



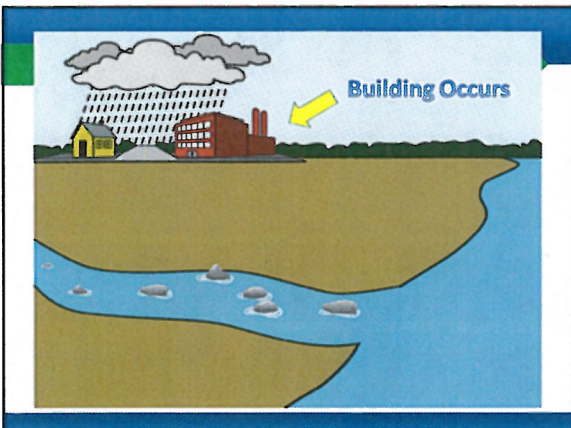
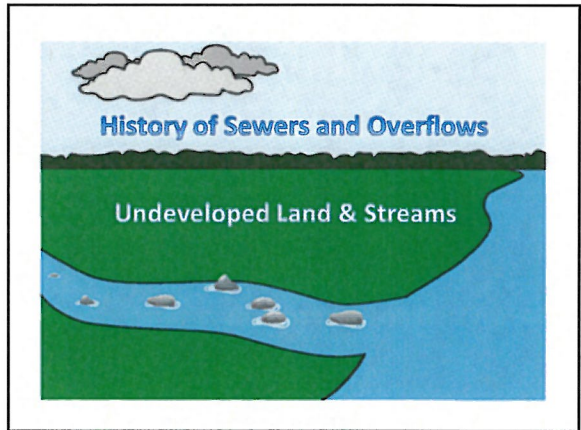
Presentation Highlights

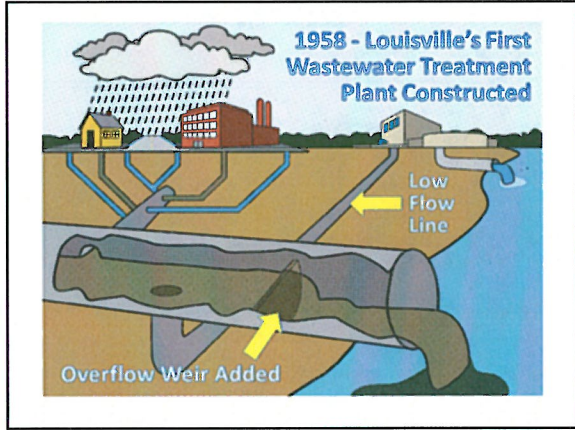
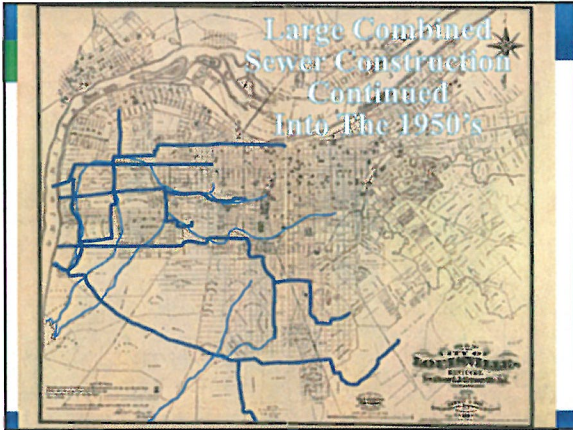
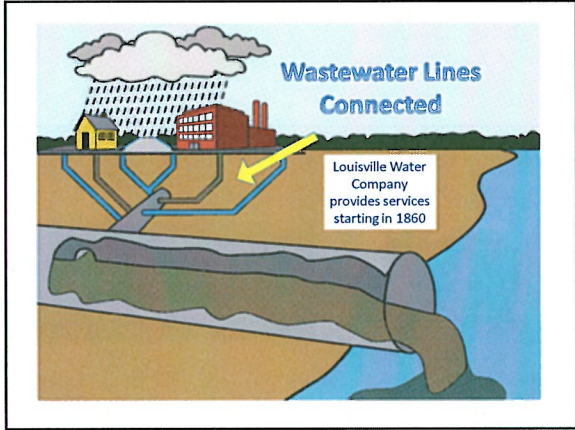
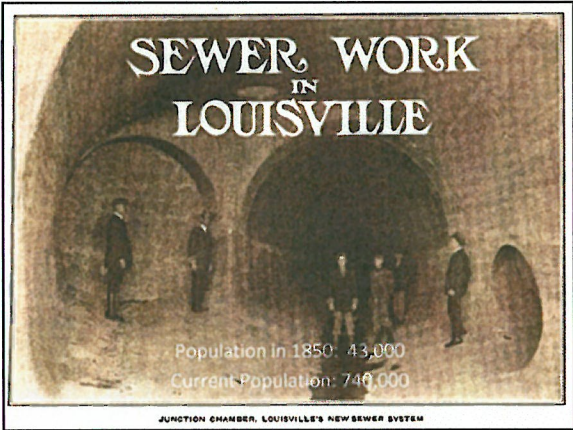
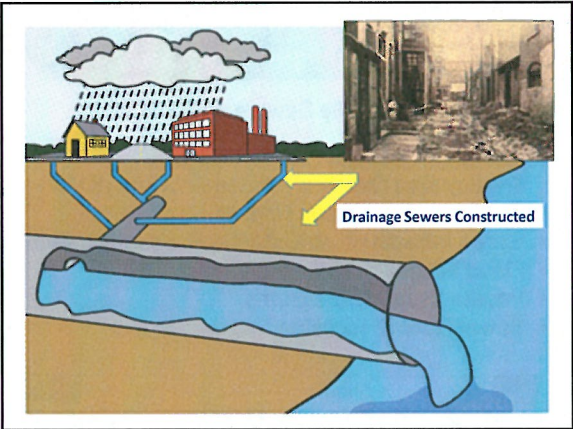
- History of Louisville Sewers and Sewer Overflows
- Amended Consent Decree Program & Integrated Overflow Abatement Plan (IOAP)
- IOAP Implementation Update
- Green Infrastructure and MS4 Program Update
- Flood Mitigation Planning
- Private Property Programs
- Sewer Rate Discussion

MSD

History of Louisville Sewers and Sewer Overflows

MSD

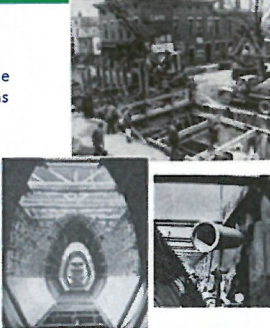




Sewer Service in Louisville

Begins Prior to the Civil War (Pre-MSD)

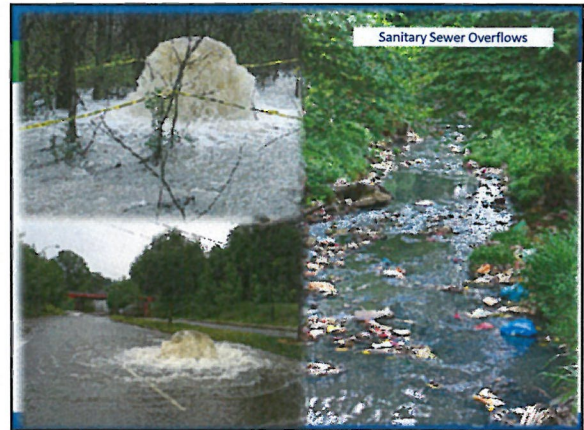
- 1822 – Typhoid epidemic hits Louisville
- 1823 – Ditch and pond drainage begins
- 1850 – First underground sewers constructed, many still in service
- 1906 – Commissioners of Sewerage begin constructing combined sewer system for sanitary sewage and storm drainage, most still in service
- 1906 – 1944 Sewer service extended to Watterson Xway
- 1944 – Commissioners of Sewerage eliminated



Sewer Service in Louisville




After Formation of MSD

- 1946 – MSD formed by State legislature
- 1958 – Fort Southworth Wastewater Treatment plant (now Morris Forman) begins operation
- 1946 - 1980s – Post WWII building boom outside Watterson Xway results in construction of 100s of privately maintained sanitary collection systems and package treatment plants by land development companies
- 1980 – 2000s – MSD begins service area expansion and elimination of package treatment plants






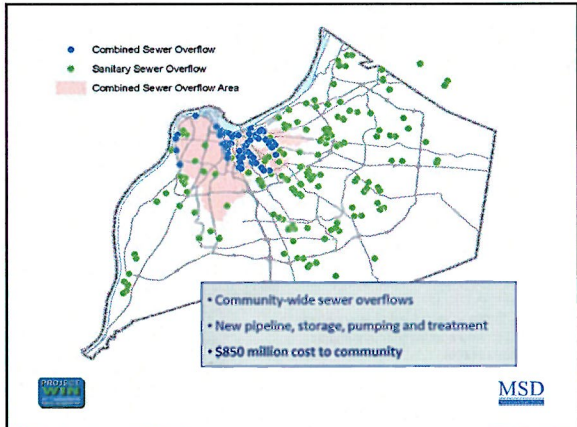
Public Health and Safety Mandate

- 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 quicker than currently planned
- 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

Amended Consent Decree Program and Integrated Overflow Abatement Plan (IOAP)



Options Available to Control Sewer Overflows

- Source Control
 - Sewer rehabilitation
 - Downspout/sump pump disconnects
 - Green infrastructure
- Storage & Conveyance
 - Offline storage basins
 - In-line storage facilities
- Treatment
 - Existing facility expansion
 - CSO treatment facility

Example of in-line storage

Remaining Package Plants (publicly owned)

1. North Hunting Creek
2. South Hunting Creek
3. Ken Carla
4. Shadow Wood
5. Timberlake
6. Chenoweth Hills
7. Berrytown
8. Starview
9. McNeely Lake
10. Silver Heights
11. Bancroft

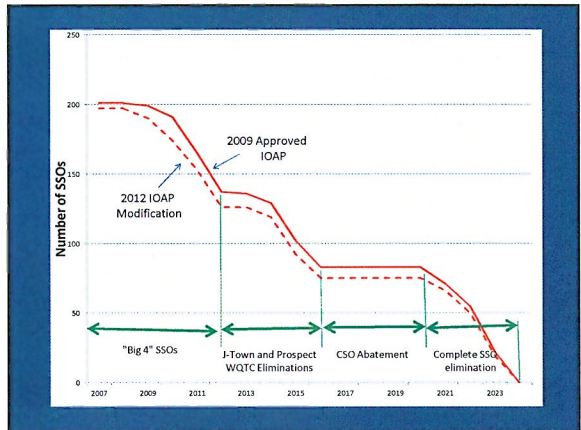
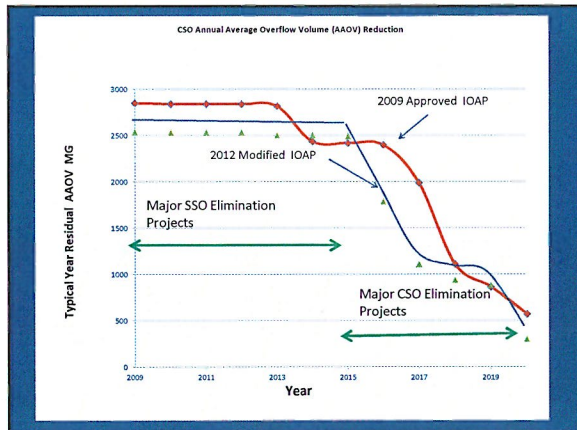
Down from 300+ nearly 30 years ago!

All out of service by end of 2015

Regional Water Quality Treatment Centers

- Morris Forman (CSO)
- Derek R Guthrie
- Cedar Creek
- Hite Creek
- Floyds Fork

Morris Forman Treatment Center





IOAP Implementation Progress




Implementation Progress 2007 thru June 2014

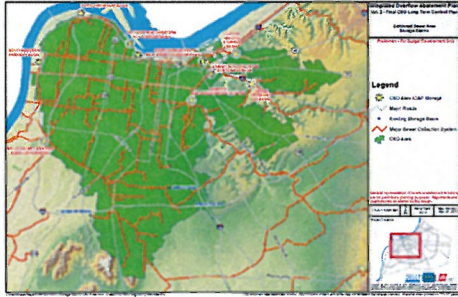
- Gray Infrastructure Projects (78)**
 - 27 completed
 - 29 in design/construction
- Green Infrastructure Projects**
 - 49 completed
 - 48 in design/construction
- Source Control Projects**
 - 17 projects completed
 - 14 projects in design/construction

Overall Program Completion

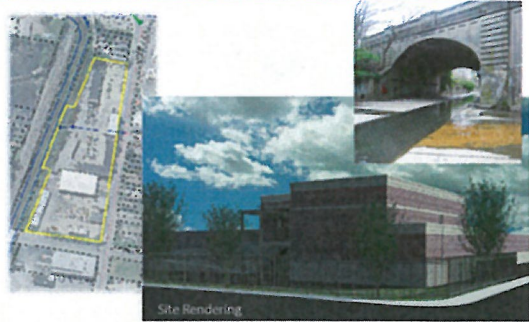
- 52% complete
- 2% under budget, compared to original estimates



Where are the CSO Control Basins?



Logan CSO Storage Basin & Interceptor

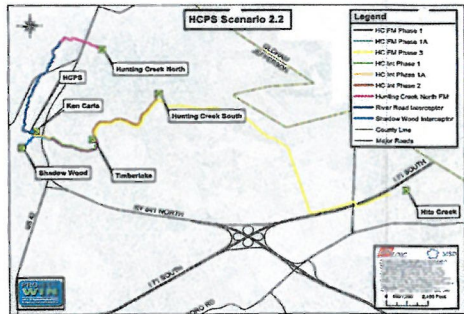


Site Rendering

Logan CSO Storage Basin & Interceptor

<ul style="list-style-type: none"> • Planning • Preliminary Design • Final Design • Advertise Construction • Construction Start • Consent Decree Deadline 	<p>Complete</p> <p>Complete</p> <p>January 2014</p> <p>February 2014</p> <p>April 2014</p> <p>Dec. 31, 2016</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------

(5) Prospect WTP Eliminations



Green Infrastructure IOAP Commitments Prior to 2020



\$47 Million Committed to Green in the IOAP through Incentives, Partnerships, and Capital Projects

- 19 Demonstration Projects were completed by MSD on-schedule in 2011, many with performance monitoring
- Incentive Stipends for Green Infrastructure have been in Place for 4 years with phenomenal success
- Urban Reforestation Commitments of Planting 1000 Trees/Year Until 2024
- Downspout Disconnection is a proven, simple, cost-effective technology to remove rain water from the sewer



Green Infrastructure Project Status

- 104 Projects committed (\$13.6 M)
- Over 11.2 (257 Ac) million sq. ft captured
- 2.7 MG overflow reduced per control event
- 305 MG stormwater captured annually
- Provides safety margin for target level of control and gray downsizing, in some cases






Integration with MS4 and Enhancing Value

- Green Infrastructure practices required for new/re-development under the existing MS4 permit (Capture the first 0.6 Inches)
- Provide Incentives for CSO reduction, gray project size reduction and treatment cost savings only
- Projects must go above and beyond requirements



Flood Mitigation Planning

At-Risk Structure Inventory



	Single Family Residential	Multi-Family Residential	Non-Residential	Total
SFHA	6,654	525	796	7,975
CSSA	6,894	311	1,020	8,225
Total	13,548	836	1,816	16,200

primary structures

Prioritization of Appropriate Mitigation Strategy


16,200 Primary Structures in Floodprone Areas

- Combined Sewer System Flooding
- Ohio River Flooding
- Internal Stream Flooding
- Basement Backup Areas

Countywide Prioritization Tasks

- Compile Grant Funding Options & Critical Qualifications
 - FEMA
 - HUD/CDBG
 - EPA
 - State Revolving Fund, etc.
- Prioritize Mitigation Projects
 - Severity
 - Frequency
 - Cost
- Develop Prioritization Report & Presentation
- Coordinate all Efforts with CRS & Floodplain Manager



2009 – 2012 Flood Grant Applications


Approved & Under FEMA Review

- Maple Street - Approved
- 12802 Seatonville Rd
- Belquin Neighborhood
- Algonquin Meadows
- Wewoka/West Park
- Linwood Avenue



Grant Application Totals

- 341 Structures
- 57.65 Acres of Open Space
- \$26.3 Million Grant Funding
- \$3.42 Million MSD Match

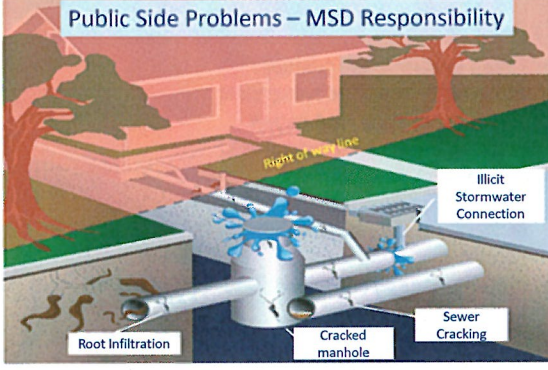
HMGP Program – 87% Federal/State Funded, 13% MSD



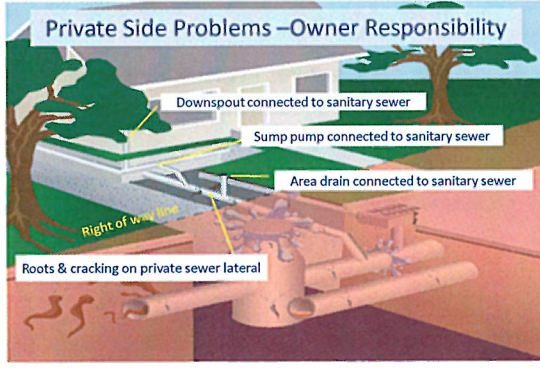
Private Property Programs

Public Side Problems – MSD Responsibility



Private Side Problems – Owner Responsibility



Your Role in Maintaining Public Health and Safety








Your Role in Maintaining Public Health and Safety

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

Sewers are FULL!

MSD



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!

MSD

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!

MSD





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

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





Sewer Rates

