

Louisville's Sewer Overflow Abatement Plan















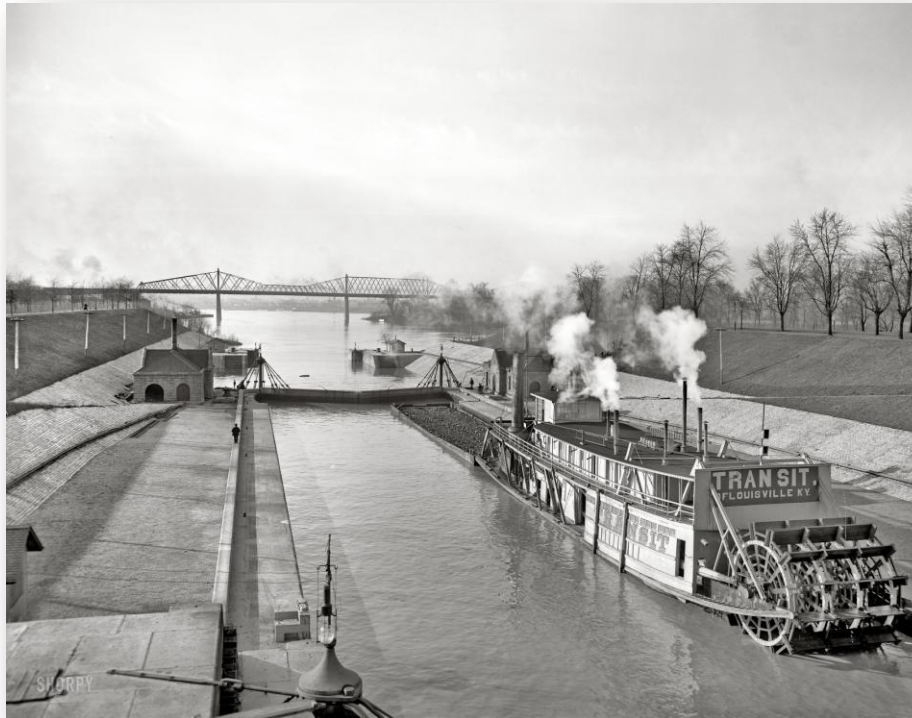






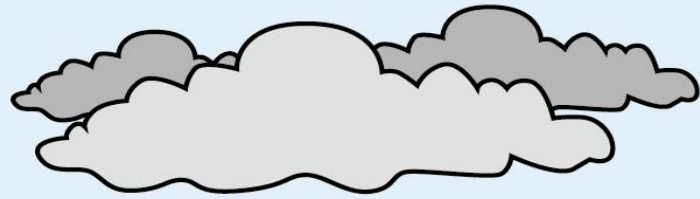
Presentation Objectives

- History of Louisville Sewers and Overflows
- Sewer Overflow Abatement Plan Overview
- Working Together to Keep Sewer Rates Lower



Why is Louisville even here?

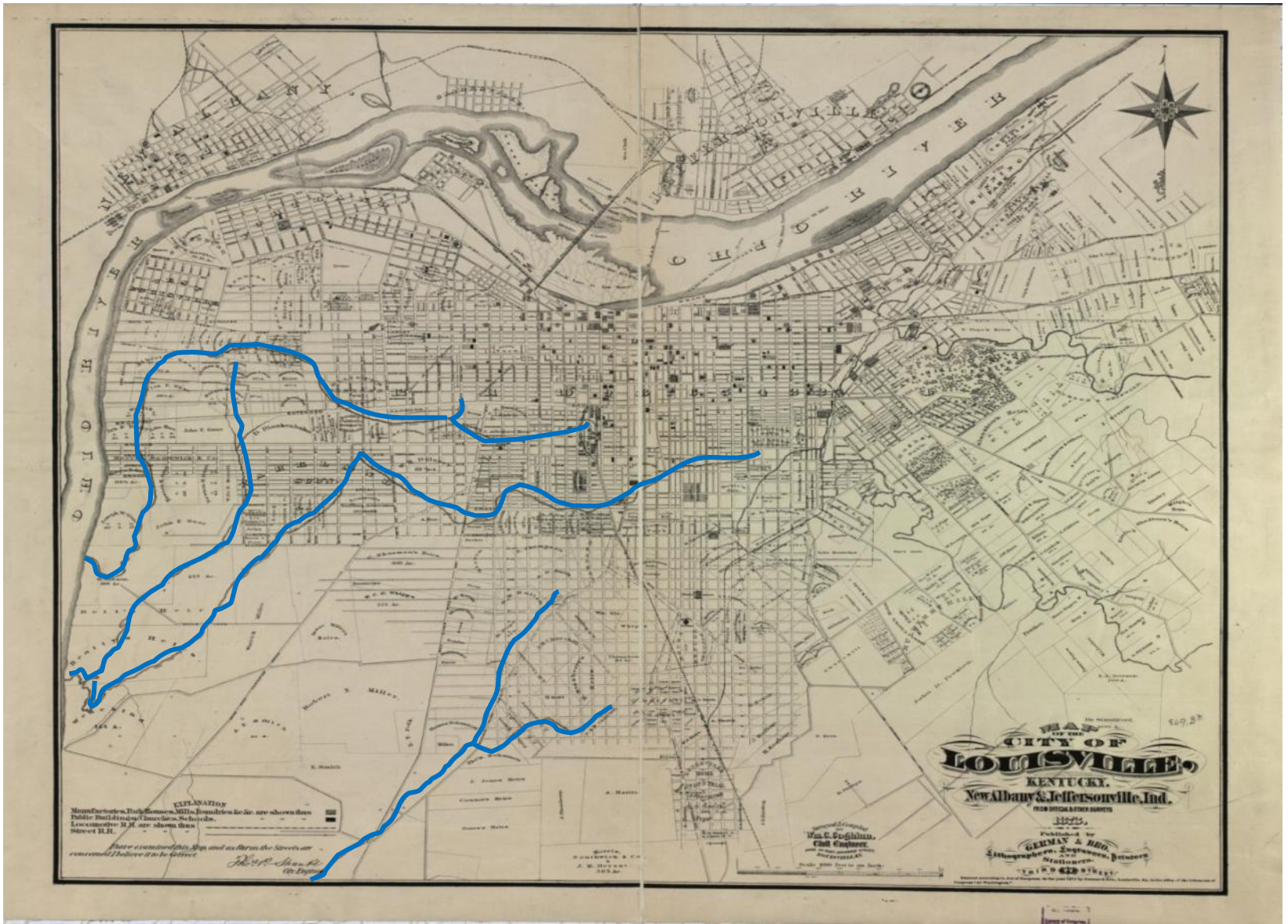


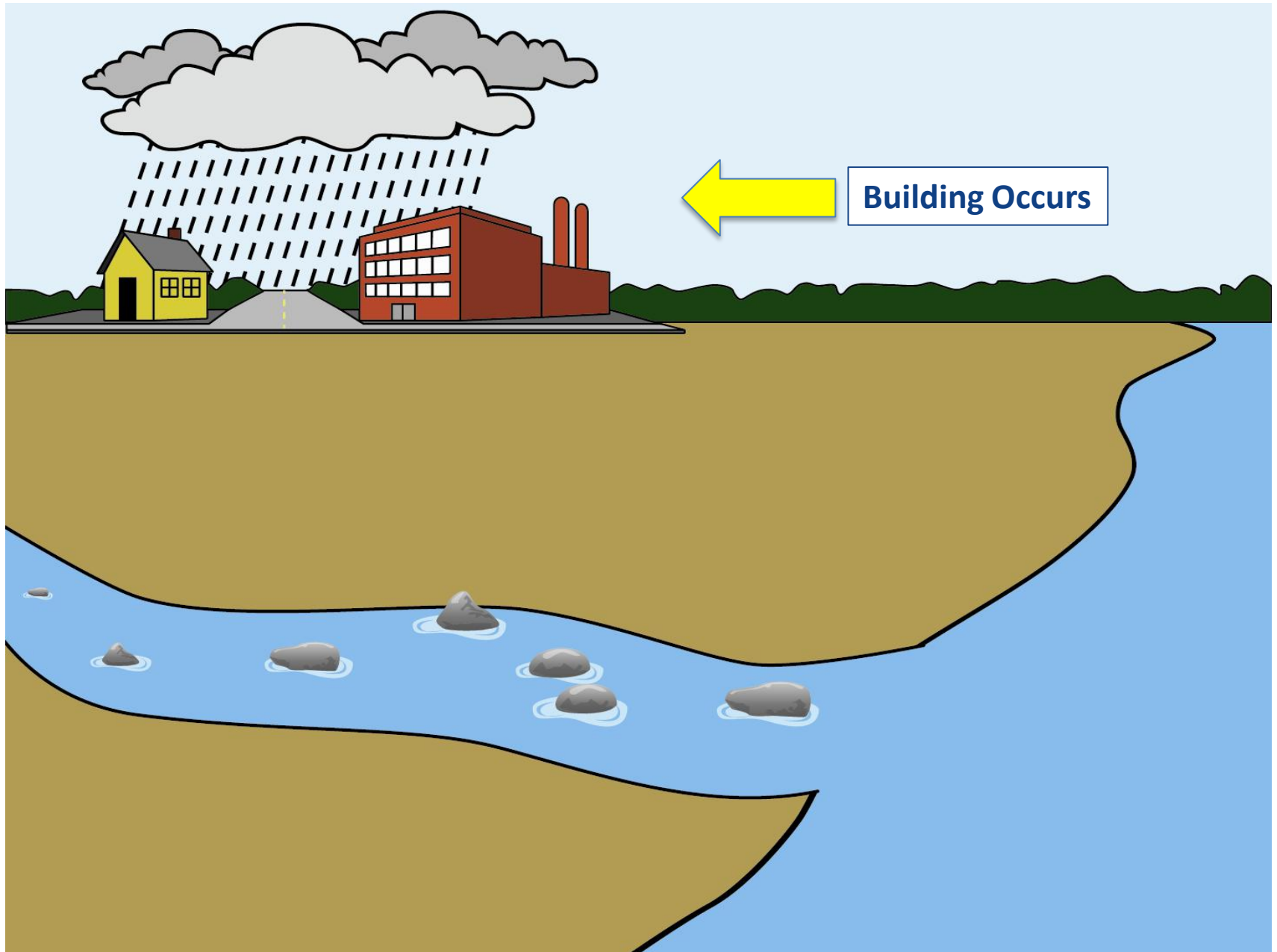


History of Sewers and Overflows

Undeveloped Land & Streams





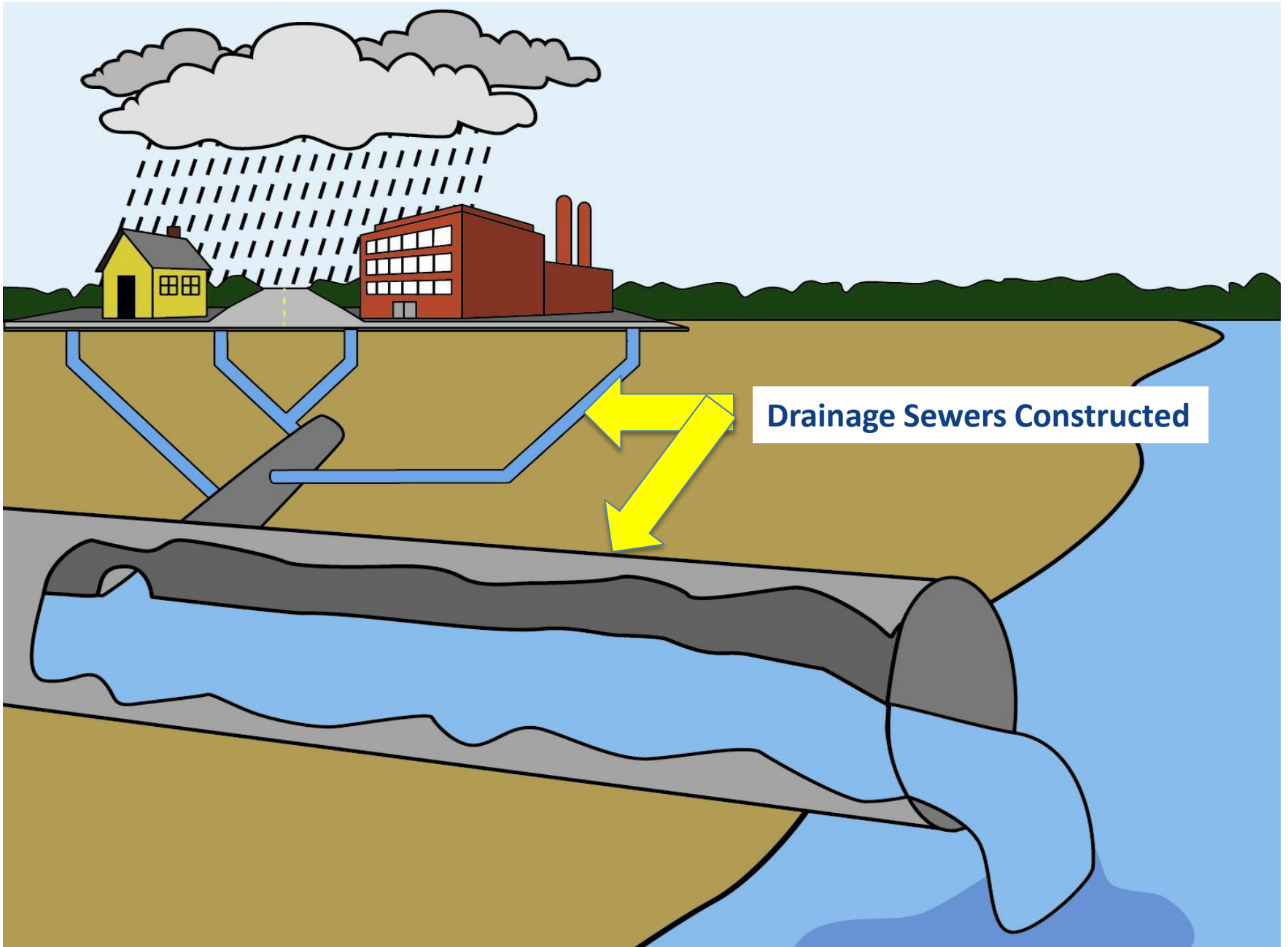




SEWER WORK IN LOUISVILLE

Population in 1850: 43,000
Current Population: 740,000

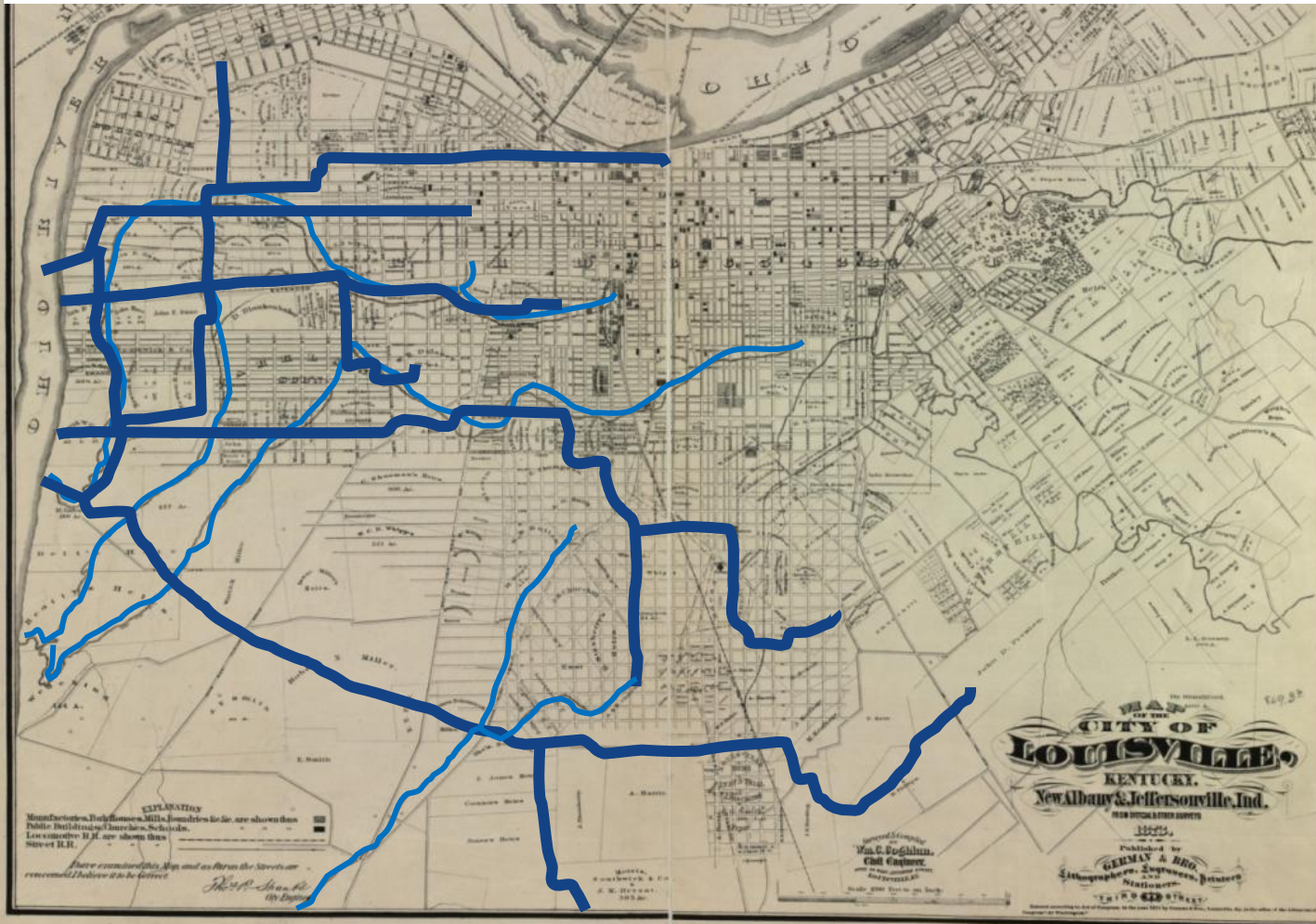
JUNCTION CHAMBER, LOUISVILLE'S NEW SEWER SYSTEM

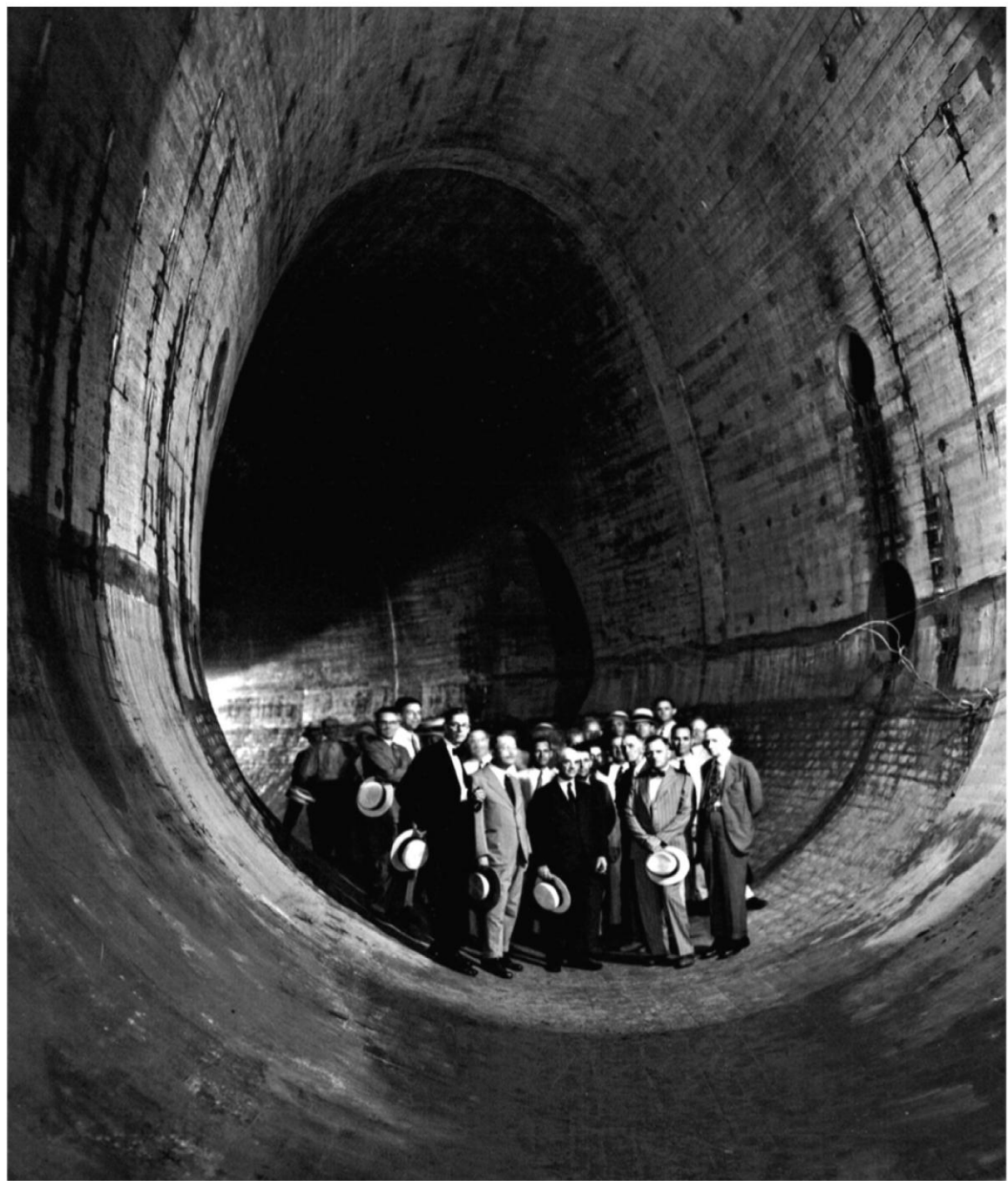




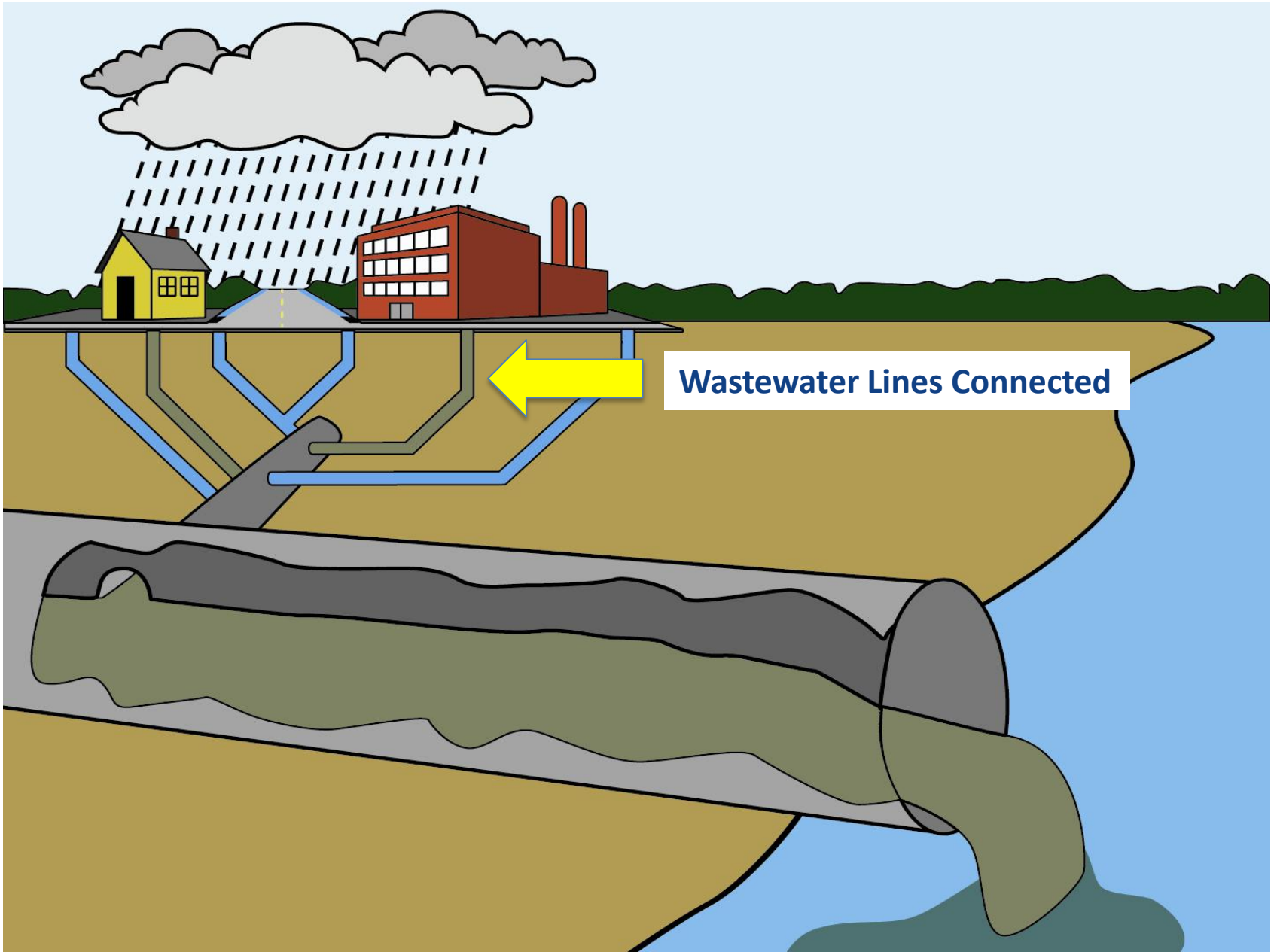
49.95
2-22-31

Large Combined Sewer Construction Continued until 1950's





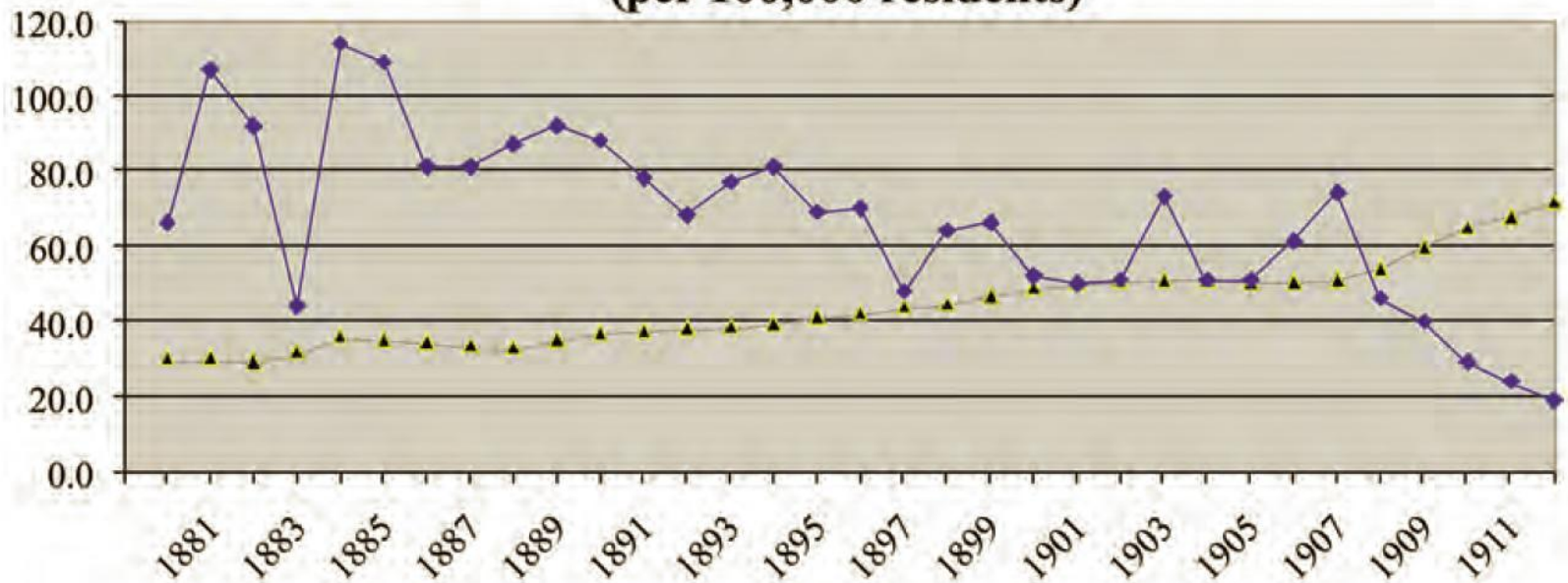
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Wastewater Lines Connected

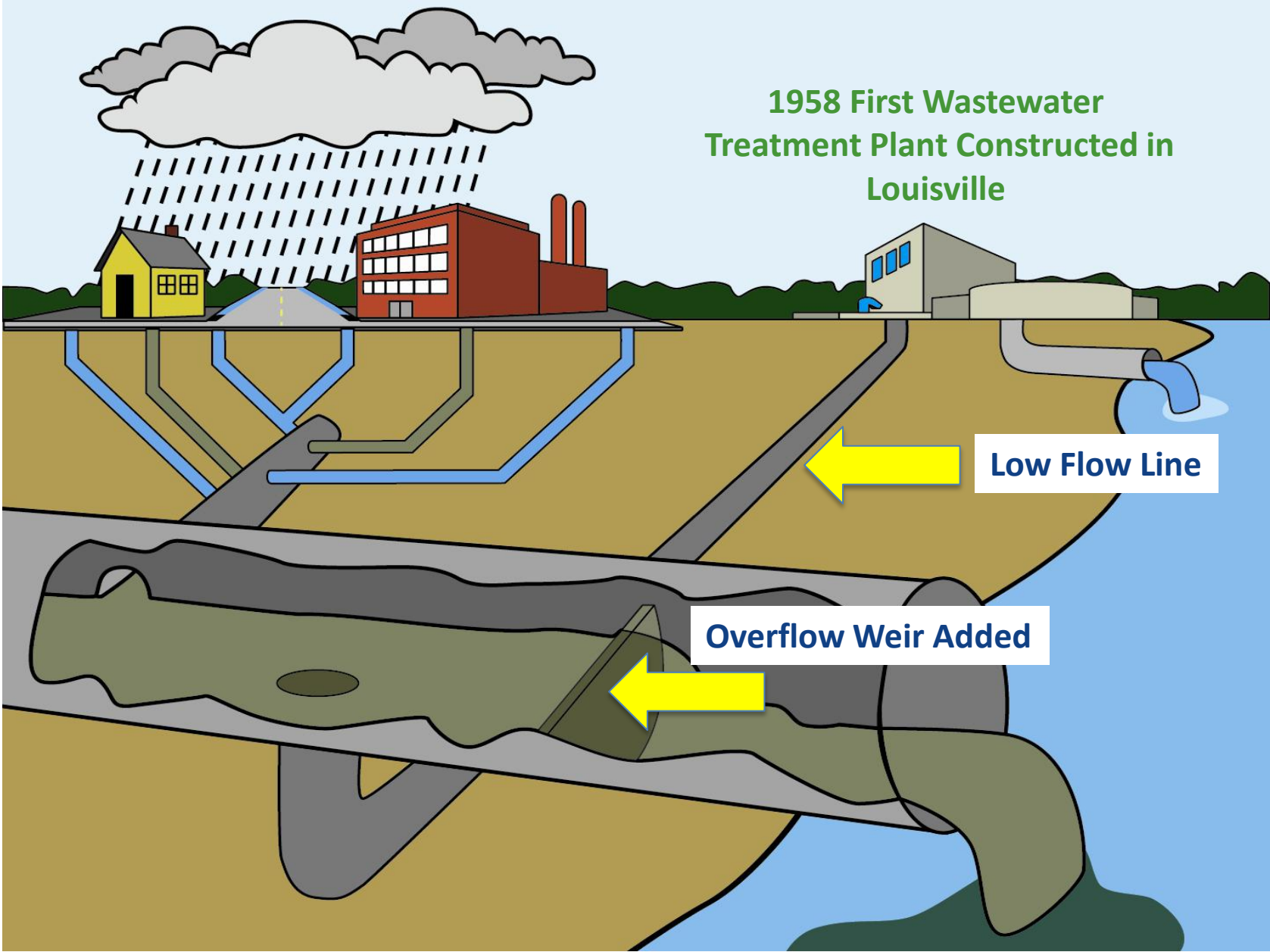
Sewer Construction Vs. Typhoid Death Rates

**Relationship Between Sewerization and Typhoid Death Rates
(per 100,000 residents)**



Death Rate per 100,000 Residents in Blue
Sewer Miles per 100,000 Residents in Green

1958 First Wastewater Treatment Plant Constructed in Louisville



Low Flow Line

Overflow Weir Added



Separate Sanitary Sewer System

Disconnected
Downspout

Sanitary
Sewer
Manhole

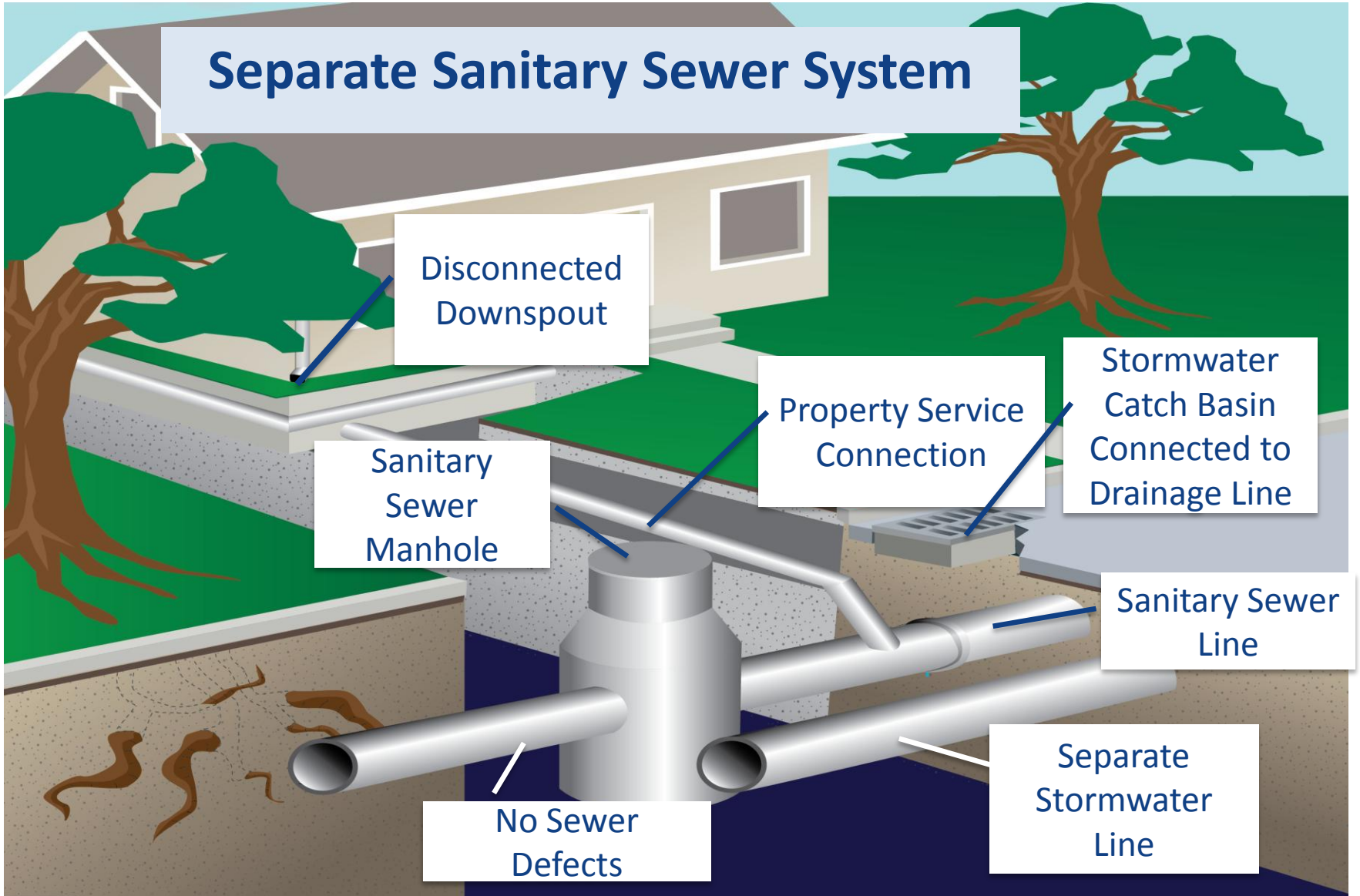
Property Service
Connection

Stormwater
Catch Basin
Connected to
Drainage Line

Sanitary Sewer
Line

No Sewer
Defects

Separate
Stormwater
Line



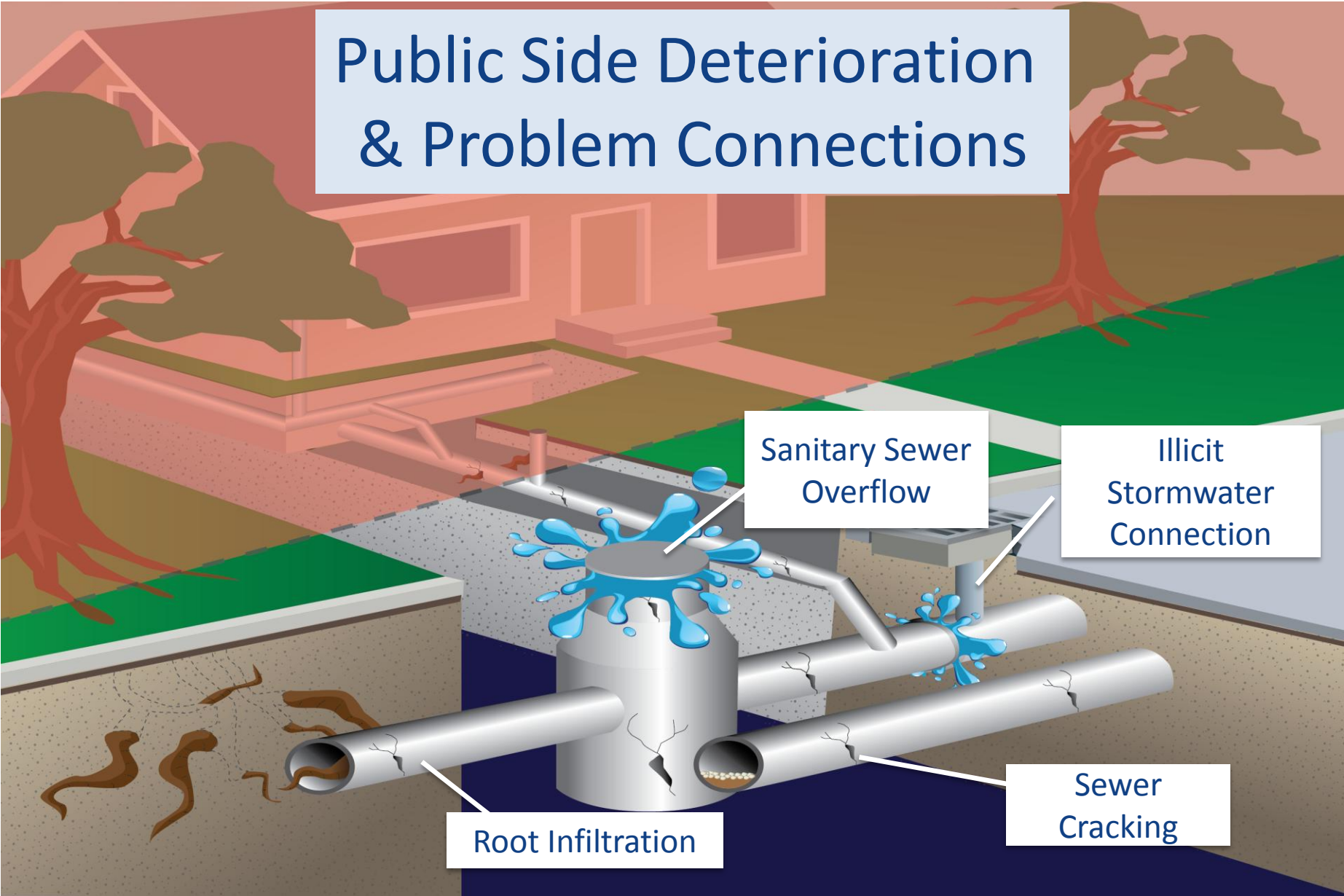
Public Side Deterioration & Problem Connections

Sanitary Sewer
Overflow

Illicit
Stormwater
Connection

Root Infiltration

Sewer
Cracking



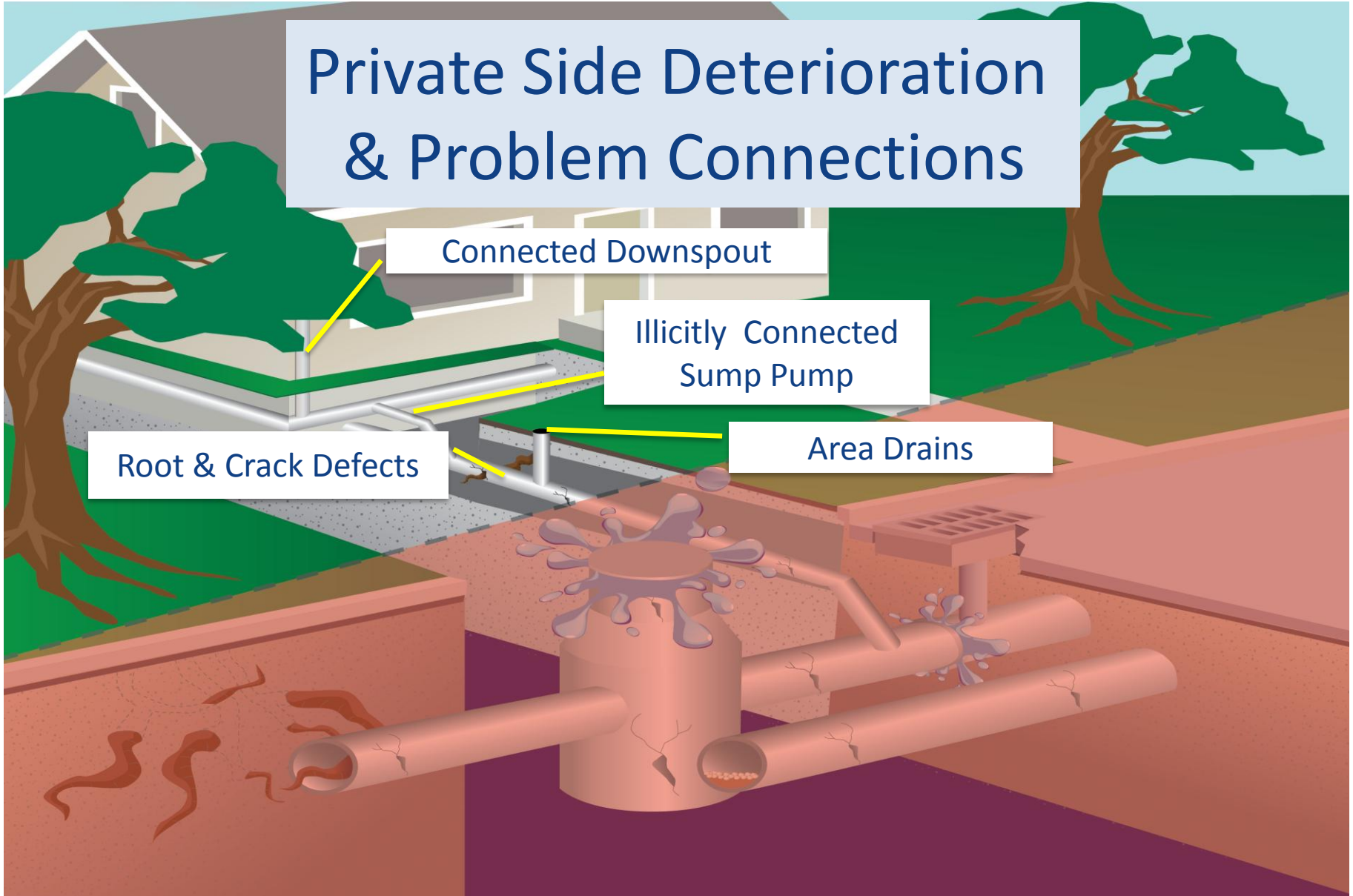
Private Side Deterioration & Problem Connections

Connected Downspout

Illicitly Connected Sump Pump

Root & Crack Defects

Area Drains



Sewer Deterioration & Problem Connections

Connected Downspout

Illicitly Connected Sump Pump

Area Drains

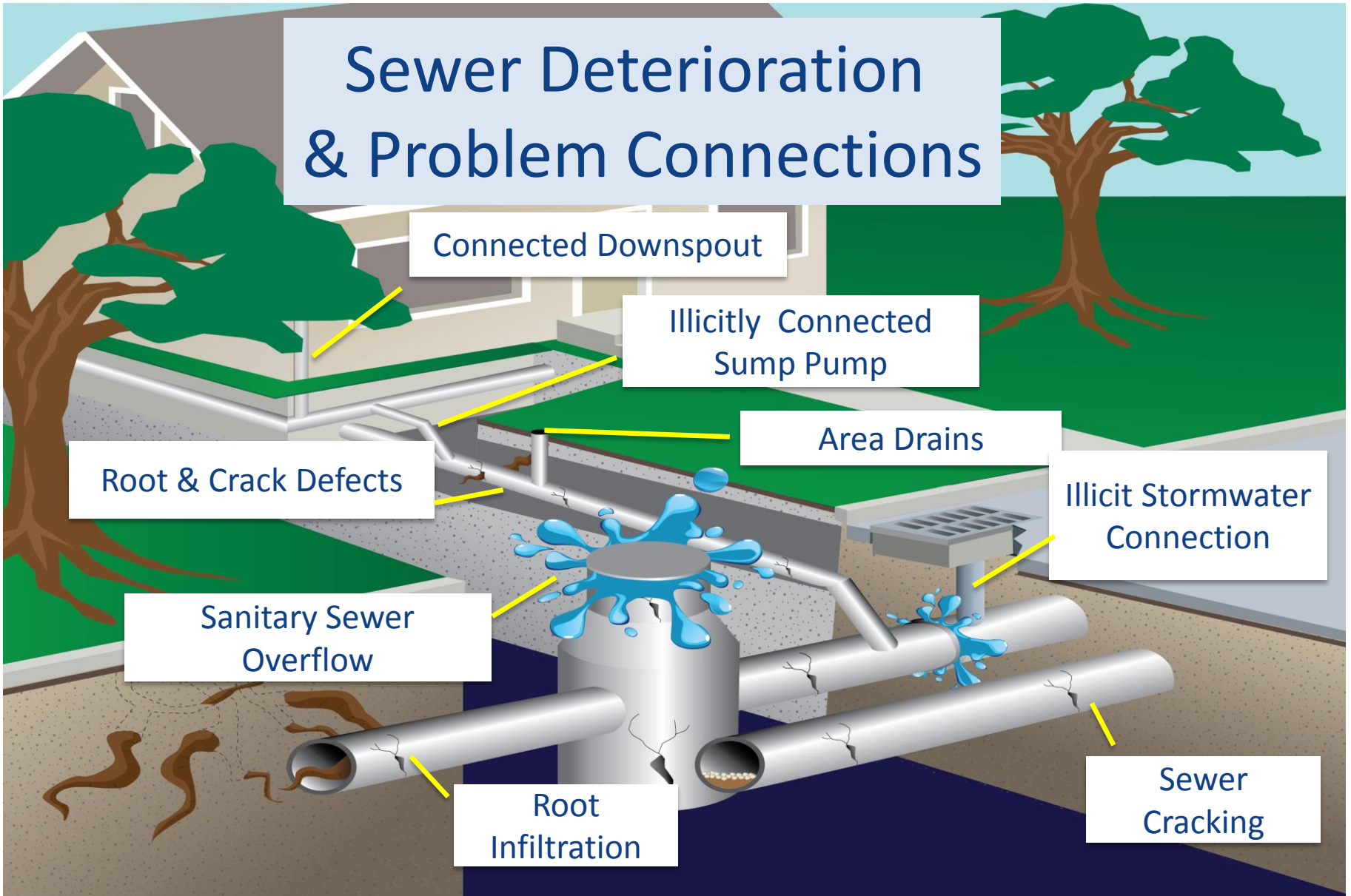
Root & Crack Defects

Illicit Stormwater Connection

Sanitary Sewer Overflow

Root Infiltration

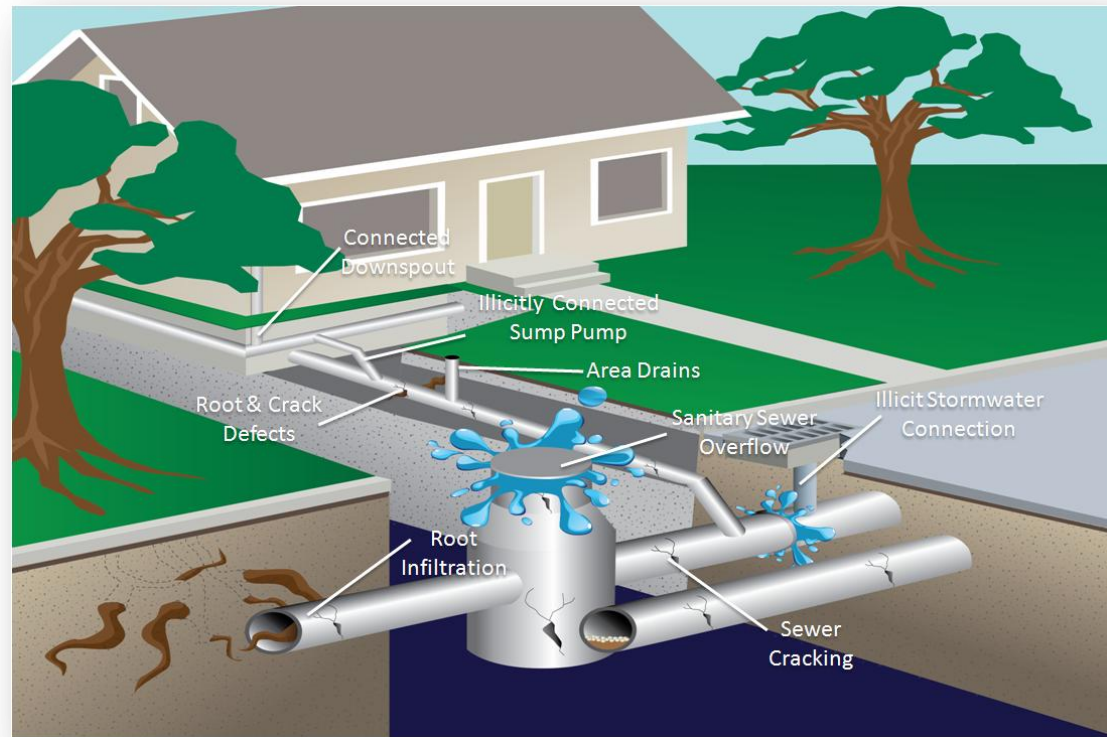
Sewer Cracking



Sanitary Sewer Overflows - Along/Outside I-264

Challenges

- Pipes meant to carry only sanitary flows
- Pipes deteriorate over time
- Illicit stormwater connections from private property make up 50% of extra flow











Sewer Overflow Abatement Plan

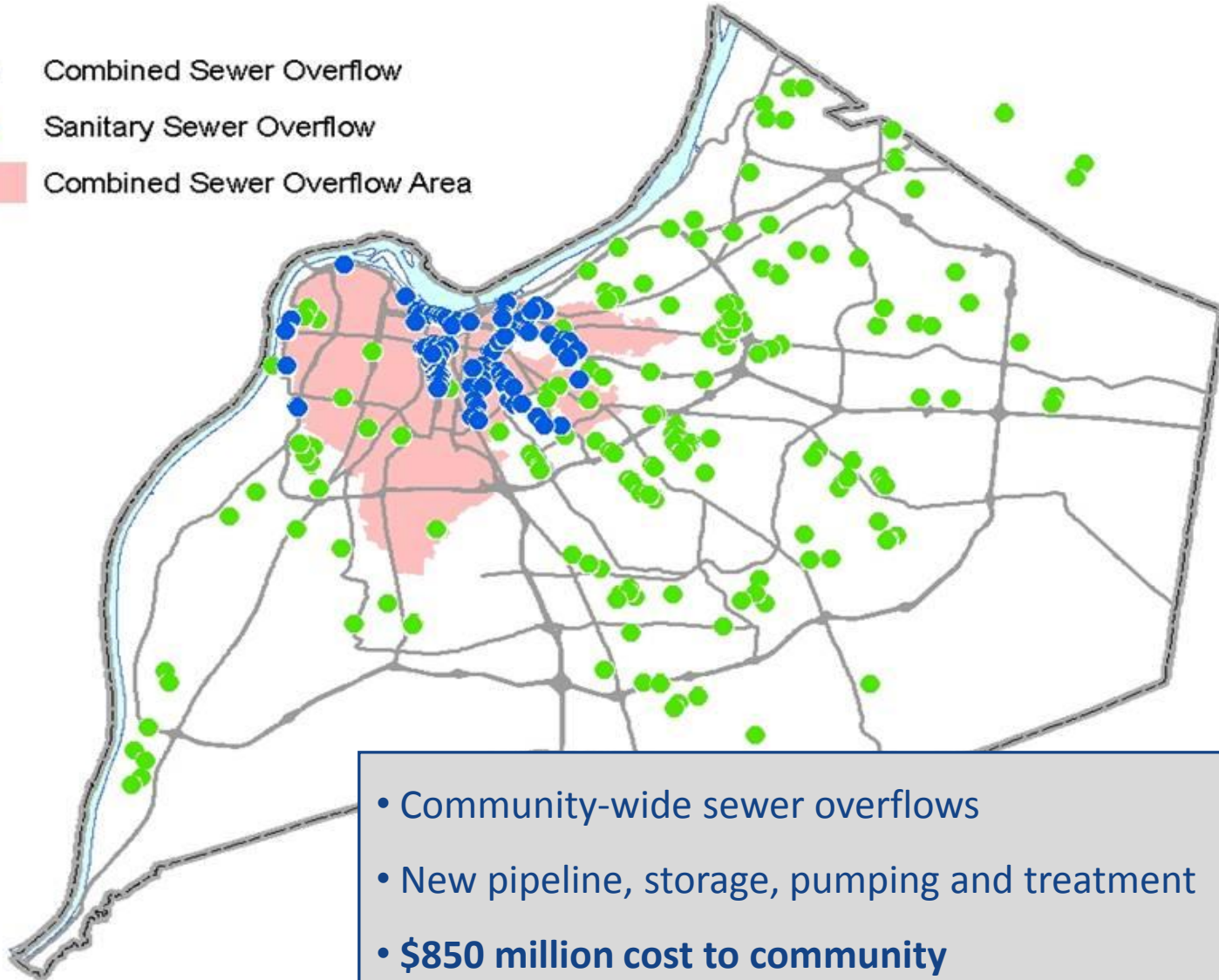


Overflow Abatement Mandate

- **2005** – Mandate from Federal EPA and Kentucky to abate overflows
- **2008** – MSD submitted \$850 million plan to satisfy the mandate
- **2009** - Federal EPA and Kentucky approve the plan
 - Combined Sewer Overflow program complete by 2020
 - Separate Sewer Overflow program complete by 2024



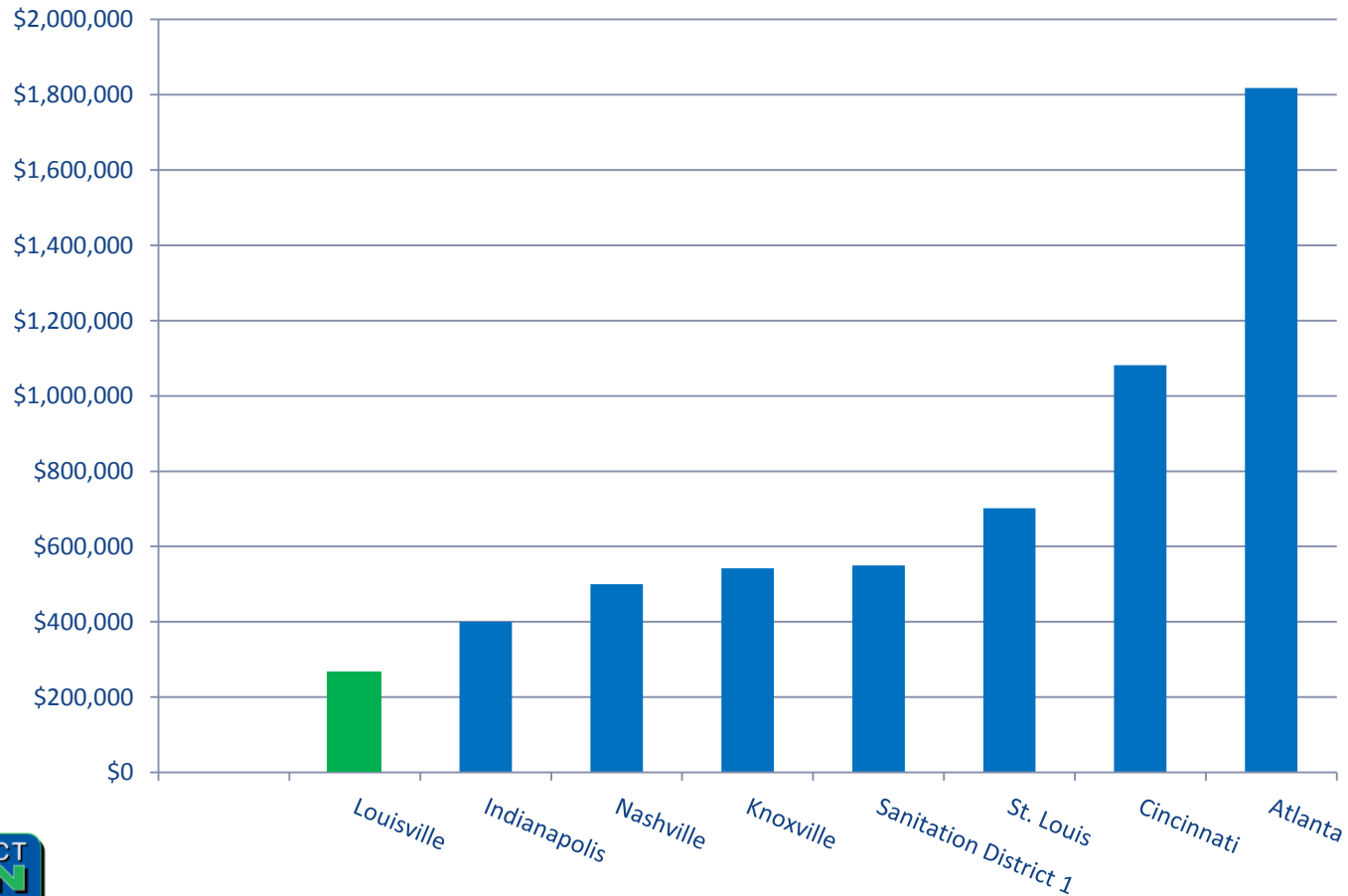
- Combined Sewer Overflow
- Sanitary Sewer Overflow
- Combined Sewer Overflow Area



- Community-wide sewer overflows
- New pipeline, storage, pumping and treatment
- **\$850 million cost to community**

Cost of Regulatory Compliance

Consent Decree Cost Comparison per Sewer Mile



Overflow Abatement Projects

Approved 2009

- Pipeline projects
- Storage basins
- Pump station expansions
- Wastewater treatment plant expansions
- Green infrastructure
- Downspout disconnections
- Sump pump disconnections
- Sewer rehabilitation



Smoke testing on public sewer indicates improper downspout connection to the sanitary sewer

Implementation Progress - 2007 thru 2013

Gray Infrastructure Projects (78)

- 25 completed
- 26 in design/construction

Green Infrastructure Projects

- 48 completed
- 49 in design/construction

Source Control Projects

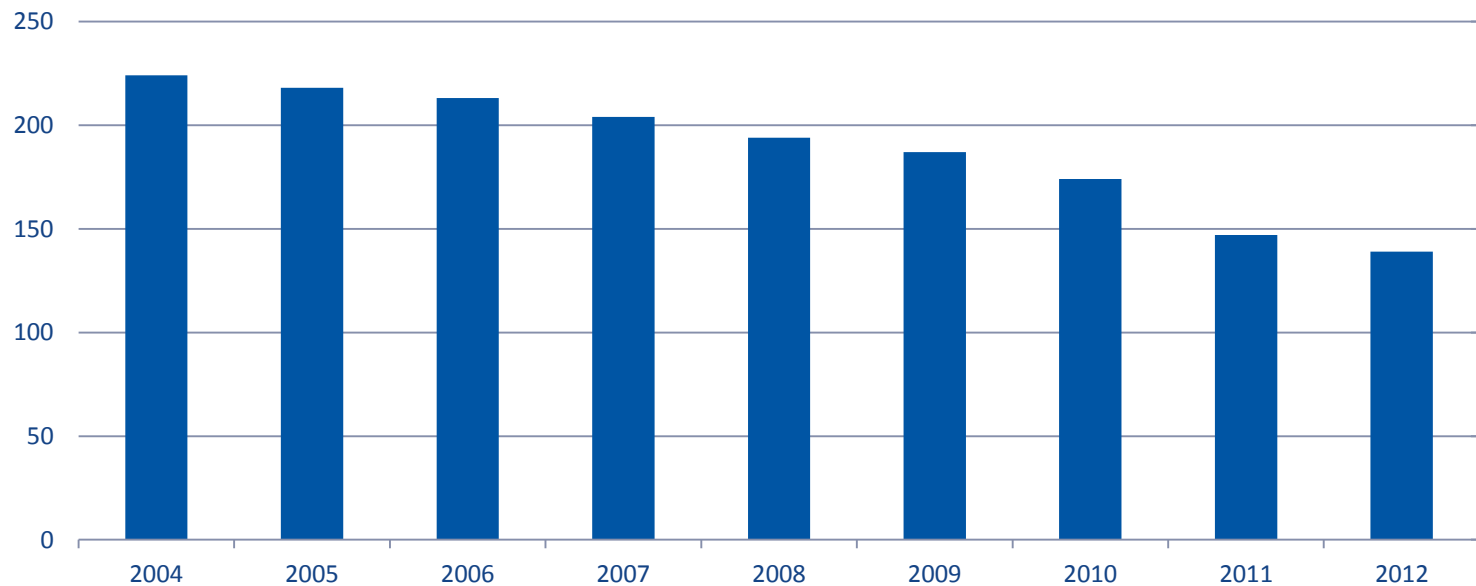
- 16 projects completed
- 13 projects in design/construction

Overall Program Completion

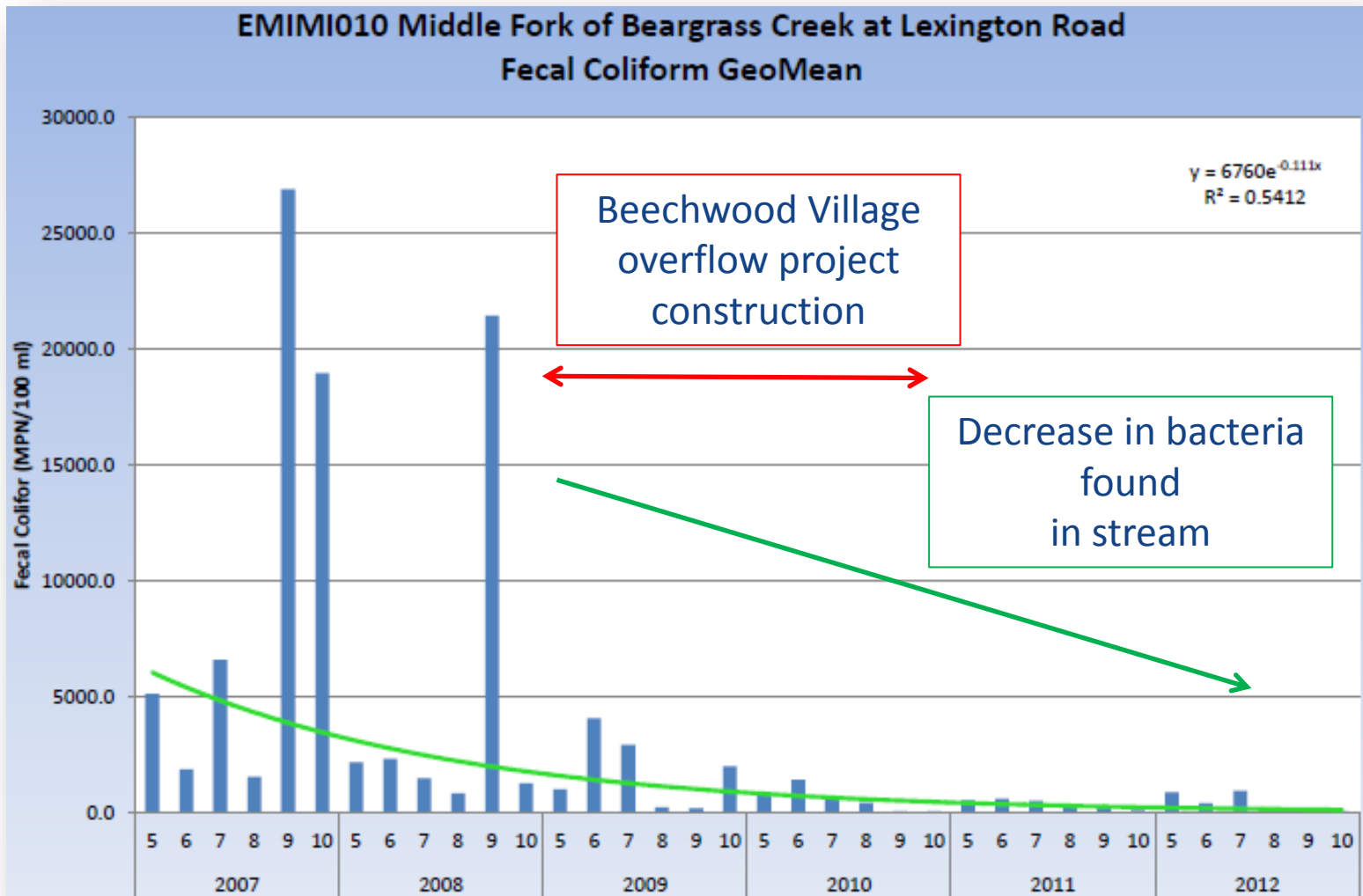
- 48% complete
- 2% under budget, compared to original estimates

Overflow Eliminations

Remaining SSO Locations



Pollutant Reduction



Beechwood Village - Pumped Overflows Eliminated

**Beechwood Village
Pumped and Gravity Overflows
Eliminated Sept 2010**



Highgate Springs Pump Station Elimination

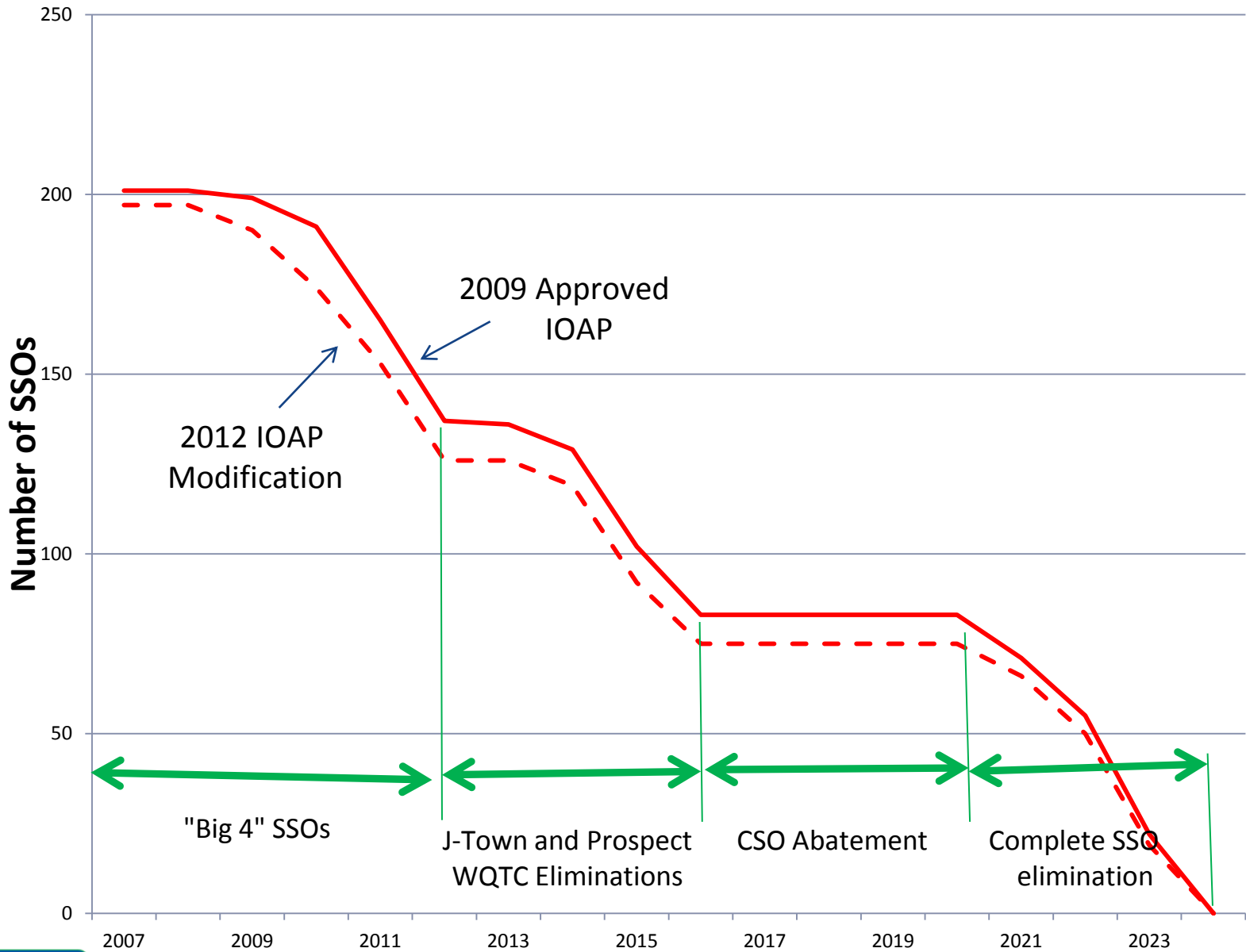


**Highgate Springs
Pumped Overflows
Eliminated Nov 2012**

Hikes Lane Interceptor Construction



**Hikes Point
Pumped Overflows
Eliminated Nov 2012**

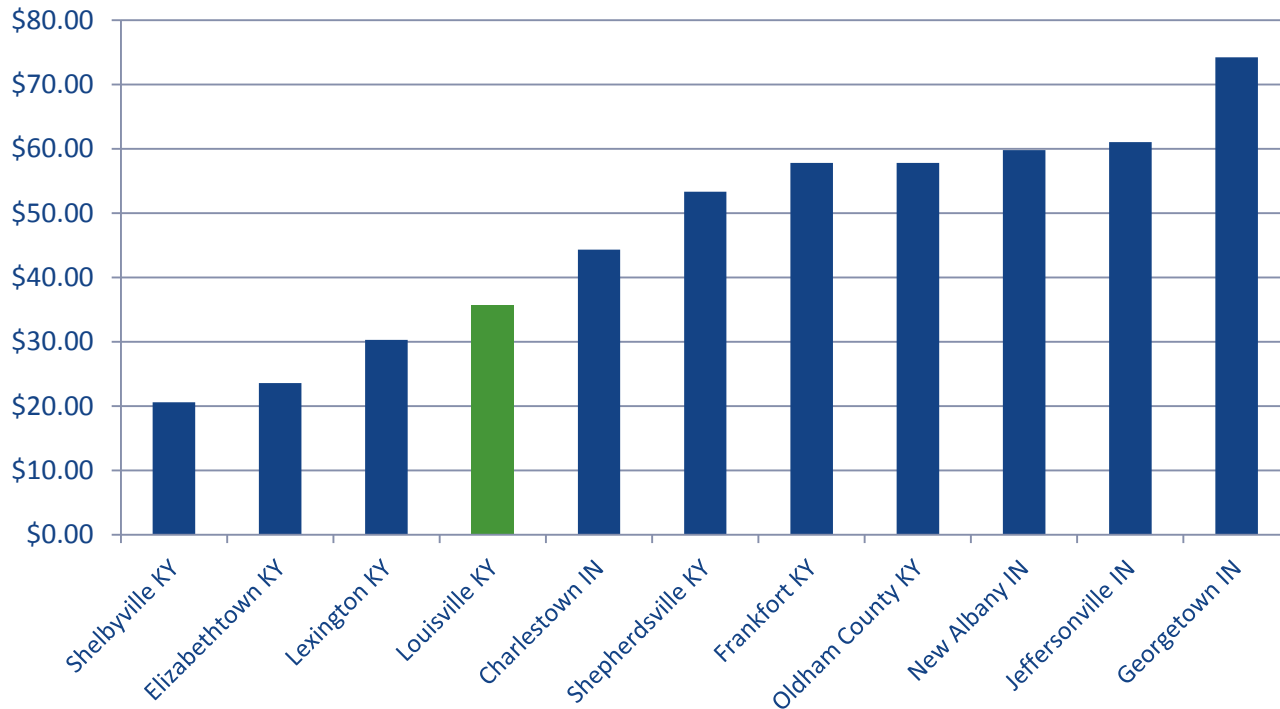


Sewer Rates



MSD's Rates Compared to Surrounding Communities

Average Monthly Residential Wastewater Bill



MSD's Rates Senior Citizen Discount Application

Applicability

- 65 years of age or older
- household gross income of \$35,000 or less per year
- must be on MSD sewers

Customer Relations 587-0603

MSD
Louisville and Jefferson County Metropolitan Sewer District

SENIOR CITIZEN DISCOUNT APPLICATION
(Applicant must be 65 years of age or older with household gross income of \$35,000 or less per year and must be on MSD sewers)

Date: ____/____/____

LWC Bill Account Number: _____ (Attach copy of LWC bill)

Name of Applicant: _____ Single Married Widowed
(Please print)

Service Address: _____
(Street) (City) (State) (Zip)

Resident telephone number: (____) _____ - _____ Date of Birth: ____/____/____

Please submit a document for each of the categories below and check the appropriate box:

Proof of Income	Proof of Residency	Proof of Age
<input type="checkbox"/> IRS Tax Return & Schedules*	<input type="checkbox"/> Deed/Title	<input type="checkbox"/> Drivers License
<input type="checkbox"/> Social Security Form SSA	<input type="checkbox"/> Lease/Rental Agreement	<input type="checkbox"/> Birth Certificate
<input type="checkbox"/> Other _____	<input type="checkbox"/> Property Tax Bill/PVA	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Other _____	

*Tax Return and Schedules filed within the last 12 months. Household gross income must be \$35,000 or less.

I hereby apply for a 30% Senior Citizen Discount of the amount billed for sanitary sewer service and the EPA Consent Decree Surcharge for the service address listed above. I certify that I am the legal title/leaseholder/renter of the above property, that I am 65 years of age or older, that my household gross income is \$35,000 or less per year and that I have provided all relevant documents relating to my income, age and residency. I also understand that at MSD's discretion, I may be required to renew this application each year.

Executed this _____ day of _____, 20__

Signature of Applicant: _____

Please mail application and supporting documents to the following address:

MSD
Attn: Senior Citizen Discount Program
700 W. Liberty Street
Louisville, KY 40203

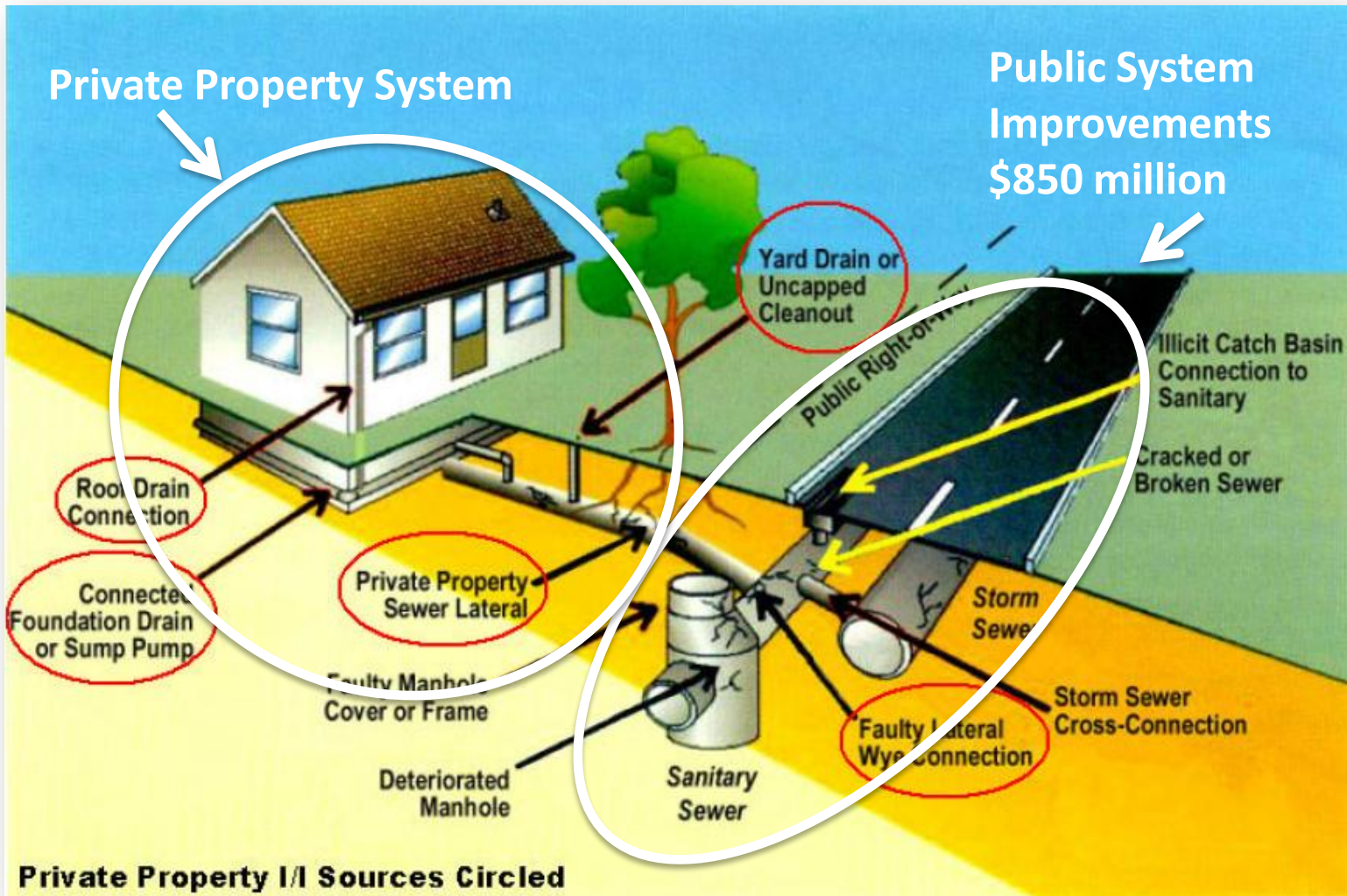
Rev. Form Date: 7/13/10



Working Together

A group of people are gathered in a yard in front of a brick house. In the foreground, there are two large grey plastic barrels and several wooden-handled tools like shovels and a pitchfork leaning against them. A man in a colorful striped jacket and blue jeans is shaking hands with a woman in a light blue shirt. Other people are standing around, some looking on. A red lawnmower is visible in the background near a hedge. The scene is outdoors with green grass and some flowers.

To Keep Sewer
Rates Lower



Working Together to Keep Sewer Rates Lower!!



**MSD Sanitary
Sewer Line
Replacement
Program
587-0603**



Working Together to Keep Sewer Rates Lower!!

Disconnect sump pumps from the sewer system

- Single biggest source of private-side unauthorized connections
- Should outlet to the ground or stormwater system

**Plumbing Modification
Program 587-0603**



Working Together to Keep Sewer Rates Lower!!

- Turn downspouts onto the ground
- Capture rain from down spouts to use for watering your gardens and landscaping
 - Rain barrels
 - Rain gardens



Working Together to Keep Sewer Rates Lower!!

Delay using
dishwashers and
washing machines
until after rain
events have passed

Sewers are FULL!



Working Together to Keep Sewer Rates Lower!!



TRASH it – don't **FLUSH** it!

dental floss, hair, diaper wipes, wet wipes, “flushable” wipes



accumulates at pumps and causes
sewer overflows and basement
backups



Working Together to Keep Sewer Rates Lower!!

Put fats, oils & greases in the trash
NOT down the drain!!!!

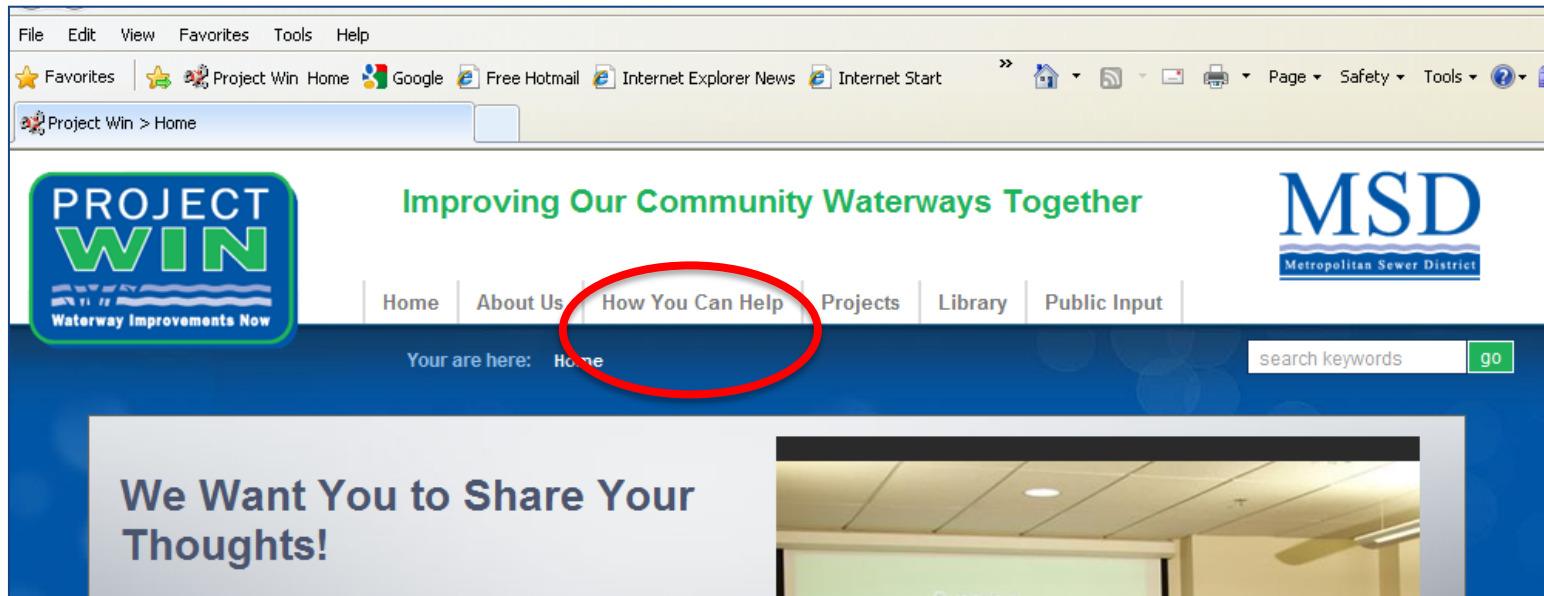


Grease accumulates in pipes



Put hot grease in metal
container, let cool,
TRASH!

What You Can Do



Learn More at the Website Created for YOU!



msdprojectwin.org



