settlement with USEPA, USDOJ, and Kentucky DEP

Aug 2005

- Consent Decree entered into Federal Court

Consent Decree Requirements

- Modify MSD Operations for on overflow reduction
  - Capacity, Management, Operations and Maintenance (CMOM)
  - CSO Nine Minimum Controls (NMC)
- Integrated Overflow Abatement Plan (IOAP)
- Civil penalties (fines) and SEPs
  - Stream restorations
  - Public health programs



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Why Did We Agree to This?

- Under CWA, MSD self-reports CSOs and SSOs every year
- Without Consent Decree agreement, Federal Judge would assess fines much greater than the penalties negotiated
- Failing to comply has serious implications for local control over infrastructure

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Louisville’ s Response to the Federal Consent Decree

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Sewer Overflow Abatement

$850M Correction Plan

- Approach shaped by community values and direct engagement
- Community partnerships essential to program success
  - Green infrastructure
  - Private Property I&I Control
- Wide range of approaches considered, evaluated through benefit/cost approach
- Adaptive management allows right-sizing as program successes are identified
- Program costs must be affordable to community, and allow continued economic growth

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CSO Long Term Control Plan (LTCP) Program

- **19 Gray Infrastructure Projects**
  - 4 Sewer Separations
  - 13 Storage basins
  - Replacement and expansion of Nightingale Pump Station
  - 1 High-Rate Wet Weather Treatment Facility
- **Green Infrastructure Projects – 17% of Gray Program**
  - Demonstration projects
    - Bioswale/biofiltration
    - Rain garden
    - Pervious alleys
    - Infiltration dry wells and sink holes
- **9 Flood Pump Station Projects** - to abate dry weather overflows

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Sanitary Sewer Discharge Plan (SSDP) Program

- Gray infrastructure Program (includes ISSDP)
  - 16 conveyance capacity
  - 19 storage basins
  - 10 pump station upgrades or expansions
  - 1 wastewater treatment expansion
- Source control program – 15% of Gray Program (I/I removal & pipe rehab)

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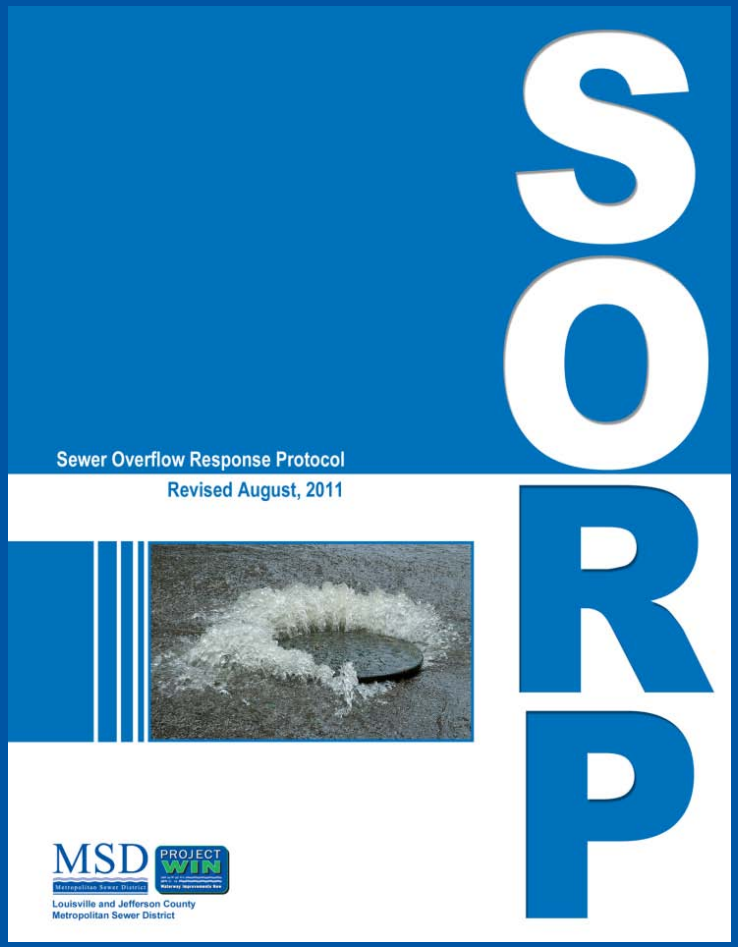
Progress To Date

All Consent Decree Deadlines Have Been Met

All required Reports submitted on time, and accepted by EPA and Kentucky DEP

- Consent Decree Annual Reports
- CMOM Annual Reports
- SORP Annual Updates
- Quarterly Reports

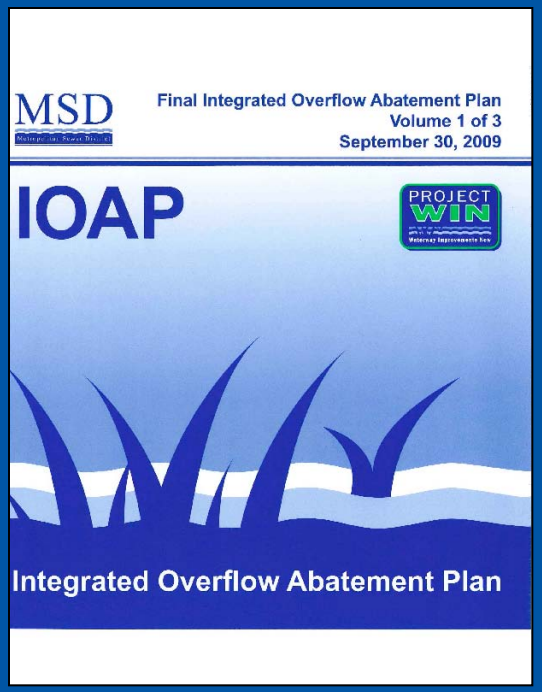


Progress To Date

All Consent Decree Deadlines Have Been Met

Seven major studies submitted on time and approved by EPA and Kentucky DEP

- Sewer Overflow Response Protocol
- Capacity, Management, Operations, Maintenance
- Nine Minimum Controls
- Updated Sanitary Sewer Overflow Plan
- Interim Long Term Control Plan
- Interim Sanitary Sewer Discharge Plan
- Integrated Overflow Abatement Plan



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Progress To Date

All Construction Completion Deadlines Have Been Met

14 “gray infrastructure” projects completed on/ahead of schedule

- Avanti Way Pump Station Elimination
- Beechwood Village Sewer System Replacement
- Camp Taylor Phase 1 SSES
- CSO 108 Dam Modifications
- CSO 206 Manhole Separation
- Floydsburg Road I/I Investigation
- Government Center Pump Station Elimination
- Hazelwood I/I Investigations
- Northern Ditch Diversion Interceptor
- Parkview Estates I/I Investigation
- Running Fox Pump Station Elimination
- Sinking Fork Interceptor Relief Sewer
- Sonne Pump Station I/I Investigation

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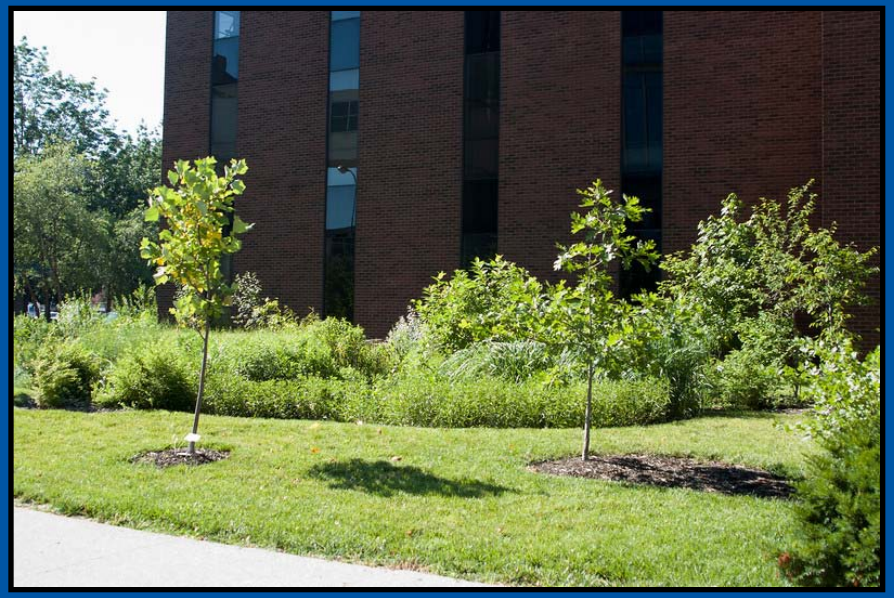
Progress To Date

All Construction Completion Deadlines Have Been Met

12 “green infrastructure” demonstration projects completed on schedule

- 2300 Block of Congress Green Alley
- 3rd Street & Ormsby bioswale
- 6th and Martin Luther King
- 7th and Cedar Parking Lot
- 801 Vine Street Green Roof
- Brandeis Apartments Rain Garden
- Billy Goat Strut Green Alley
- Downtown Scholar House Rain Garden
- Gaulbert Hill
- MSD Main Office Building Rain Garden
- Swift Company Green Parking Lot
- Downtown Scholar House Green Parking Lot



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$124 Million in Consent Decree Projects Under Construction

- 34th Street Dry Weather Overflow Elimination
- 4th Street FPS Dry Weather Overflow Elimination
- Jeffersontown WQTC Elimination (3 contracts)
- Buechel Flow Equalization Basin Clearing
- Hurstborne I/I Investigation
- Lantana Pump Station I/I Investigation
- East Rockford Lane PS Relocation
- Edsel Pump Station I/I Rehabilitation
- Fairmont Road Pump Station Expansion
- Hikes Lane Interceptor (2 contracts)
- Southeast Interceptor Relief (2 contracts)
- Anchor Estates – Vannah Pump Station Elimination
- Derek R Guthrie WQTC Wet Weather Treatment (4 contracts)

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IOAP Projects Under Design

Jeffersontown WQTC Elimination

- Grand Avenue Pump Station
- Jeffersontown Force Main
- Upper Billtown Road Interceptor
- Chenoweth Run Interceptor No. 1
- Chenoweth Run Interceptor No. 2
- Chenoweth Hills WQTC Elimination

Other Separate Sewer Projects

- Mellwood Pump Station Elimination
- Buechel Storage Basin
- Hikes Point Relief Sewer
- Klondike Interceptor

Prospect WQTCs Elimination

- River Road Interceptor
- Harrods Creek Interceptor 1, 2, & 3
- Timberlake and Hunting Creek South Elimination
- Shadow Wood WQTC Elimination
- North Hunting Creek WQTC Elimination

Combined Sewer System Projects

- Story Ave. and Main St Storage Basin
- I-64 and Grinstead Storage Basin
- Paddys Run Wet Weather Treatment
- Logan Street & Breckenridge Storage Basin

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IOAP Projects Scheduled for Initiation
(Within the next 12 months)

Combined Sewer System Projects

- CSO 123 Downspout Disconnections
- CSO 058 Sewer Separation
- CSO 093 Sewer Separation
- CSO 160 Sewer Separation
- Nightingale Pump Station Replacement
- Calvary - Creekside Storage Basin

Separate Sewer System Projects

- Eden Care Pump Station SSO Investigation
- Lake Forest Pump Station SSO Investigation
- Leeland Road Sewer System Rehabilitation
- Lee Ann Way Sewer System Rehabilitation
- Derrington Court I/I Investigation
- Camp Taylor Sewer Rehabilitation

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Public Input Sought

During this Open House

- Provide comments via the camera
- Speak directly to project staff

Public Input Sought

Provide written comments by October 14, 2011

- Send comments via email

  commentsIOAP@msdlouky.org

- Mail comments

MSD IOAP Project Comments
Attention: Project WIN Program Manager
700 West Liberty St.
Louisville, KY 40203

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