

# Louisville's Sewer Overflow Abatement Plan



















# Presentation Objectives

- Why do sewers overflow?
- What is MSD doing to protect the public's health and safety from sewer overflows?
- How can you help maintain public health and safety?

# “Your Role” Activity Questions



1. MSD's authority to perform sewer maintenance extends to the \_\_\_\_\_.
2. Avoid using the \_\_\_\_\_ and \_\_\_\_\_ **until after rain events** are over.
3. Don't flush dental floss, hair, or wipes; not even wipes that say they are "\_\_\_\_\_."
4. F.O.G. stands for \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
\_\_\_\_\_. Pour these into a metal container to cool before discarding them in the \_\_\_\_\_. Never put F.O.G. down the \_\_\_\_\_!
5. Sump pumps should discharge to the \_\_\_\_\_ or to a \_\_\_\_\_ system, not to your \_\_\_\_\_ system.
6. Make good use of fresh, clean rain. Ensure downspouts drain to the ground, into landscaping, into rain \_\_\_\_\_, or \_\_\_\_\_.

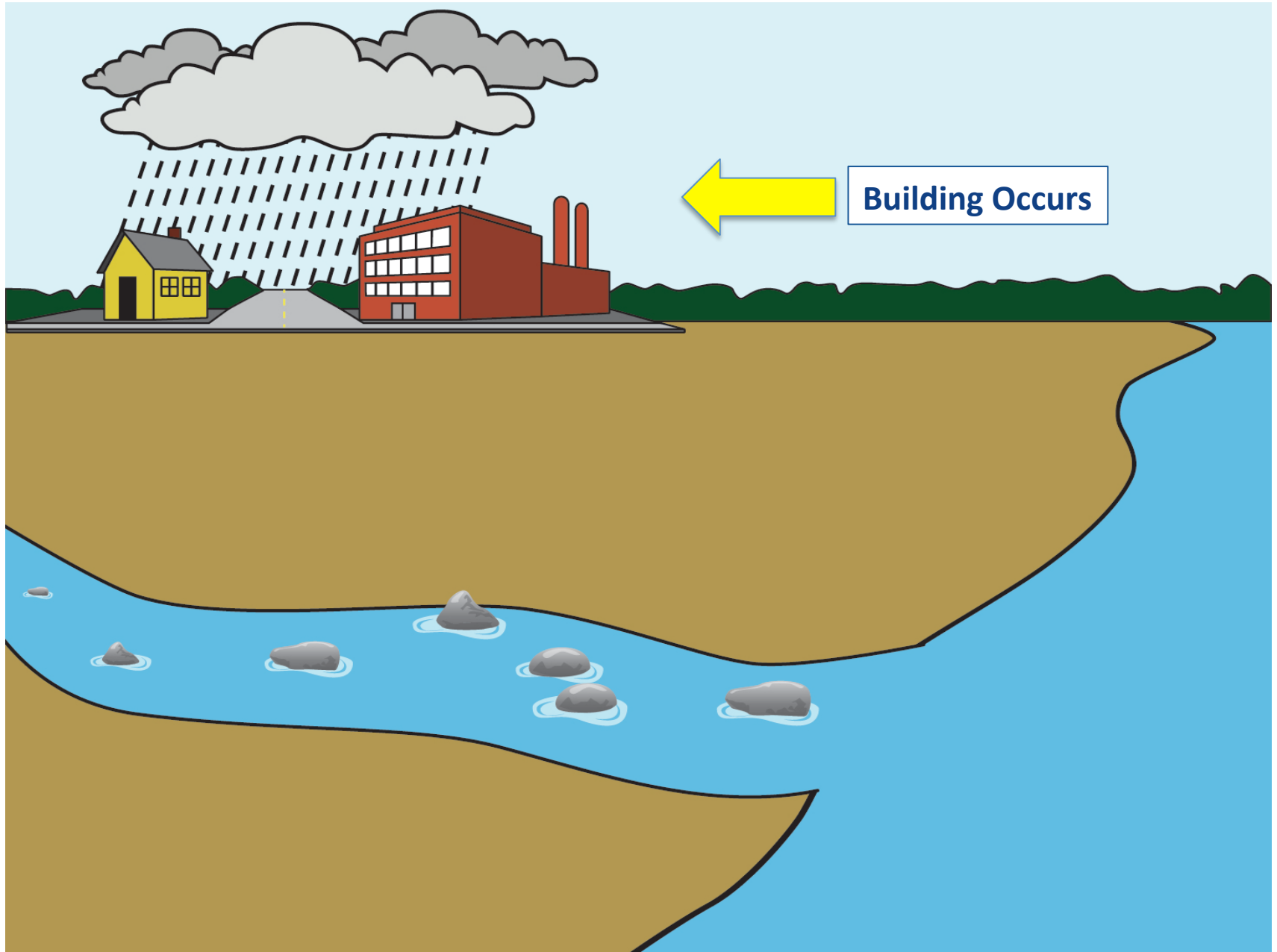


## History of Sewers and Overflows

**Undeveloped Land & Streams**



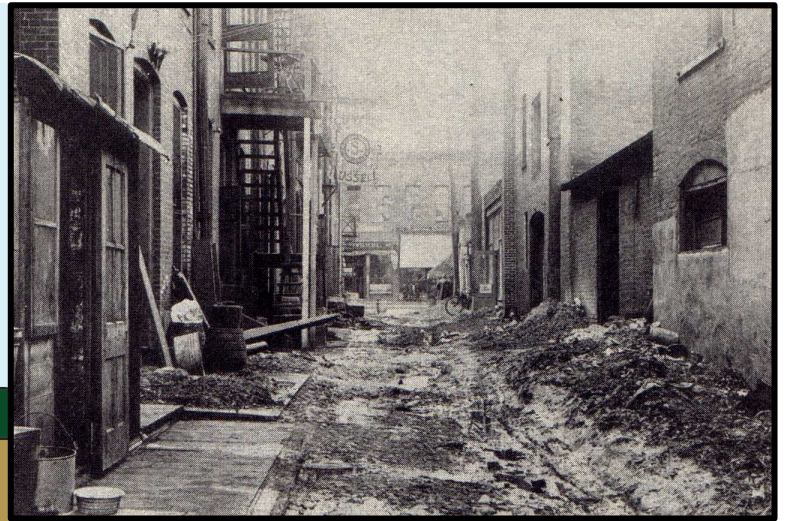
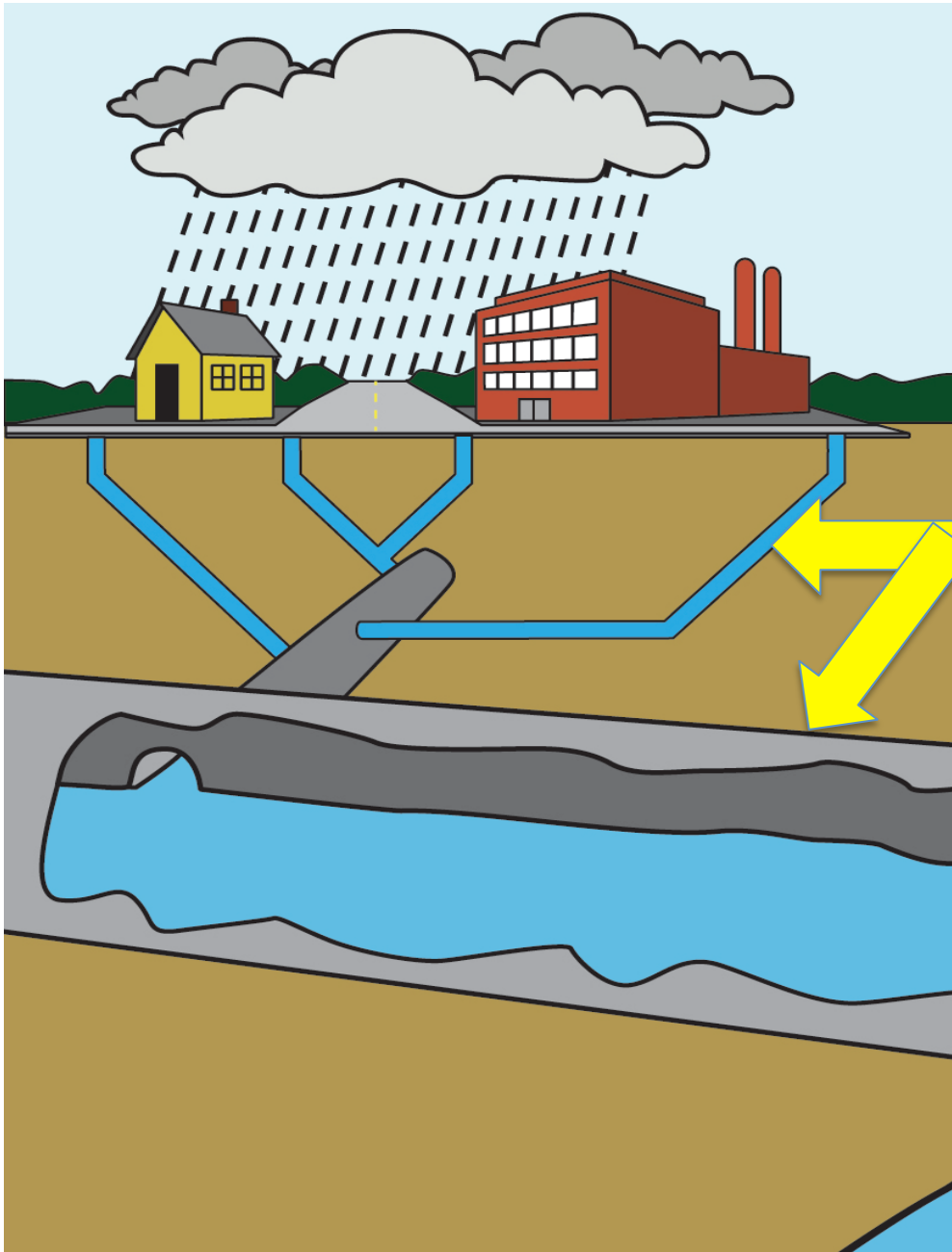




# SEWER WORK IN LOUISVILLE

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

JUNCTION CHAMBER, LOUISVILLE'S NEW SEWER SYSTEM

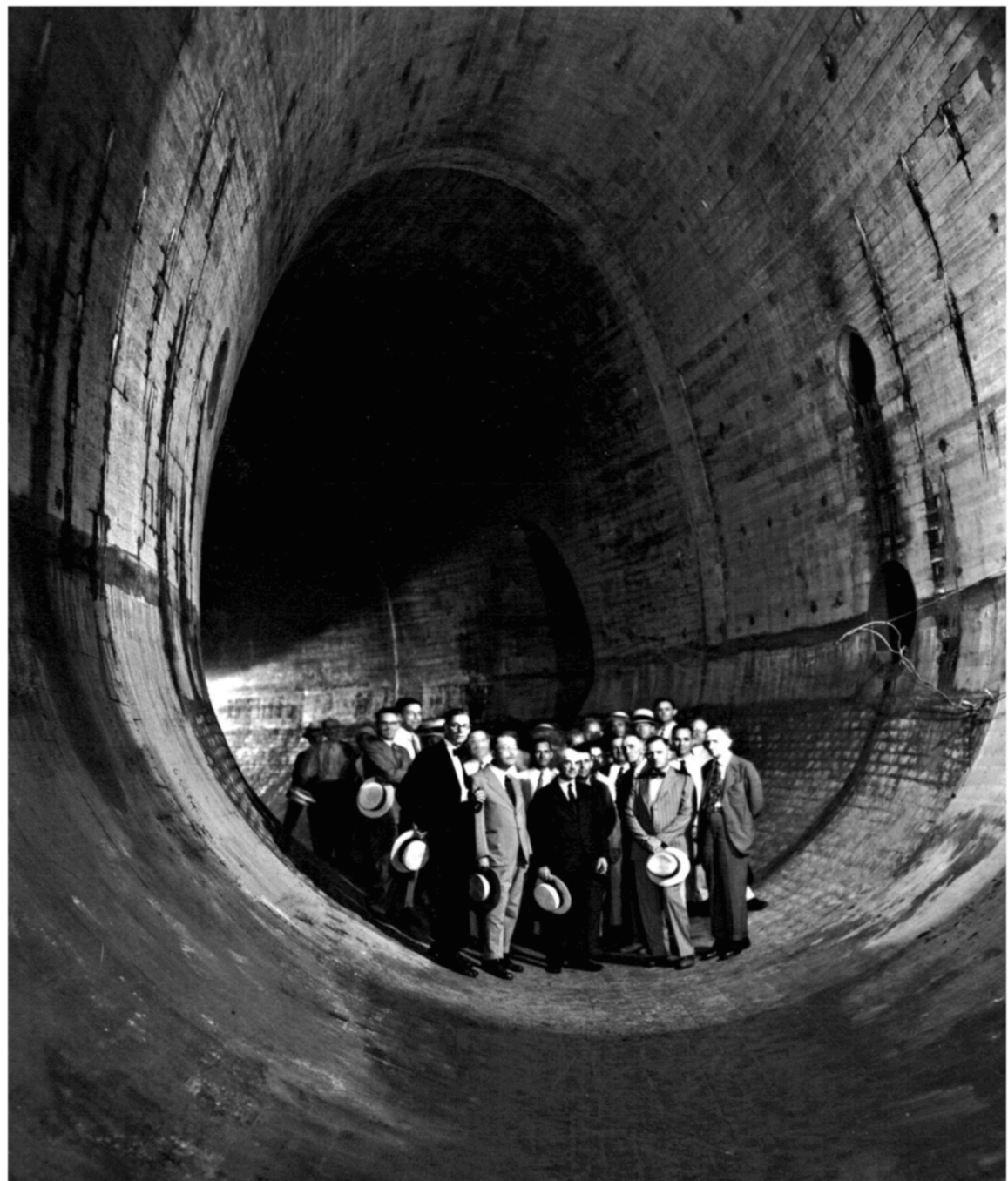


**Drainage Sewers Constructed**

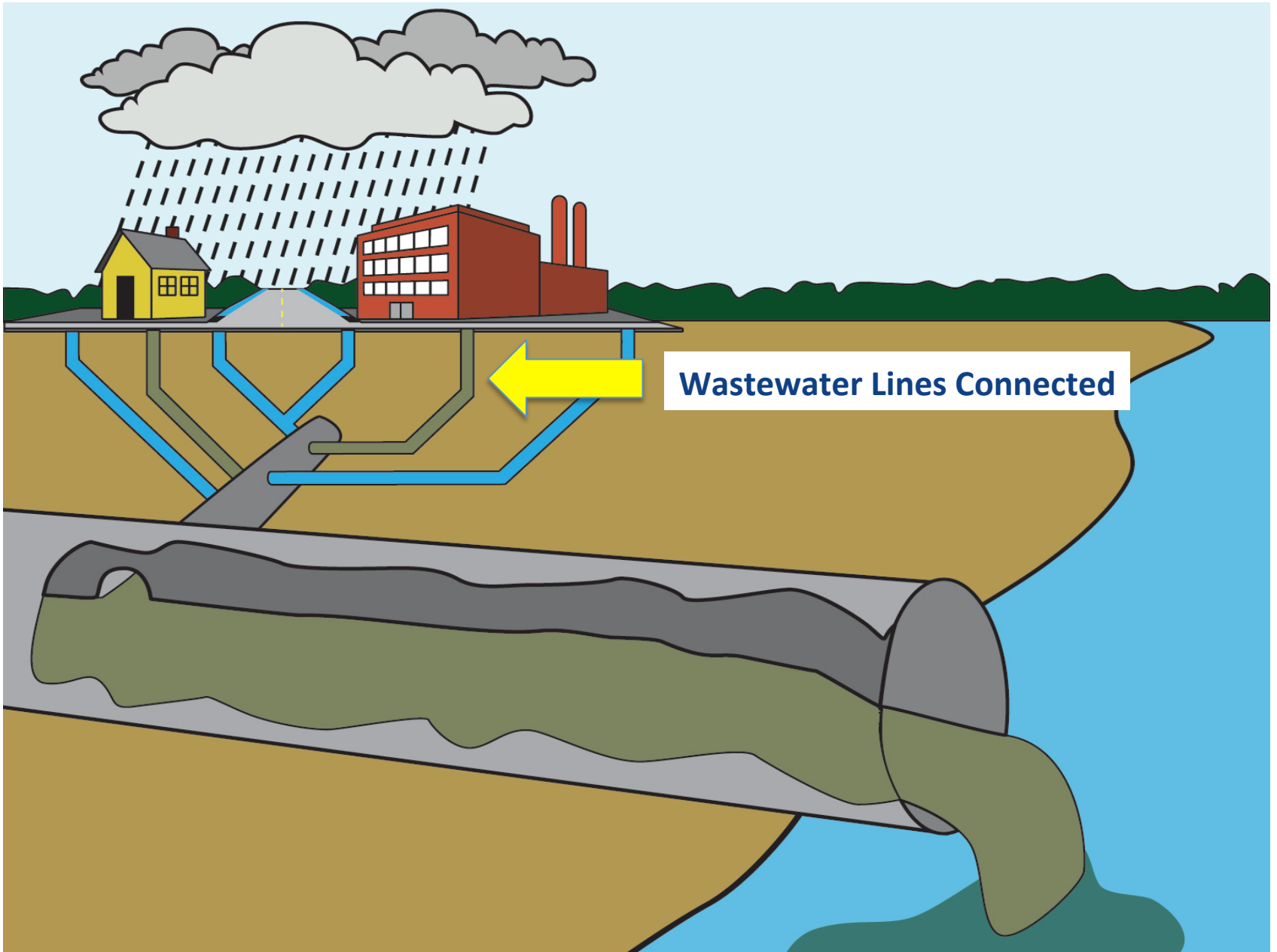


49.95  
2-22-31





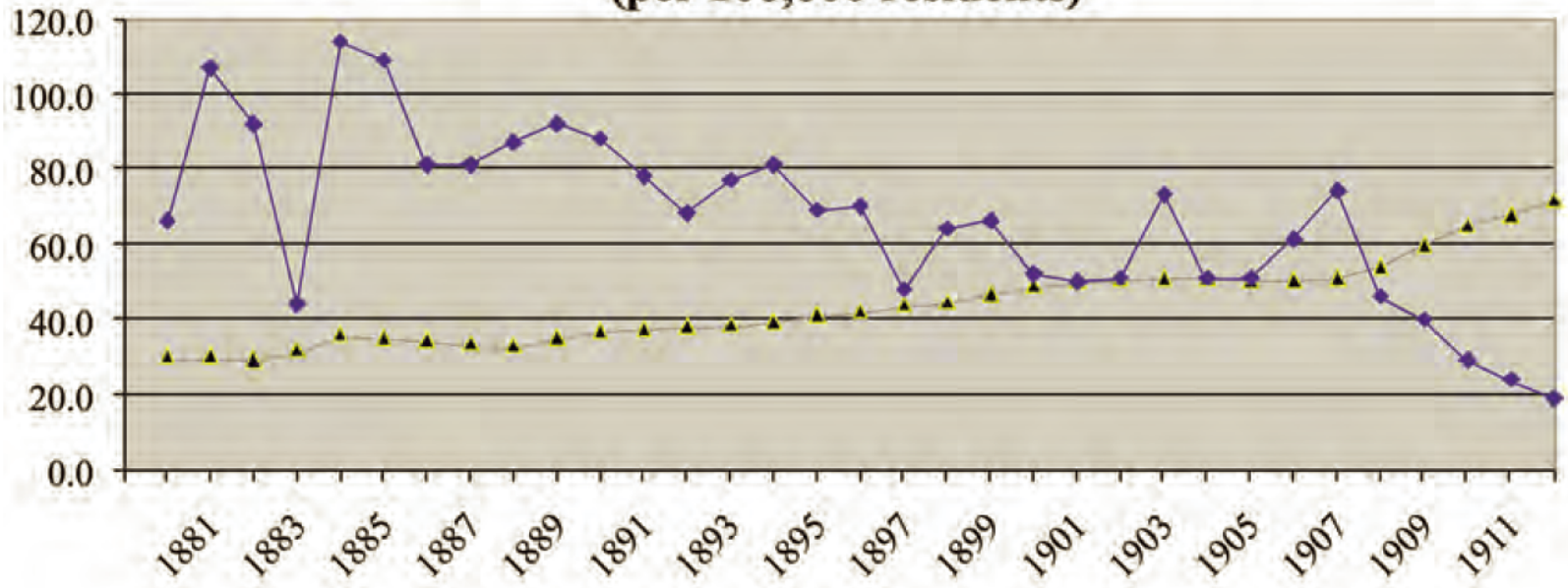
**SOUTHWESTERN OUTFALL**



**Wastewater Lines Connected**

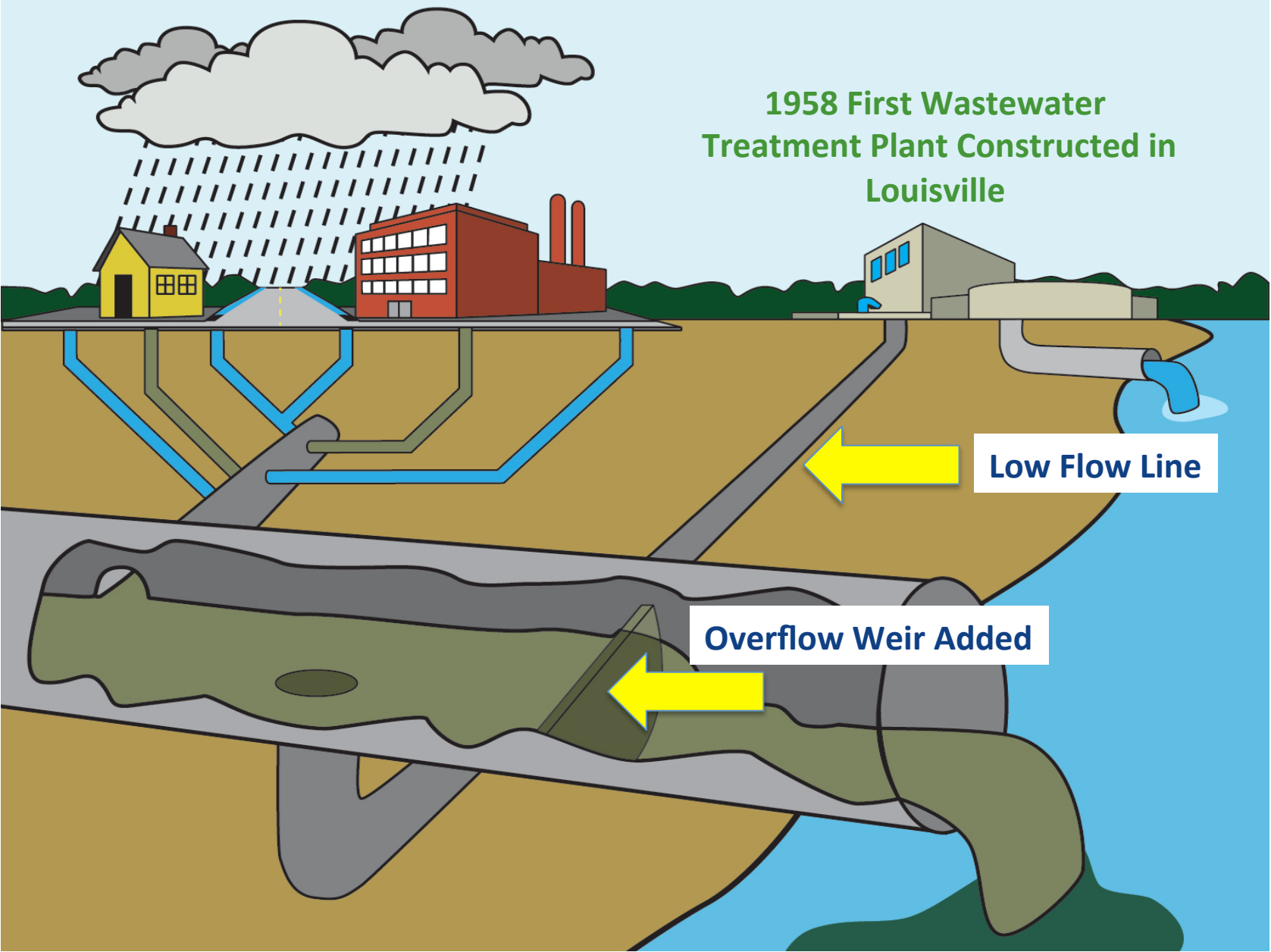
# Sewer Construction Vs. Typhoid Death Rates

**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

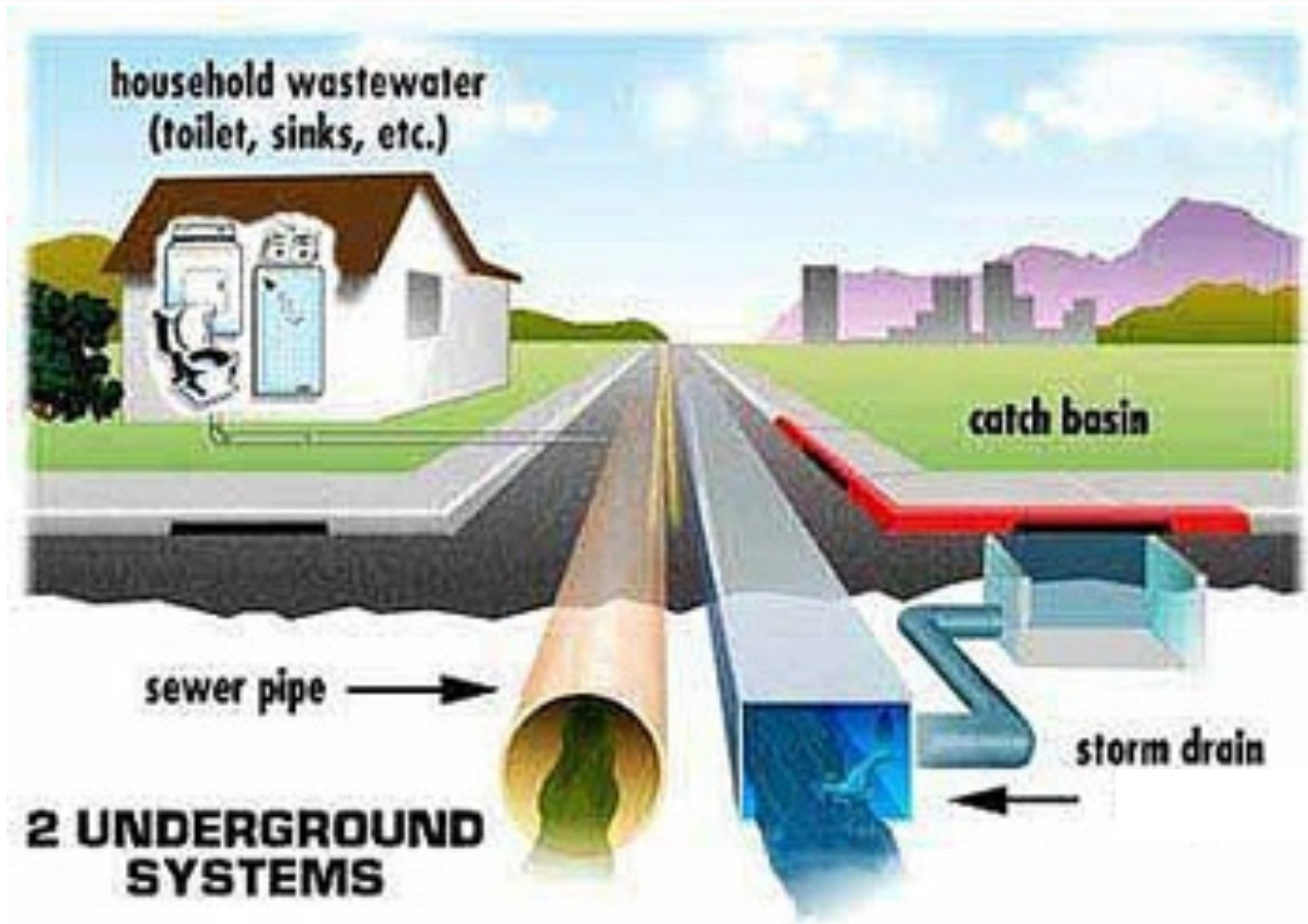


Low Flow Line

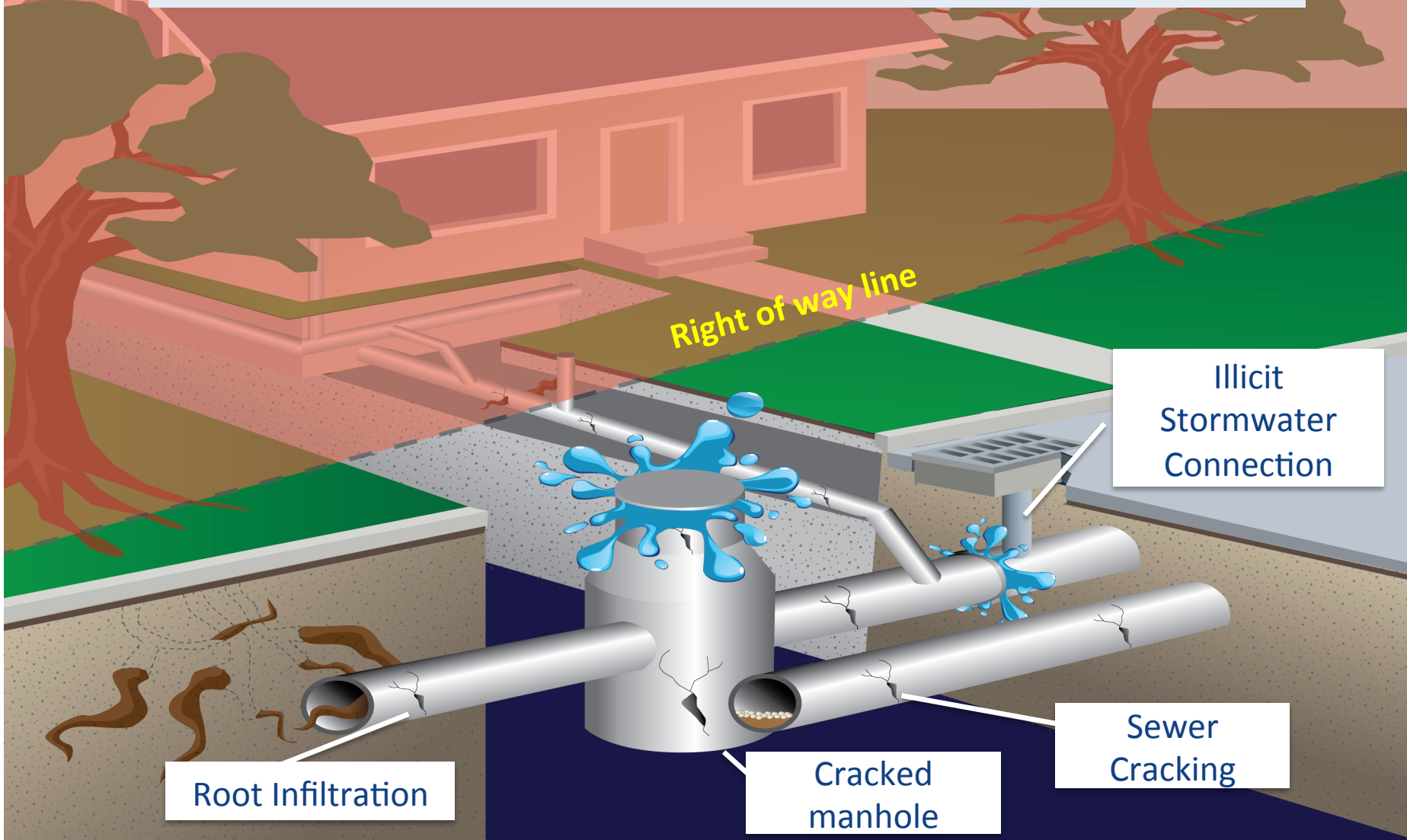
Overflow Weir Added



## Sewers Built Separately after 1955



# Public Side Problems – MSD Responsibility



# Private Side Problems – Home Owner Responsibility

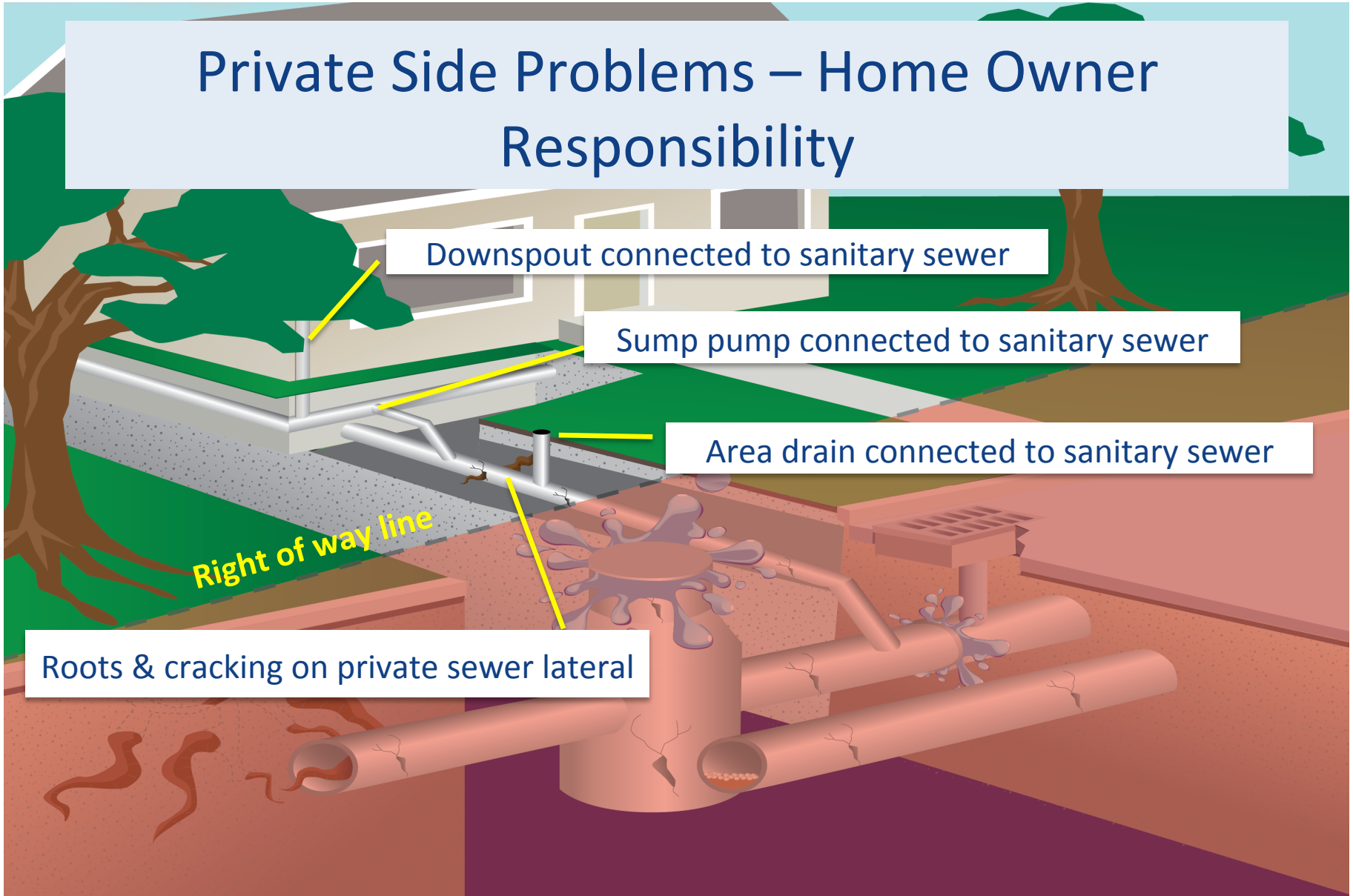
Downspout connected to sanitary sewer

Sump pump connected to sanitary sewer

Area drain connected to sanitary sewer

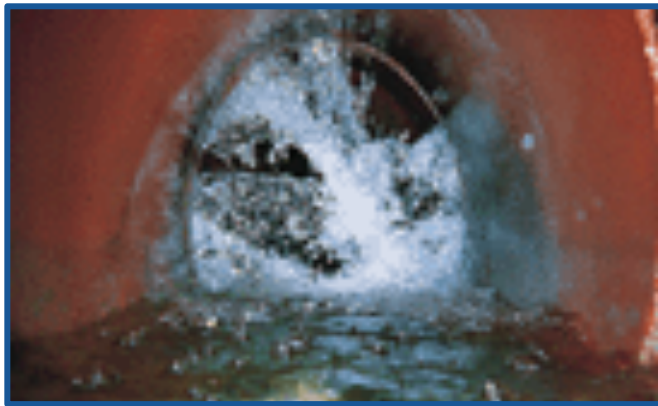
Right of way line

Roots & cracking on private sewer lateral

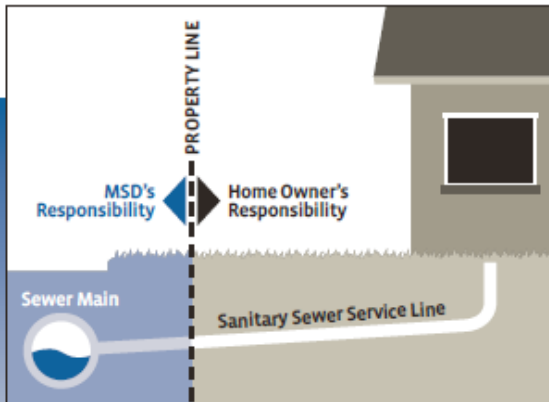




# Your Role in Maintaining Public Health and Safety

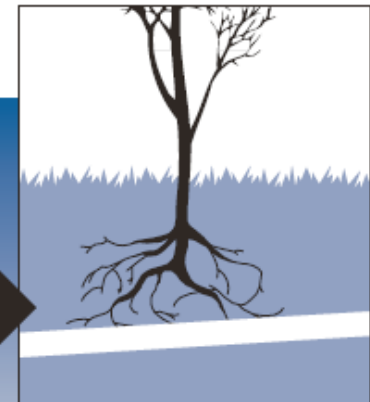


**MSD Sanitary  
Sewer Line  
Replacement  
Program  
587-0603**



*Clay pipes can crack and/or separate.*

*New PVC pipe is more efficient and durable.*







## Your Role in Maintaining Public Health and Safety

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

**Sewers are FULL!**







# Your Role in Maintaining Public Health and Safety



## TRASH it. Don't FLUSH it!

- Dental Floss
- Q-Tips
- Hair
- Diapers
- Personal Wipes
- 'Flushable' Wipes
- Hygiene Products



These items accumulate at pumps to cause sewer overflows and basement backups!

# Your Role in Maintaining Public Health and Safety

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



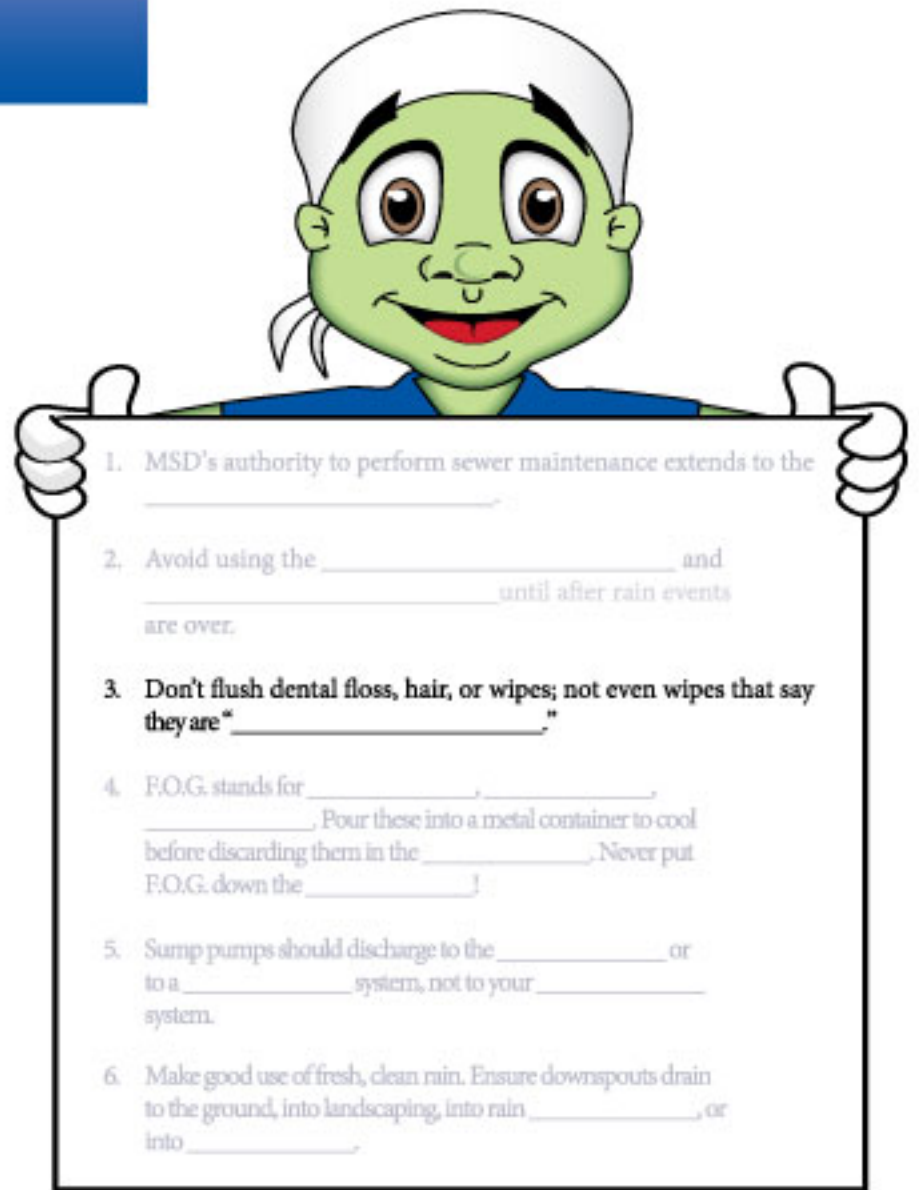
Grease accumulates in pipes



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



## “Your Role” Activity Questions



### Q3: Answer

Don't flush dental floss, hair, or wipes; not even wipes that say they are flushable.

1. MSD's authority to perform sewer maintenance extends to the \_\_\_\_\_.
2. Avoid using the \_\_\_\_\_ and \_\_\_\_\_ until after rain events are over.
3. Don't flush dental floss, hair, or wipes; not even wipes that say they are "\_\_\_\_\_."
4. F.O.G. stands for \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_. Pour these into a metal container to cool before discarding them in the \_\_\_\_\_. Never put F.O.G. down the \_\_\_\_\_!
5. Sump pumps should discharge to the \_\_\_\_\_ or to a \_\_\_\_\_ system, not to your \_\_\_\_\_ system.
6. Make good use of fresh, clean rain. Ensure downspouts drain to the ground, into landscaping, into rain \_\_\_\_\_, or into \_\_\_\_\_.



# Your Role in Maintaining Public Health and Safety

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**

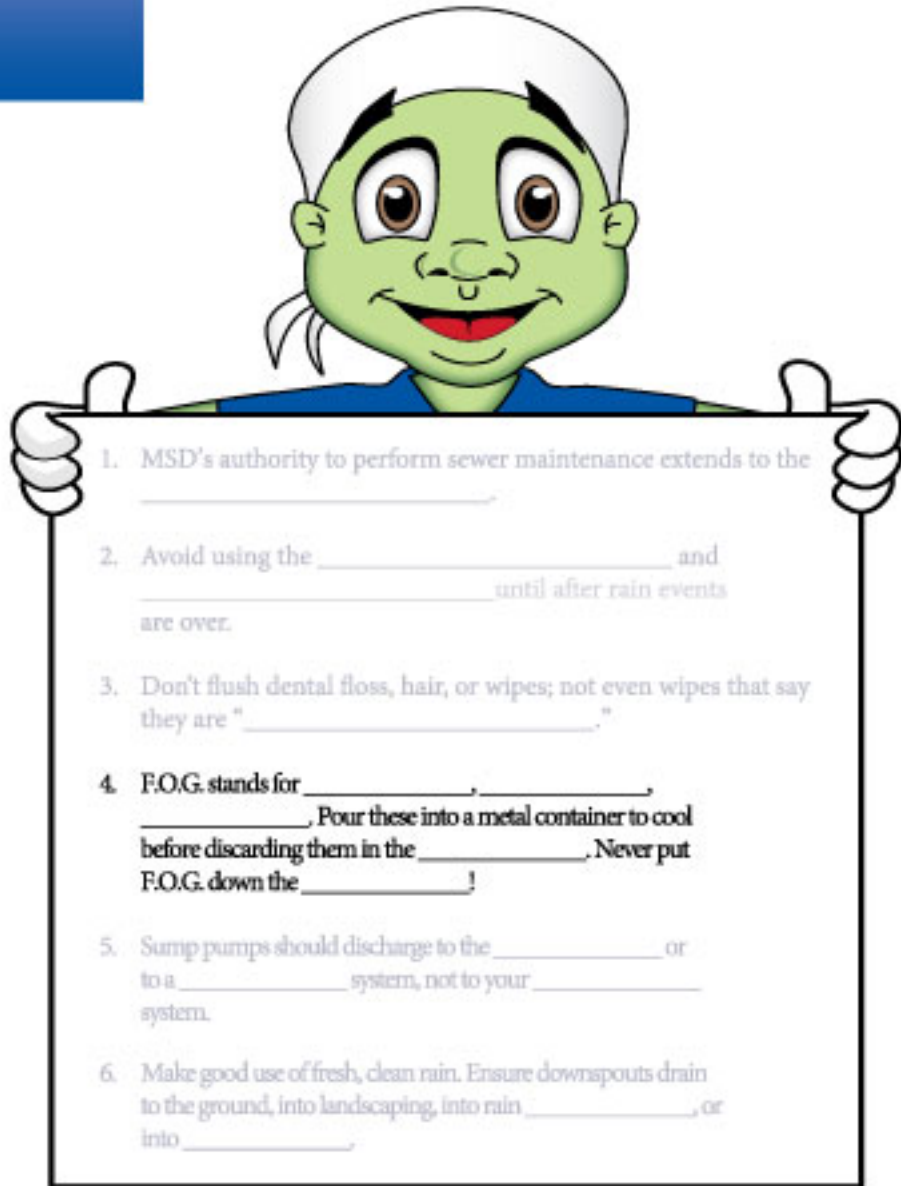


# Your Role in Maintaining Public Health and Safety

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



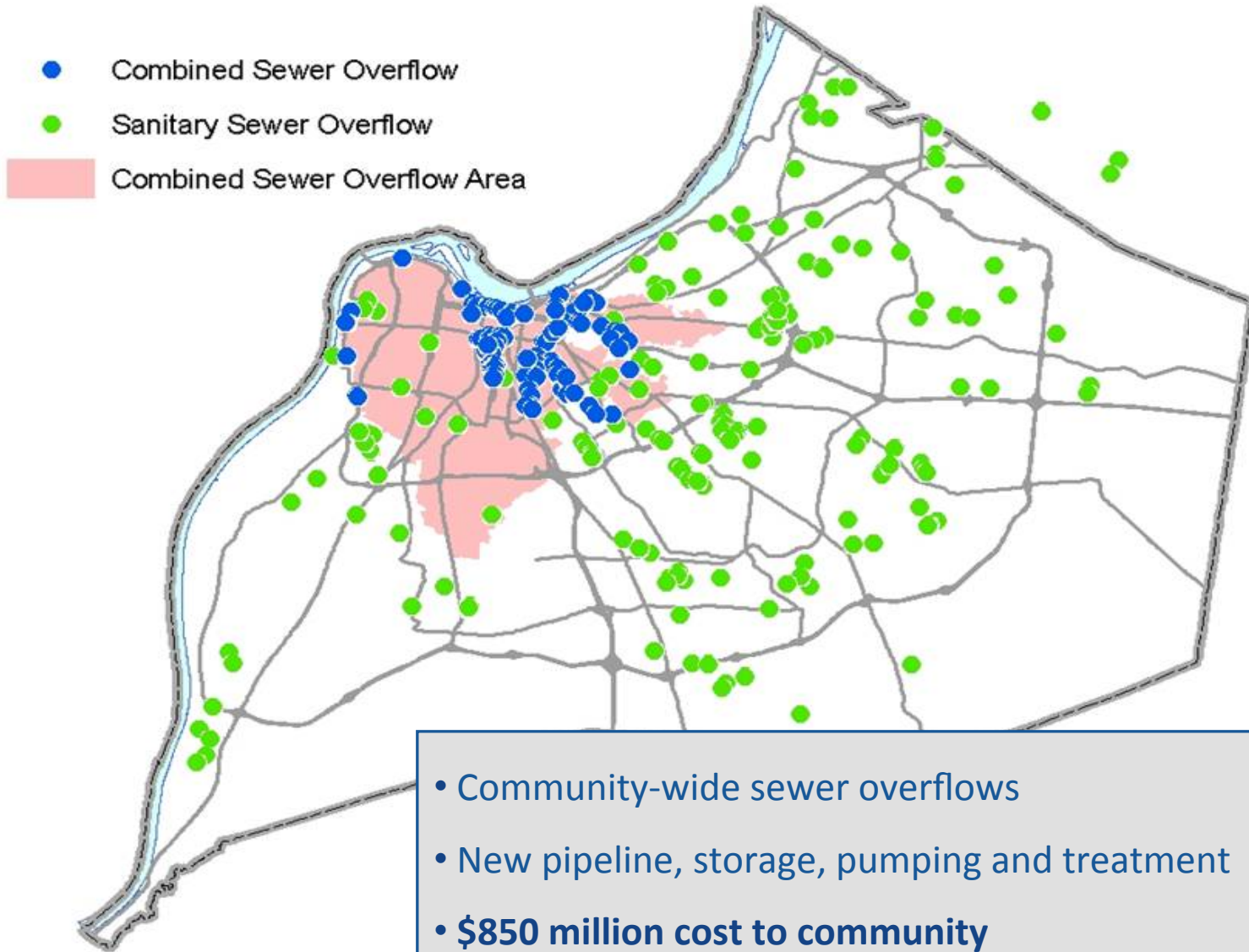
## “Your Role” Activity Questions



### Q4: Answer

F.O.G. stands for Fats, Oils, Grease.  
Pour these into a metal container to cool  
before discarding them in the trash.  
Never put F.O.G. down the drain!

1. MSD's authority to perform sewer maintenance extends to the \_\_\_\_\_.
2. Avoid using the \_\_\_\_\_ and \_\_\_\_\_ until after rain events are over.
3. Don't flush dental floss, hair, or wipes; not even wipes that say they are "\_\_\_\_\_."
4. F.O.G. stands for \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_. Pour these into a metal container to cool before discarding them in the \_\_\_\_\_. Never put F.O.G. down the \_\_\_\_\_!
5. Sump pumps should discharge to the \_\_\_\_\_ or to a \_\_\_\_\_ system, not to your \_\_\_\_\_ system.
6. Make good use of fresh, clean rain. Ensure downspouts drain to the ground, into landscaping, into rain \_\_\_\_\_, or into \_\_\_\_\_.



# Public Health and Safety Mandate

- **1985-2005** – MSD eliminated 300+ failing package treatment plants and 40,000 failing septic tanks
- **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



# 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 June 2014

## Gray Infrastructure Projects (78)

- 27 completed
- 29 in design/construction

## Green Infrastructure Projects

- 49 completed
- 48 in design/construction

## Source Control Projects

- 17 projects completed
- 14 projects in design/construction

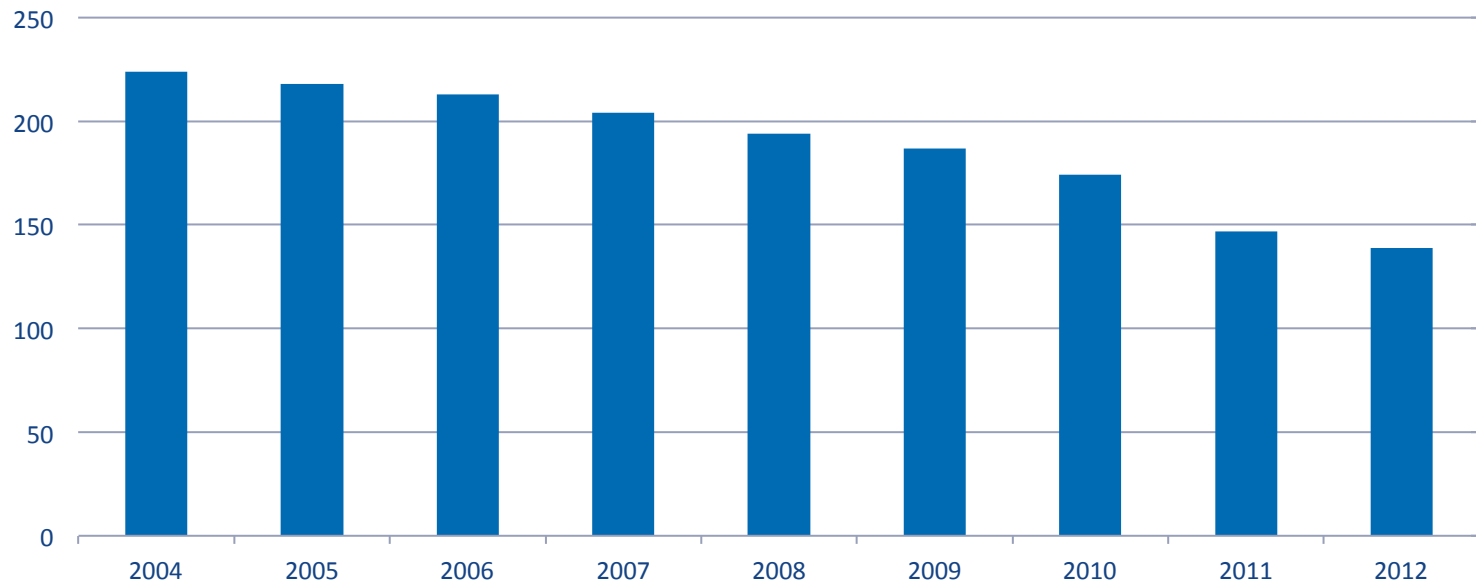
## Overall Program Completion

- 51% complete
- 2% under budget, compared to original estimates

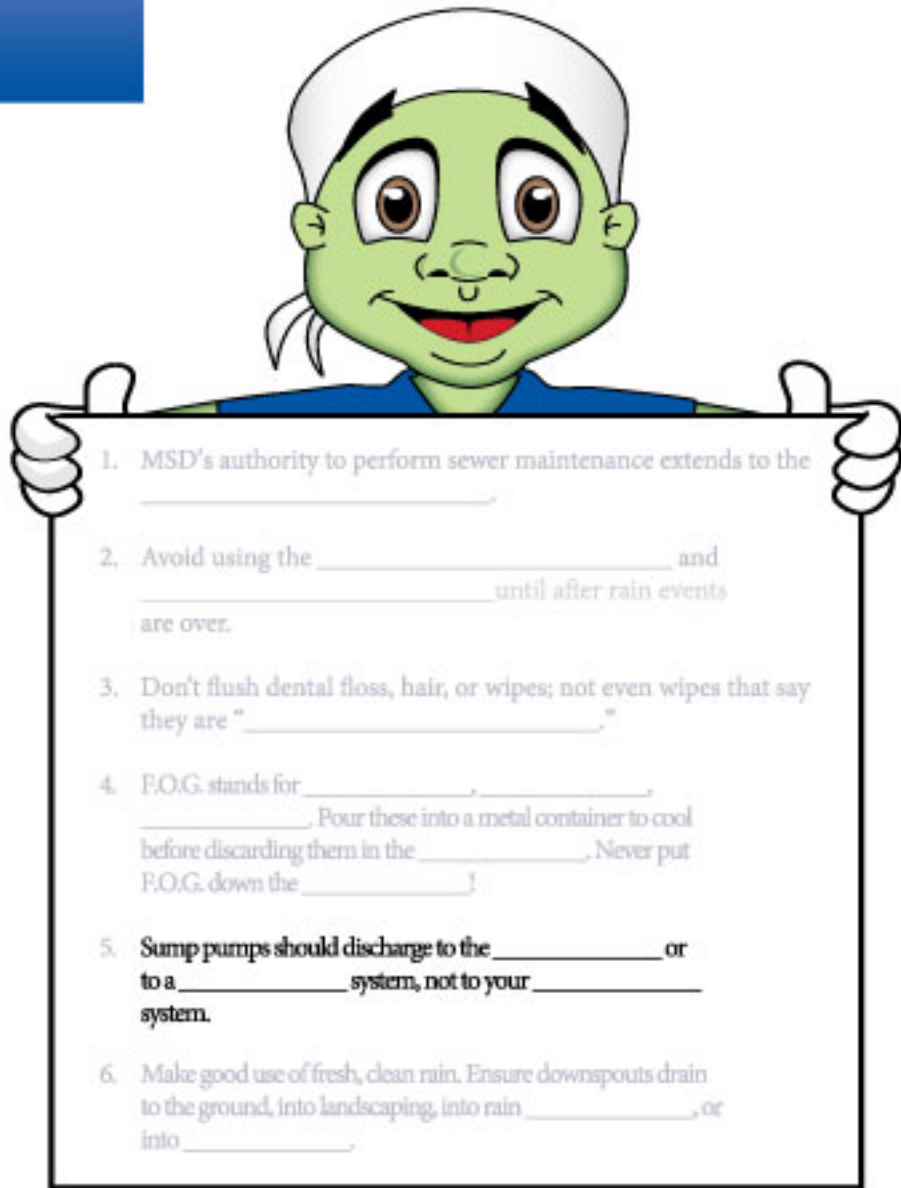


# Overflow Eliminations

## Remaining SSO Locations



## “Your Role” Activity Questions



### Q5: Answer

Sump pumps should discharge to the ground or to a stormwater system, not your sanitary system.

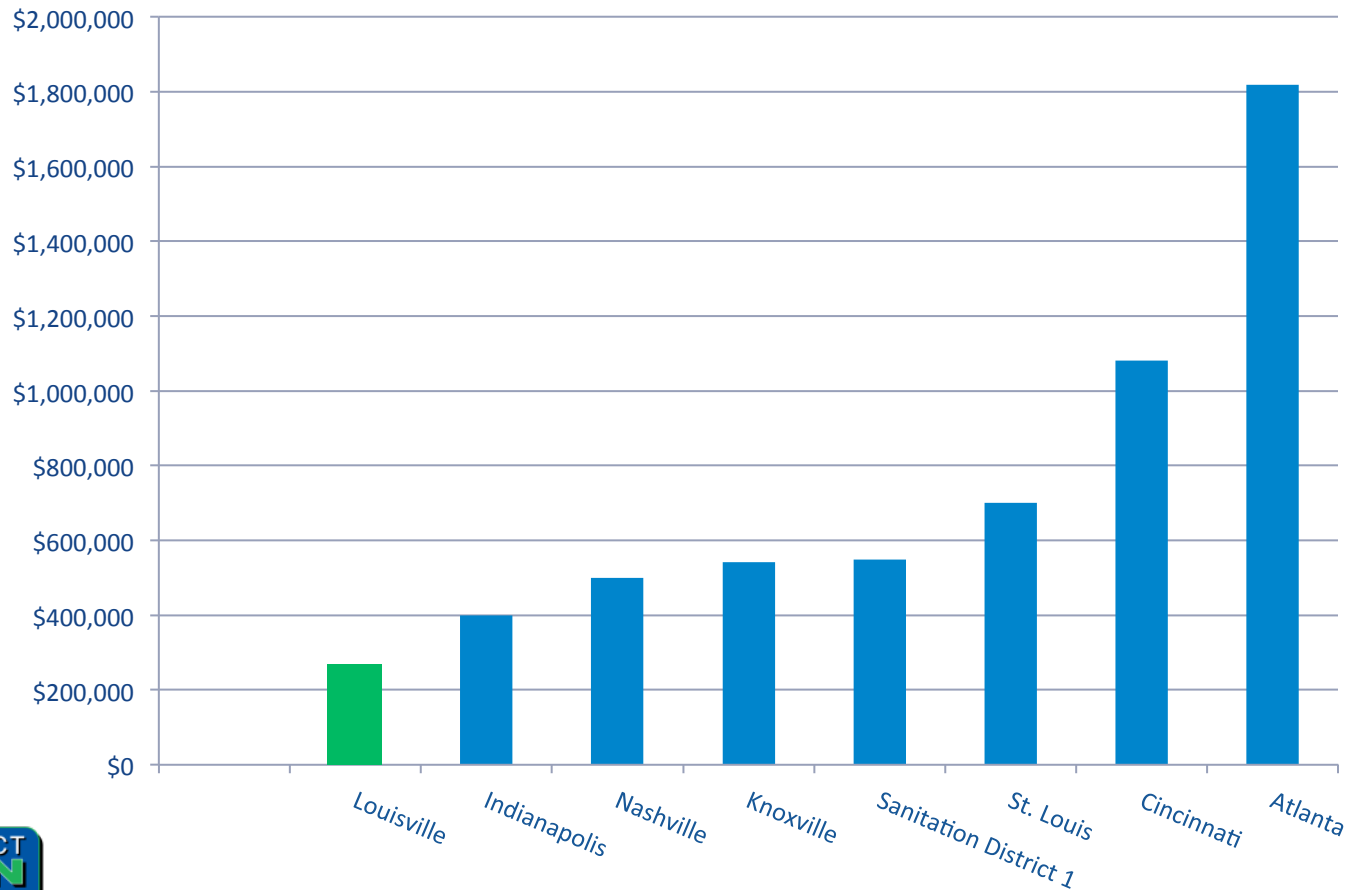
1. MSD's authority to perform sewer maintenance extends to the \_\_\_\_\_.
2. Avoid using the \_\_\_\_\_ and \_\_\_\_\_ until after rain events are over.
3. Don't flush dental floss, hair, or wipes; not even wipes that say they are "\_\_\_\_\_."
4. F.O.G. stands for \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_. Pour these into a metal container to cool before discarding them in the \_\_\_\_\_. Never put F.O.G. down the \_\_\_\_\_!
5. Sump pumps should discharge to the \_\_\_\_\_ or to a \_\_\_\_\_ system, not to your \_\_\_\_\_ system.
6. Make good use of fresh, clean rain. Ensure downspouts drain to the ground, into landscaping, into rain \_\_\_\_\_, or into \_\_\_\_\_.



# Sewer Rates

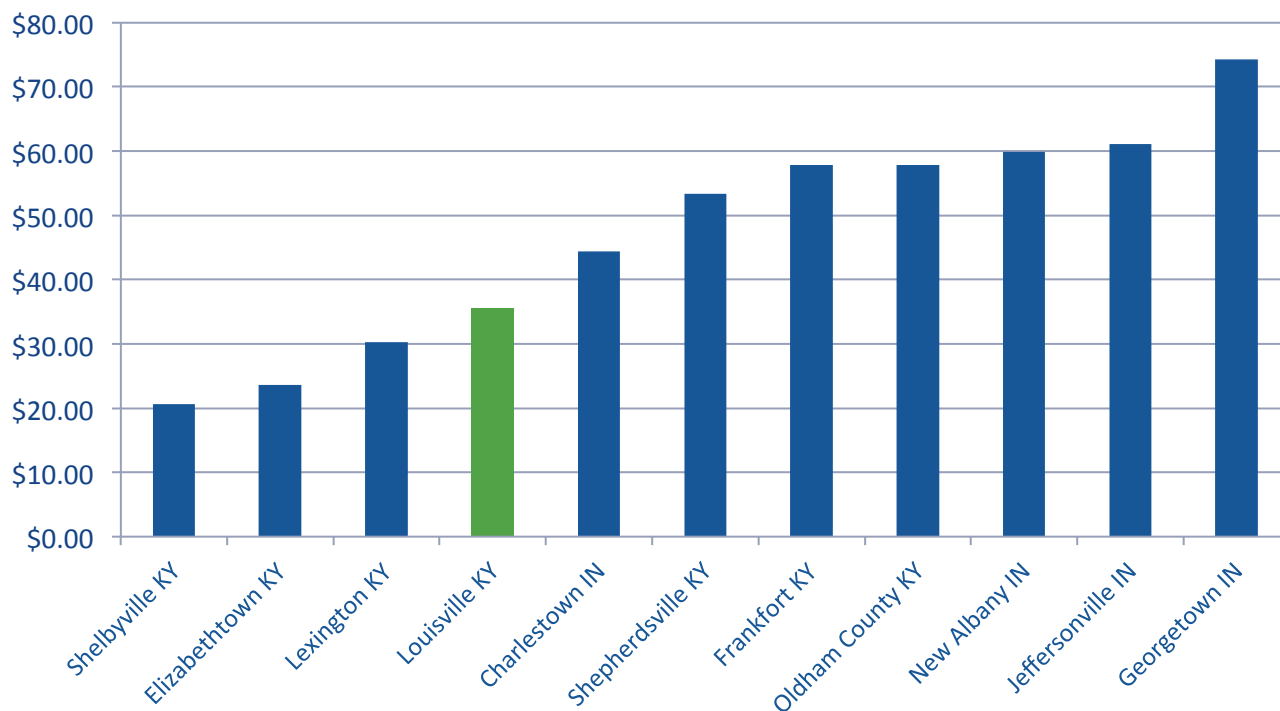
# Cost of Regulatory Compliance

## Consent Decree Cost Comparison per Sewer Mile



# 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:**

<b>Proof of Income</b>	<b>Proof of Residency</b>	<b>Proof of Age</b>
<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/lessholder/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

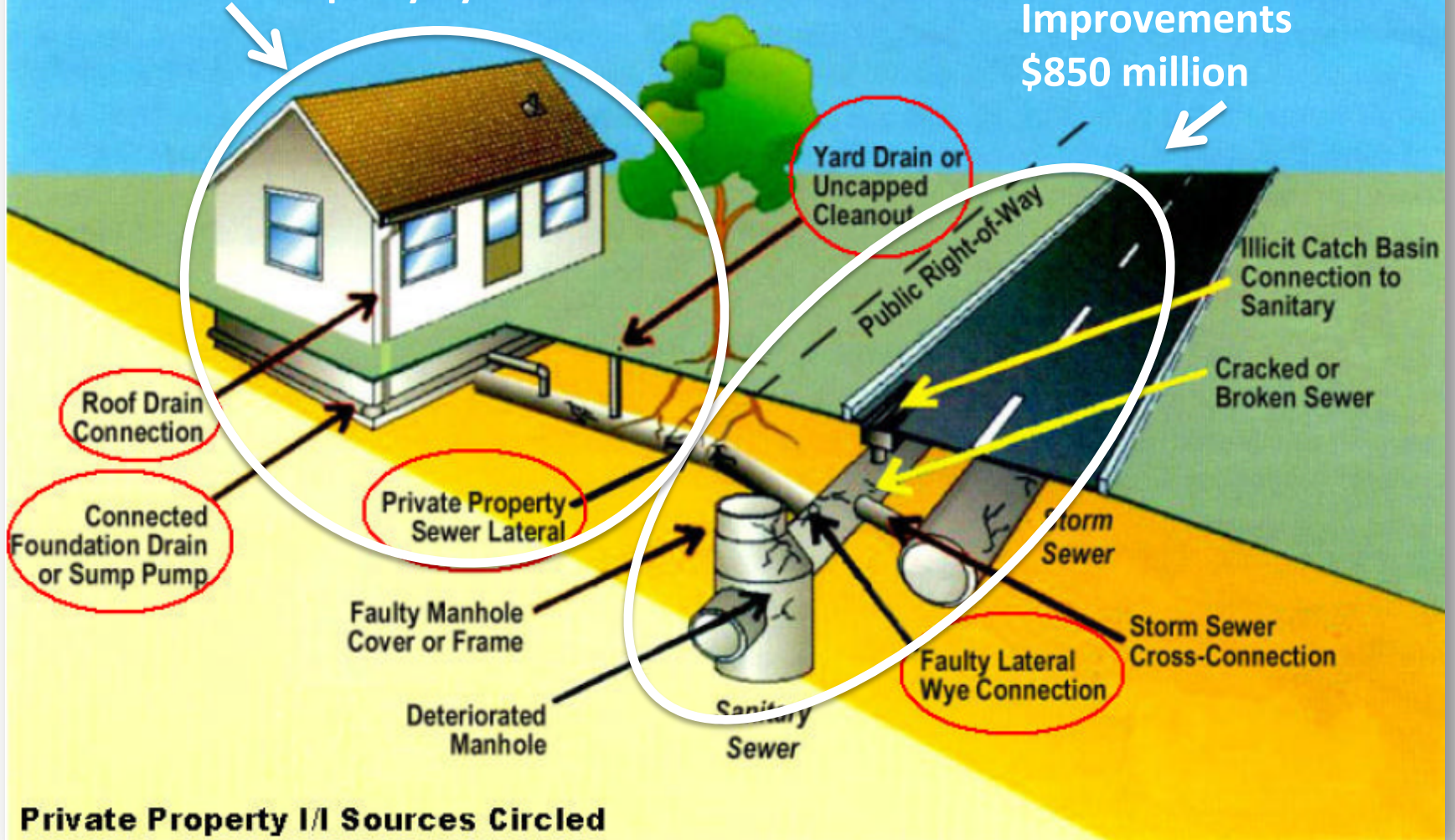






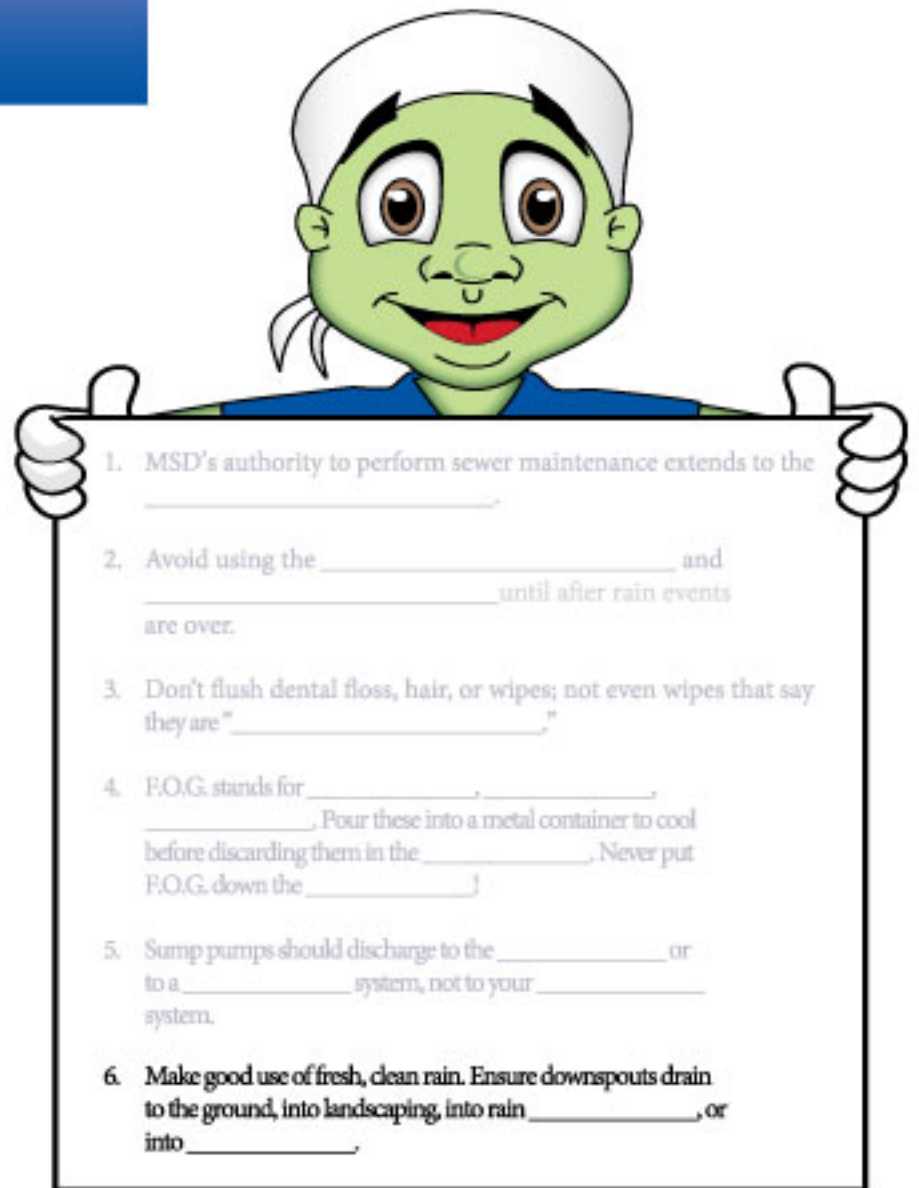
Private Property System

Public System Improvements  
\$850 million



Private Property I/I Sources Circled

## “Your Role” Activity Questions



### Q6: Answer

Make good use of fresh, clean rain. Ensure downspouts drain to the ground, into landscaping, into rain barrels, or into gardens.

1. MSD's authority to perform sewer maintenance extends to the \_\_\_\_\_.
2. Avoid using the \_\_\_\_\_ and \_\_\_\_\_ until after rain events are over.
3. Don't flush dental floss, hair, or wipes; not even wipes that say they are "\_\_\_\_\_."
4. F.O.G. stands for \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_. Pour these into a metal container to cool before discarding them in the \_\_\_\_\_. Never put F.O.G. down the \_\_\_\_\_.
5. Sump pumps should discharge to the \_\_\_\_\_ or to a \_\_\_\_\_ system, not to your \_\_\_\_\_ system.
6. Make good use of fresh, clean rain. Ensure downspouts drain to the ground, into landscaping, into rain \_\_\_\_\_, or into \_\_\_\_\_.

A collage of four images illustrating community activities. The top-left image shows a rocky riverbank with several people standing on the rocks. The top-right image shows a man and a child standing near a concrete bridge structure. The bottom-left image shows a person in a waders fishing in a river. The bottom-right image shows a raft with an American flag on a river. The text "Working Together to protect public health" is overlaid in the center.

**Working Together  
to protect public health**

# Working Together for Public Health and Safety

## Remember “Your Role”!

- 1) MSD’s authority to perform sewer maintenance extends to the right of way line.
- 2) Avoid using dishwashers and washing machines until after rain events are over.
- 3) Don’t flush dental floss, hair, or wipes; not even wipes that say they are flushable.
- 4) F.O.G. stands for Fats, Oils, and Grease. Pour these into a metal container to cool before discarding them in the trash. Never put F.O.G. down the drain!
- 5) Sump pumps should discharge to the ground or to a stormwater system, not your sanitary system.
- 6) Make good use of fresh, clean rain. Ensure downspouts drain to the ground, into landscaping, into rain barrels, or into gardens.

# Working Together for Public Health and Safety

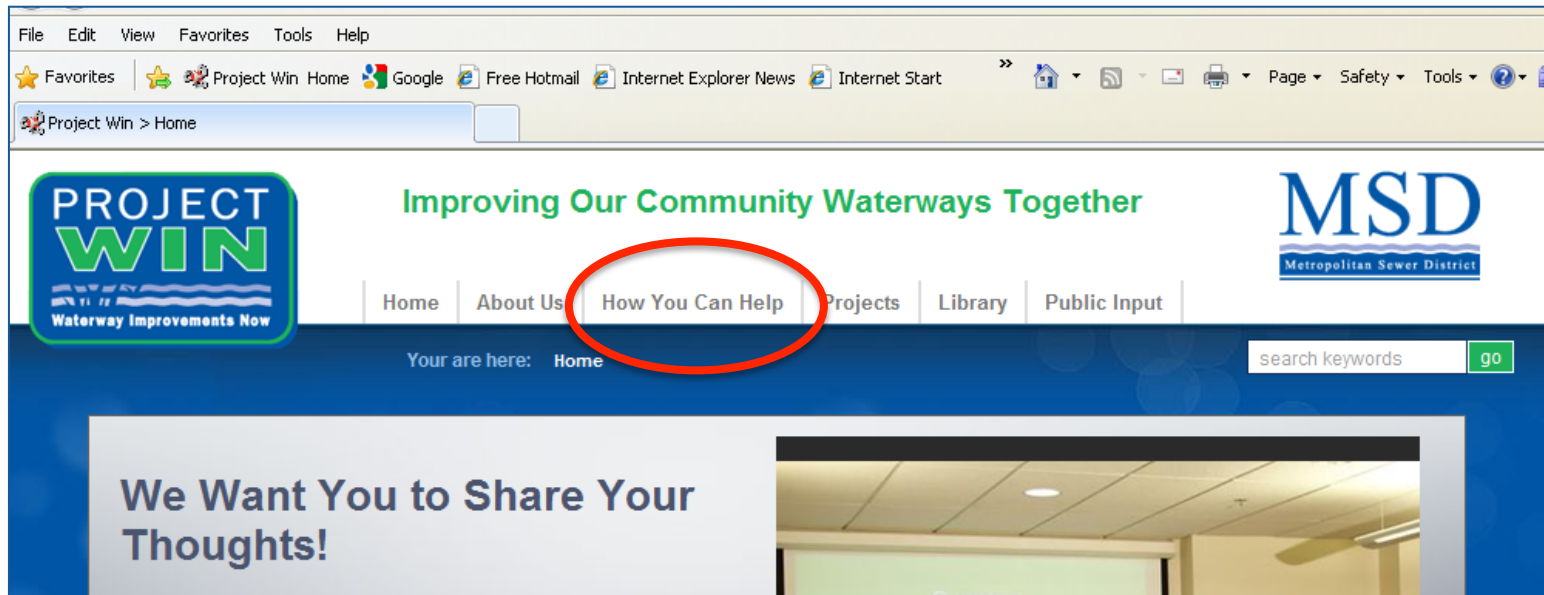
If you see this...

**Call MSD Immediately!**

**587-0603**



# More of What YOU Can Do



Learn More at the Website Created Just for YOU!

[msdprojectwin.org](http://msdprojectwin.org)



# “Your Role” Activity Questions

