



WET WEATHER  
STAKEHOLDER TEAM



Wet Weather Team  
Stakeholder Group Agenda  
December 16, 2021  
10:30 a.m. – 12:00 p.m.

10:30 – 10:40 Welcome & Intro, Roll Call, Ground Rules, Purpose  
*Clay Kelly, Strand Associates*

10:40 – 11:00 Overview of Recent Developments at MSD  
*Tony Parrott, MSD Executive Director*

11:00 – 11:20 Regulatory Compliance and Consent Decree Update  
*Angela Akridge, MSD Chief Strategy Officer and Brian Bingham, MSD Director of Operations*

11:20 – 11:40 IOAP and Capital Program Update  
*David Johnson, MSD Chief Engineer and John Loechle, MSD Director of Engineering*

11:40 – 12:00 Final Questions, Stakeholder Check-in, Observer Comments, Wrap-up and Adjourn  
*Clay Kelly*

**Meeting Summary**

**Meeting Summary**  
**Wet Weather Team Stakeholder Group Meeting**  
**December 16, 2021**  
**Video Conference Call**

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The Wet Weather Team (WWT) Stakeholders, chartered by the Louisville and Jefferson County Metropolitan Sewer District (MSD), met on December 16, 2021, via video conference. The objectives of the meeting were to:

- Provide an overview of recent developments at MSD

### **Welcome**

Clay Kelly of Strand Associates, Inc.<sup>®</sup> opened the meeting by welcoming everyone and going over the logistics and ground rules that will be used for this meeting, which is the WWT's second "virtual meeting." Clay noted the meeting was not being recorded and reminded the Stakeholders that comments would remain anonymous in the meeting minutes. Clay reminded everyone to speak for themselves, and not necessarily for employers or organizations to which they belong.

Clay noted that this was not a meeting that we needed a lot of feedback or input. MSD hosts these twice per year to keep the WWT up to date so when we do need input there is less ramp-up time.

Clay announced that this was the 50th WWT meeting, and congratulated everyone that has been a part of it for their commitment to our community that has spanned 15 years.

### **Overview of Recent Development at MSD**

Tony Parrott, MSD Executive Director, opened this topic by sharing that MSD has been very busy so he would focus on a few key items and ask for questions/comments before moving from one topic to the next. Tony shared that MSD has four new board members:

1. Rebecca Cox,
2. Gerald Joiner,
3. John Selent, and
4. Carmen Moreno-Rivera

Tony provided an overview of the regulatory and legislative changes that have allowed utilities like MSD to regionalize with their neighbors. Regionalization is happening all over the country as smaller systems struggle to meet increase regulatory requirements. MSD is evaluating opportunities at a watershed-level which often cross political boundaries but makes sense from a service standpoint. MSD wants to be ready if a neighbor reaches out to MSD.

Tony added that regionalization can take many forms. For example, it might be by providing technical assistance or emergency aid. MSD recently delivered portable generators within 48-hours notice to Dawson Springs to allow them to get the water and wastewater systems up and running after the tornado.

Several stakeholders applauded MSD efforts to quickly assist tornado victims. Another stakeholder asked if regionalization included stormwater and/or drinking water. Tony said MSD is focusing on wastewater but could help with stormwater in the future, if asked. Louisville Water Company provides drinking water and is engaged in similar regionalization efforts.

Tony began discussing MSD's efforts to fund infrastructure improvements through alternative methods by providing an overview of the State Revolving Fund (SRF) program which provides below-market rate loans to fund projects. MSD has been successful at securing funding for several projects through this program.

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MSD is using the \$7.9 million it received through the State from the American Recovery Plan Act (ARPA) to offset the costs of the new Paddy's Run Flood Pump Station. MSD hopes to fund the project through a blending of funding sources.

Tony wrapped up this topic by sharing a few other opportunities that were pending future legislation such as earmarks for odor control in the Park DuValle neighborhood and the Maple Street Park Project, as well as USACE improvements to the Ohio River Flood Protection System.

A stakeholder asked if there were funds to address the flooding issues in Park DuValle included in the odor control earmark. Tony responded by clarifying that the Park DuValle area is part of a larger project to address odors and that the earmark will help accelerate improvements. Flooding and drainage improvements are waiting on approvals from USACE headquarters and appropriations from congress to move forward. Wes Syndor, MSD Intergovernmental Relations Director, added that the continuing resolutions Congress has been passing to fund the government have the effect of delaying action. David Johnson, MSD Chief Engineer, shared that MSD has developed long and short-term solutions in Park DuValle. In the short term, MSD has taken on additional responsibilities for operating and maintaining more catch basins and being proactive before storms. The long-term fix is upgrading Paddy's Run Flood Pump Station, which is moving forward.

Another stakeholder asked what projects have been submitted for funding through SRF. Stephanie Laughlin, MSD Infrastructure Planning Program Manager, said they were mostly Consent Decree-related wastewater projects since those projects are given priority. Paddy's Run Flood Pump Station, Floyds Fork Interceptor, large diameter interceptor rehabilitation, and several pump station related projects were among those submitted.

### **Regulatory Compliance and Consent Decree Update**

Angela Akridge, MSD Chief Strategy Officer and Brian Bingham, MSD Director of Operations, began by providing a refresher on the history of MSD's Consent Decree. Angela reminded everyone that it is written around overflow reduction and does not include limits on costs or on how long it can stay in place. MSD's efforts have been tremendously successful with numerous improvements made and substantial reductions in overflows.

In July 2019, MSD approached regulators and asked for more time to complete the Consent Decree due to a series of unfortunate events beyond MSD's control. MSD did not ask for a reduction in level of control, only for more time. The regulators agreed and the Consent Decree was restructured.

Brian provided updates on the status of MSD's Agreed Orders related to the Morris Forman Water Quality Treatment Center (WQTC), Ash Avenue WQTC, Bullitt County Sanitation District, and Odor Control in Jefferson County. Brian concluded the updated by say that Agreed Orders are often viewed as negatives, but they helpful for giving communities time and incentives to address problems.

A stakeholder asked if any of the systems MSD is acquiring combined sewer systems. Brian responded that they were not.

Another stakeholder congratulated MSD's efforts to address odor issues, and shared that they thought MSD was doing more to improve neighborhoods.

### **IOAP and Capital Program Update**

David Johnson, MSD Chief Engineer and John Loechle, MSD Director of Engineering, began their presentation by saying that 89 IOAP projects have been completed and 26 are left. MSD is seeing improvements in overflows even without the larger IOAP project in place (the Waterway Protection Tunnel).

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David and John then provided updates on the Waterway Protection Tunnel, Rowen Pump Station, Downtown CSO Interceptor, Lexington and Payne CSO Interceptor, and Raintree Court and Marian Court Pump Station Eliminations (Phase 1A).

A stakeholder asked about the schedule for when restoration at Irish Hill Park would be complete. John said it is scheduled to begin after March 2022 when the tunnel lining is complete.

Another stakeholder asked how the Rowan Street Pump Station is protected from flooding since it is on the “wet” side of the floodwall. John explained that pump station is elevated to be above the 100-year flood elevation, or more. For example, all of the electrical equipment is located at about the 500-year flood elevation.

**Observer Comments, Wrap-Up, and Adjournment**

Clay asked for any final comments or questions from the stakeholders. Several expressed the hope that our next meeting could be in-person, which was supported enthusiastically.

Clay closed the meeting by thanking everyone for their participation and wished them well.

**Meeting Materials**

- Agenda for the December 16, 2021 WWT Stakeholder Group Meeting.

**Meeting Summary**  
**Wet Weather Team Stakeholder Group Meeting**  
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**Meeting Participants**

*Wet Weather Team Stakeholders (Present)*

Steve Barger, Labor (retired)  
Deborah Bilitski, Waterfront Development Corporation  
Mark French, University of Louisville Speed School of Engineering  
Arnita Gadson, West Jefferson County Community Task Force  
Corinne Greenberg, Carbide Industries  
David James, Louisville Metro Council, District 6  
Kurt Mason, USDA Natural Resources Conservation Service  
Jeff O'Brien, Louisville Metro Government, Director of Louisville Forward  
Rocky Pusateri, Elite Built Homes  
Lisa Santos, Irish Hill Neighborhood Association  
Ward Wilson, Kentucky Waterways Alliance  
Nicole Yates, Representative John Yarmuth's Office

*Wet Weather Team Stakeholders (Not Present)*

Susan Barto, Mayor of Lyndon  
Stuart Benson, Louisville Metro Council, District 20  
Andrew Condia, Senator Mitch McConnell's Office  
Billy Doelker, Key Homes  
Rick Johnstone, Deputy Mayor, Louisville Metro Mayor's Office (retired)  
Jody Meiman, Louisville Metro Government, Director of EMA/MetroSafe  
Tina Ward-Pugh, Louisville Metro Government, Resilience and Community Services, Office for Women  
David Wicks, Get Outdoors Kentucky; Jefferson County Public Schools (retired)  
Mary Ellen Wiederwohl, Louisville Metro Government, Chief of Louisville Forward

*Wet Weather Team MSD Personnel (Present)*

Tony Parrott, MSD Executive Director  
Angela Akridge, MSD Chief Strategy Officer  
Brian Bingham, MSD Chief of Operations  
David Johnson, MSD Chief Engineer  
John Loechle, MSD Engineering Technical Services Director

*Technical Support*

Clay Kelly, Strand Associates  
Paul Maron, Strand Associates

**Meeting Observers**

Sheryl Lauder, MSD  
Stephanie Laughlin, MSD  
Daniel Sullivan, MSD  
Wesley Sydnor, MSD  
Erin Wagoner, MSD  
Tyler Mahoney, University of Louisville





# Regionalization and Alternative Funding Measure

Wet Weather Team  
December 16, 2021



## Enabling Legislation for Regionalization

- Legislation passed in 2014 creating a Regional Wastewater Commission for Salt River
- In 2016, high profile failures of “package” treatment plants led to the passage of Kentucky House Joint Resolution 56, to initiate a study of regionalization opportunities to limit the risk of future failures.
- The study that was performed in 2017, as a result of this Joint Resolution, provided an inventory of small “package” facilities and emergency risk mitigation.
- Legislative jurisdictional boundaries created a limitation on efforts to regionalize.
- For example, Louisville MSD was created by state statute to own assets in Jefferson County, KY (ONLY).



# Enabling Legislation for Regionalization

- During the 2018 Legislative Session in Kentucky, Senate Bill 151 (SB151) was filed to enable utility ownership of sewer assets outside of jurisdictional boundaries through inter-local agreements.
- House Bill 513 (HB513) was filed to require additional insurance, as well as regulatory and financial accountability for small “package” treatment facility operators/builders.
- Late in the session, these two bills were combined and passed under HB513, and signed by the Governor on April 25, 2018.
- In 2019, a task force was formed to evaluate and make recommendations for regional water and wastewater solutions. This report is to be delivered in the future, and the task force has remained working.





## Path Forward

- MSD continues its partnership with VEOLIA in Oldham County
- MSD acquired the Bullitt County Sanitation District on November 30, 2021.
- In Spencer County, MSD began operations of the “Top Flight” system and treatment plant.
- Where is growth expected to occur – how can MSD be prepared to support those needs with other regional utilities?
- How do we respond to the flourishing distillery/bourbon industry?
- Where are other economic growth needs as we recover from COVID?

# Regionalization

*Regionalizing water and wastewater utilities and building synergies makes sense...*



Cost Savings

Revenue Generation

Community and Economic Benefits

Shared Services

Management of Complete Water Life Cycle

Opportunity to Pursue Innovation

***UTILITY OF THE FUTURE***



# Alternative Infrastructure Funding Update



## Leveraging Federal Funding Opportunities to Expand Infrastructure Investments

- State Revolving Fund (SRF) – Low interest loans administered by Kentucky Infrastructure Authority (KIA)
- American Recovery Plan Act (ARPA) – Covid relief and stimulus grants to cities and counties
- Building Resilient Infrastructure and Communities (BRIC) – FEMA grant for infrastructure that builds social, environmental, and economic resilience for vulnerable communities
- Future funding legislation update
  - Congressional budget appropriations (earmarks)
  - Infrastructure Bill



## State Revolving Fund Loans

### SRF Active Loans

Approximately **\$45.5 million** in active clean water loans

~**1%** non-standard rate

**Five** projects across Jefferson and Oldham Counties

SRF

### FY23 SRF Call for Projects

Pre-applications Underway

Seven Clean Water projects totaling **\$265 million**

~**1%** non-standard rate

SRF

# American Recovery Plan Act

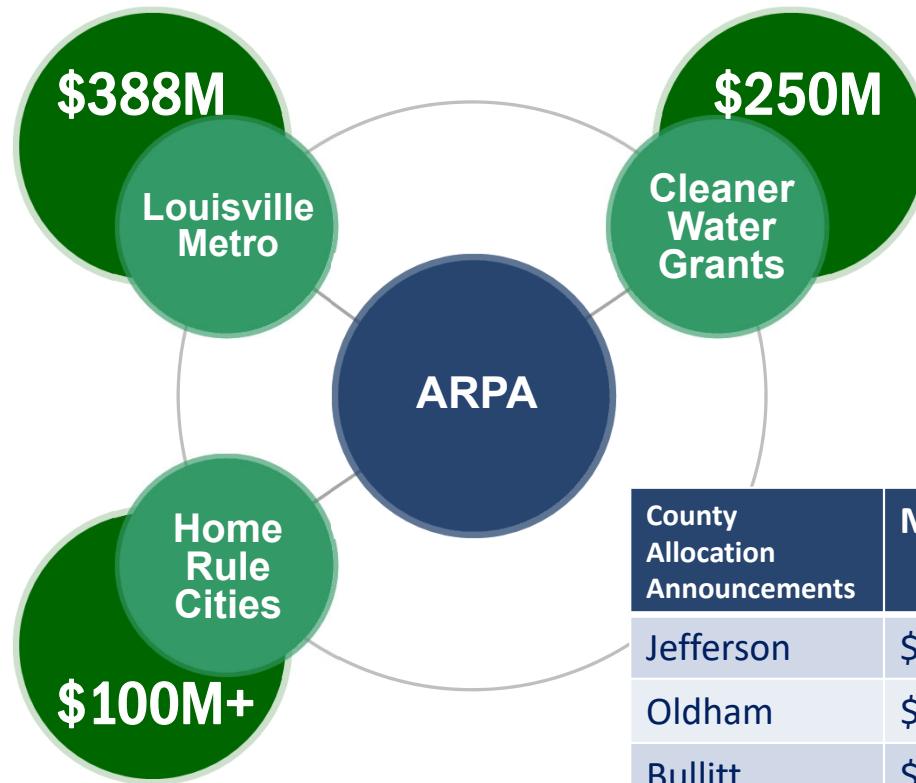
## Build Back Better Together Plus

The Louisville Accelerator Team will be releasing Requests for Applications in deciding priorities for spending the \$388 million allocated to Louisville.

Utility **Rate Assistance** allocations  
 Metro Council member advocacy for **West Louisville Community Odor Improvements** and an application is under development **~\$6 million**

## Home Rule Cities

Working with various cities with ARPA funds in Jefferson County to identify clean water projects that will provide **drainage, asset management, and overflow abatement benefits** to residents



## Cleaner Water Grants (via Senate Bill 36)

- \$150 million **allocated to counties** based on population and divided among utilities
- \$50 million for **Consent Decree and unserved rural water** across Kentucky
- \$49.9 million **Supplemental share** for excess project costs

County Allocation Announcements	MSD	LW	Total
Jefferson	\$7M	\$7M	\$14 million
Oldham	\$0.59M	\$0.76M	\$1.35 million
Bullitt	\$0.31M	\$0.7M	\$1.01 million
<b>Total</b>	<b>\$7.9M</b>	<b>\$8.46M</b>	<b>\$16.36 million</b>

# Celebrating Infrastructure Investments

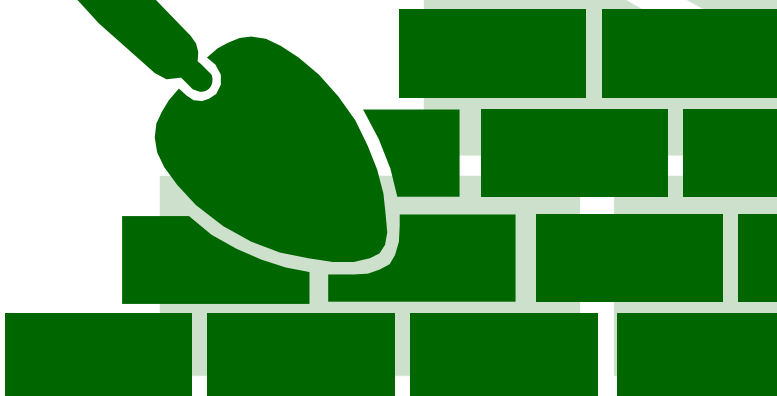
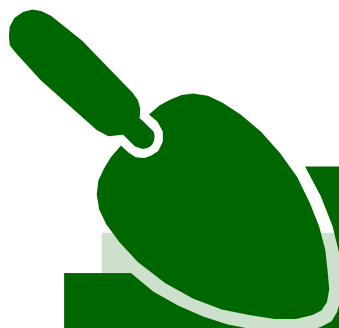
## October Award Announcements



# Building Resilient Infrastructure and Communities (BRIC)



Paddy's Run application under Development



2021 program is funded at ***\$1 billion.***

Each project is eligible for up to ***\$50 million.***

Grant share is ***70% federal, 30% local.***

Criteria promotes consideration of future ***climate change*** conditions and benefits to ***vulnerable communities***

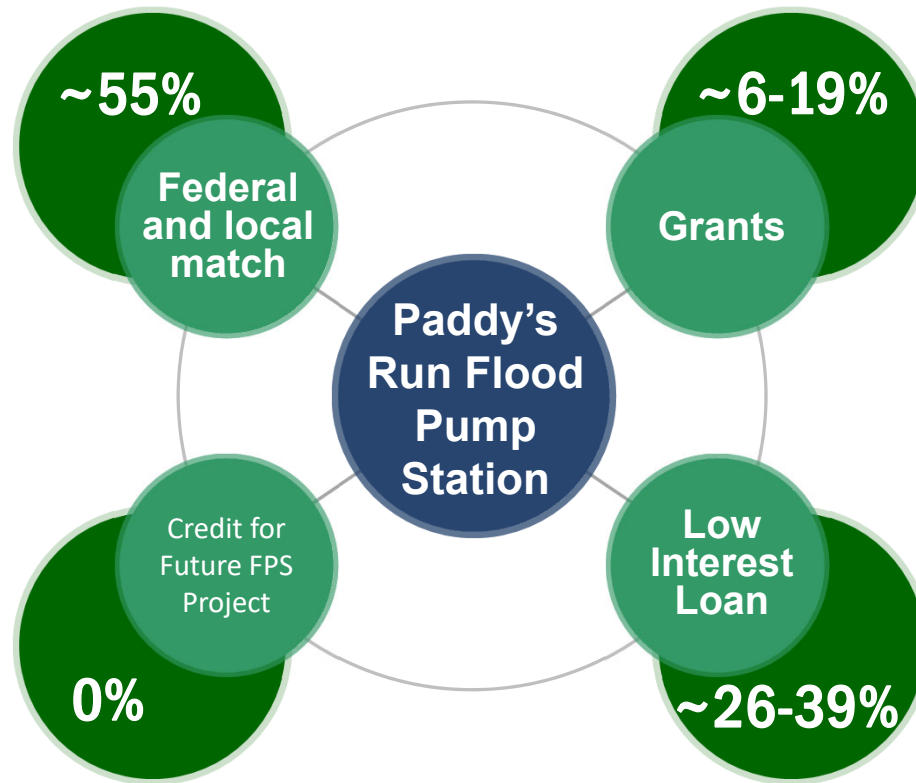
# Innovative Approach of Blending Funding Sources for Paddy's Run

## BRIC

Up to \$50 million grant  
75% federal; 25% local  
Fiscal recovery funds may not be used  
for non-federal match  
Careful coordination will be needed on  
accounting and reporting

## USACE

Reliability improvements identified in  
Flood Protection System Feasibility Study.  
Portion of project eligible for credit to  
future potential FPS project  
Federal requirements, but no funding  
towards project



## Cleaner Water Grants (ARPA / SB36)

County allocation = \$7 million  
Eligible for Consent Decree share  
Supplemental share potential  
May not be used for BRIC non-federal  
match  
Careful coordination will be needed on  
accounting and reporting

## State Revolving Fund

If SRF is considered state funds,  
loan could also finance local  
match for BRIC (25%) – see  
scenarios below.

## Future Funding Legislation Update

- Congressional budget appropriations (earmarks!) – House Appropriations Community Project Funding
  - Park DuValle Community Odor Control Improvements – **\$480,000**
  - Maple Street Park Project – **\$500,000** (via a partnership with the Parks Alliance of Louisville)
- Infrastructure Bill
  - **~\$112 million** for KY SRF program (49% principal forgiveness)
  - Funding requested for Ohio River Flood Protection System Repairs
    - **\$188 million** in recommended Flood Protection System reliability improvements
    - 65% federal vs 35% local



**QUESTIONS?**

# Wet Weather Team Stakeholder Group

## Regulatory Compliance Update

December 2021





# Active Enforcement Actions

- 2021 Second Amended Consent Decree (2ACD)
- Morris Forman Agreed Order
- Oldham County Agreed Order
- Bullitt County Agreed Order
- Jefferson County Odor Control Agreed Order

# Second Amended Consent Decree (2ACD)

## Jefferson County

November 2021



# What Has MSD Accomplished So Far with the Consent Decree?



Comprehensive Performance Evaluations, Composite Correction Plans, and Sewer Overflow Response Protocol



Supplemental Environmental Projects Early Action Plan complete



Interim SSDP, LTCP, and SCAP Programs complete

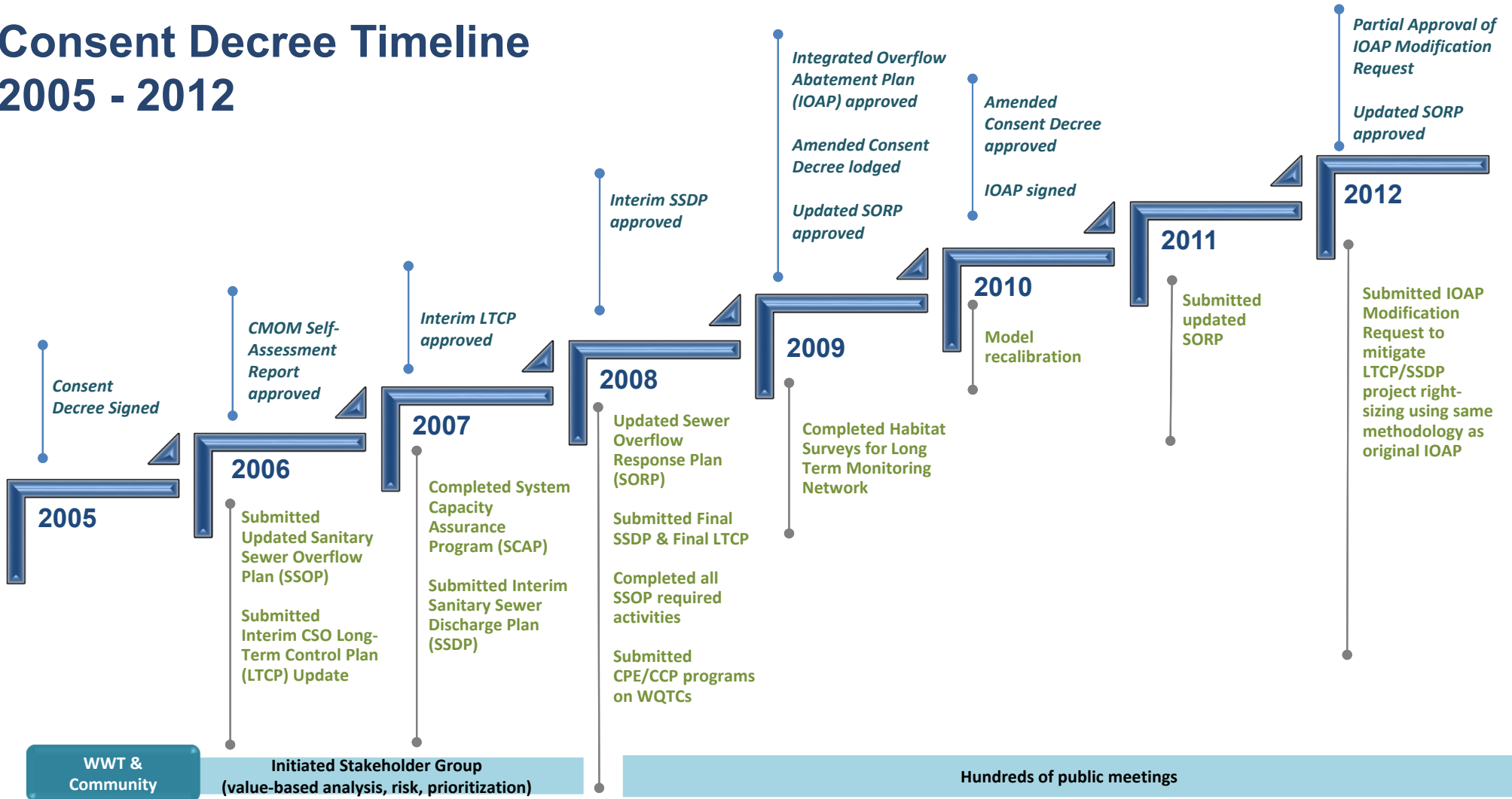


24 LTCP projects complete and reduced CSOs by 5 billion gallons per year (1 remaining under construction)



42 SSDP projects complete and reduced 82% of modeled SSO volume for 2-year storm (16 remaining)

# Consent Decree Timeline 2005 - 2012



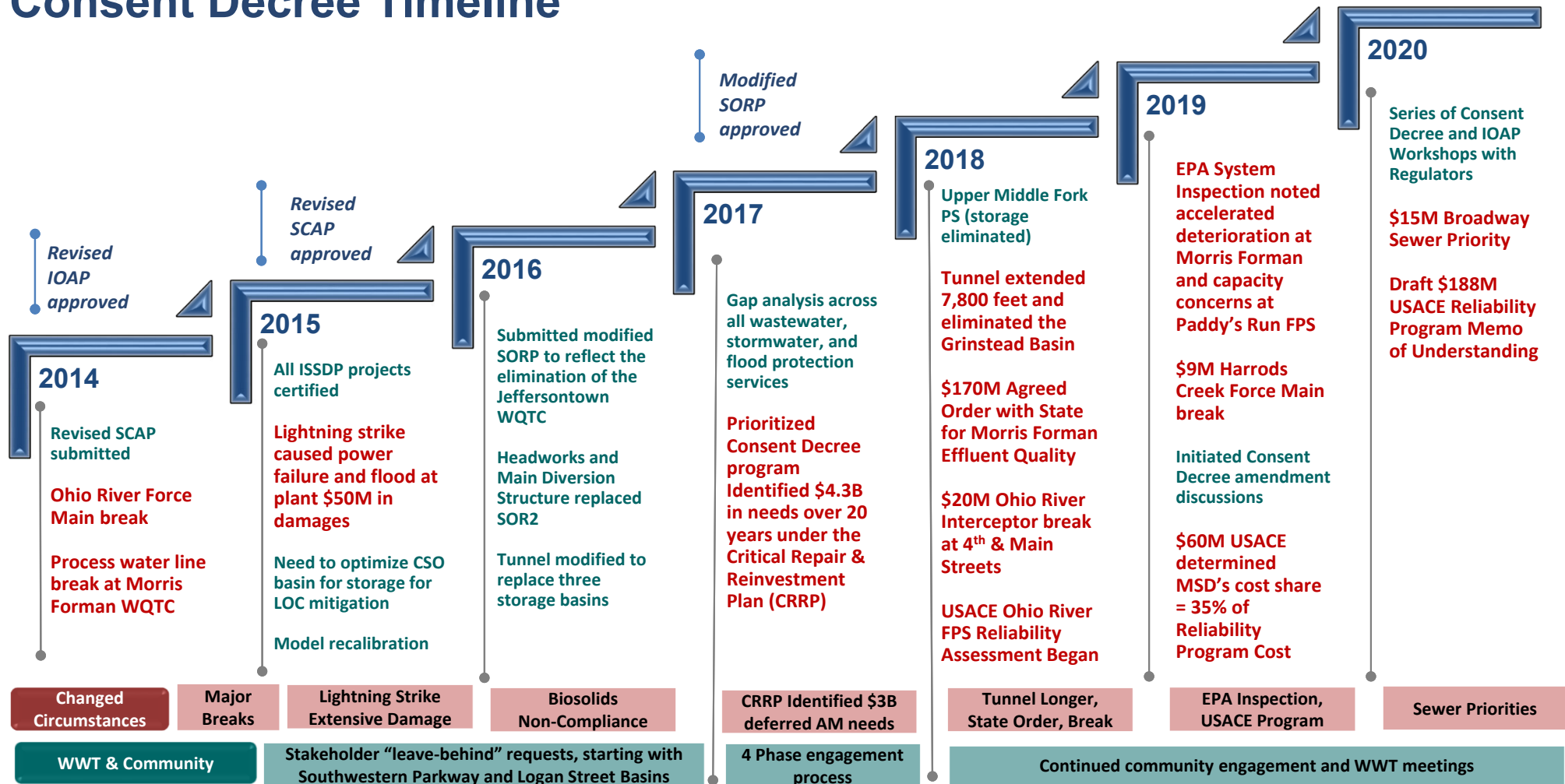
## **Why did MSD go back to renegotiate with the Regulators?**

As we were implementing the  
Consent Decree

....

a series of unanticipated  
circumstances occurred beyond  
MSD's control and created  
significant infrastructure  
impairments.

# Consent Decree Timeline



# Changed Circumstances: Infrastructure

## Risk: Crumbling Sewers



**Trolley gets stuck in sinkhole downtown**

Friday, November 7th 2014, 9:58 pm EST  
LOUISVILLE, KY (WAVE) – Several passengers were on board a trolley as it drove over a sewer grate that gave way, creating a small sink hole in downtown Louisville, according to MetroSafe.



Ohio River  
Interceptor (West  
Main Street):  
\$18million  
emergency repair



Ohio River  
Interceptor (West  
Main Street):  
Concrete  
deterioration and  
exposed rebar  
due to corrosion  
from sewer gases



Broadway Sewer cave-in  
(originally built in 1867)



# Changed Circumstances: Infrastructure

## Risk: Ohio River Flood Protection



Pond Creek  
Flood Pump  
Station



Beargrass  
Flood  
Pump  
Station

- 16 Flood Pump Stations (9 more than 65 years old)
- 29 miles of Floodwall and Levee
- Constructed from 1940's to 1980's



2nd and  
River Road  
Flood Gate



Floodwall Trail – SW Louisville

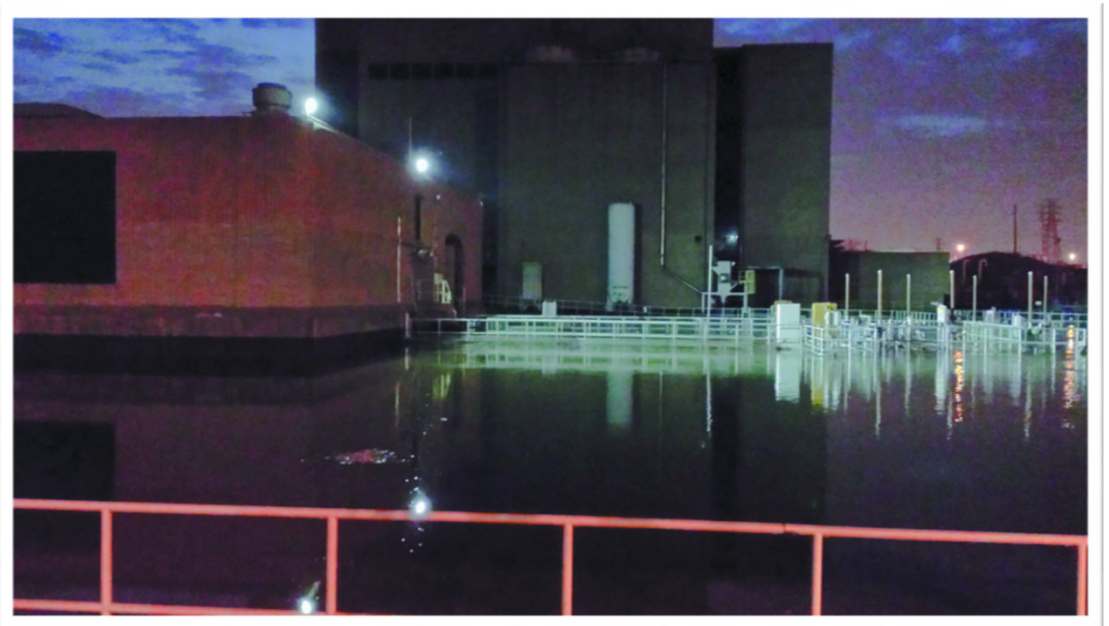


# Changed Circumstances: Infrastructure

## Risk: Morris Forman CSO Treatment Plant Reliability



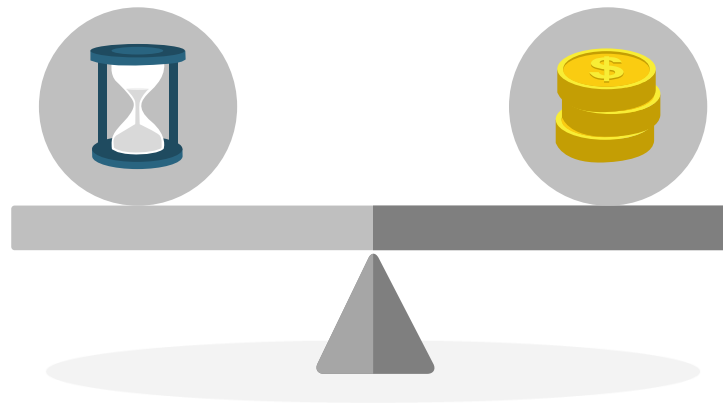
Morris Forman CSO Treatment Plant during Normal Operation



View of Morris Forman CSO Treatment Plant during 2015 Emergency

# Infrastructure vs Financial Challenges

*Changed  
infrastructure  
circumstances*



*Finances  
limited over the  
next 5 years*

*However, Consent Decree Compliance has  
been the highest financial and  
organizational priority since 2005*

## MSD's "Ask" of the Regulators



1

Delay final completion for the Waterway Protection Tunnel due to construction challenges (December 2022)

2

Stagger final completion for the 16 remaining SSDP projects through 2035 to allow MSD to address other infrastructure priorities

3

Expedite higher priority capital needs offering greater environmental benefit including Morris Forman Biosolids & Paddy's Run Capacity

## 2ACD Deliverables Timeline

### 2021 – 2025

- \$25M per year Asset Management Improvements, 5-year total \$125M
- \$115M for completion of Paddy's Run Flood Pump Station
- \$15M for completion of 8 remaining SSDP projects
- \$55M for completion Waterway Protection Tunnel by December 2022
- \$66M for completion USACE Ohio River Flood Protection System Reliability Improvements Program
- \$70M for completion of critical sewer rehabilitation projects
- Draft Strategic Asset Management Plan (SAMP)

### **2ACD Expenditures in FY21**

SSO Projects: \$107,524

CSO Projects: \$37,639,376

Additional Early  
Action Projects: \$35,558,516

## 2ACD Deliverables Timeline

### 2026 – 2030

- \$25M per year Asset Management Improvements, 5-year total \$125M
- \$104M for completion of 6 remaining SSDP projects
- \$198M for completion of Morris Forman WQTC Biosolids Project
- Completion of State Agreed Order Projects for Morris Forman WQTC

### 2031 – 2035

- \$25M per year Asset Management Improvements, 5-year total \$125M
- \$31M for completion of 2 remaining SSDP projects

# Morris Forman Agreed Order

## Jefferson County

December 2021



# Morris Forman WQTC Corrective Action Plan (CAP) Background



- April 2014, the Morris Forman WQTC was struck by lightning.
- Extended impacts throughout the entire facility.
- Impaired assets led to challenges with consistently meeting permit conditions.
- Prompted the State to request a comprehensive CAP.

## CAP Progress To-Date

- Completed 22 of 26 projects (\$87M)
- 4 project under construction (\$102M)
- Last project currently scheduled for completion March 2024



LOUISVILLE GREEN MAJOR MAINTENANCE (DRYER REPL)	\$ 56,767,000	12/31/2022
MFWQTC SODIUM HYPOCHLORITE RELOCATION	\$ 3,000,000	1/31/2023
MFWQTC FEPS MCC & LOADCENTER REPLACEMENT	\$ 800,000	6/30/2024
MFWQTC SEDIMENTATION BASIN REHAB	\$ 41,532,200	6/30/2026

Final completion of last project no later than June 30, 2026



# Ash Avenue WQTC Agreed Order

## Oldham County

December 2021



# Oldham County

## Wastewater Collection and Treatment Services

- Assumed ownership and oversight responsibilities July 1, 2020
- Assumed requirement to complete OCEA System-wide Corrective Action Plan (CAP)
- Remaining CAP element: Ash Avenue WQTC Disconnection and Decommissioning by August 31, 2022
- Project cost: \$6.4M



Oldham County Ash Avenue WQTC

**Agreed Order**

**Bullitt County**

**December 2021**



# Initial Corrective Action Plan

## Address Ownership Years 0-3

**Submit elements within 6 months of assuming ownership and operation:**

1. Sewer Overflow Response Protocol
2. Capacity Assurance Plan
3. Submit Facilities Plan for former BCSD Service Area
4. Date MSD will direct flow from the Hunters Hollow Pump Station to the Mud Lane Interceptor
5. Schedule to install SCADA on former BCSD Pump Stations and WWTPs
6. Schedule and conceptual plan for the Hillview Two WWTP elimination
7. Schedule for interim plan/improvements or elimination of Pioneer Village, Hillview Three, Willabrook, and Prologis WWTPs
8. Plan for improvements/elimination of the Big Valley WWTP
9. Schedule for pump station improvements

## **Intermediate Corrective Action Plan Address Ownership Years 4-8**

### **Submit elements by January 30, 2024:**

1. Schedule and conceptual plan for the Hillview One WWTP elimination.
2. Schedule and conceptual plan to reduce flow from Bullitt Hills WWTP.
3. Schedule for gravity system improvements.
4. Long-term plan which identifies projects and corresponding schedules for mitigation of SSOs.
5. Long-term plan to address the feasibility of a regional WQTC.

## Long-term Action Plan

### Submit elements by January 30, 2029:

1. Schedule to replace or eliminate package treatment plants in the Associated Collection Systems.
2. Schedule to develop and implement a Regionalization Plan.
3. Schedule identifying and mitigating remaining SSOs.

# Odor Control Agreed Order

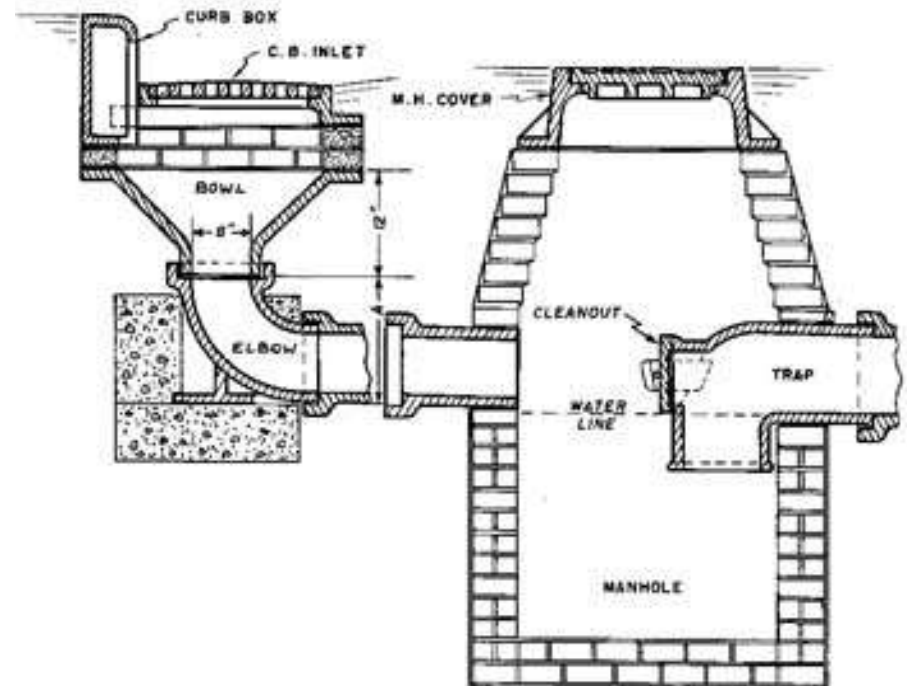
## Jefferson County

December 2021



## Combined Sewer System

- Approximately 680 miles of the largest oldest pipes in the sewer system
- More than 24,000 catch basins
- Dry weather results in increased travel times and increased wastewater strength along with traps in catch basins drying out





# Agreed Board Order No 21-01

## Notice Of Violation ENF-19-00025

### MSD shall develop and implement the following:

1. Develop/implement Odor Control Master Plan (OCMP) for the Morris Forman Water Quality Treatment Plant.
2. OCMP Phase I – Focus on Morris Forman service area and collection system between 9<sup>th</sup> Street and Ohio River, provide to APCD 9 Phase I Technical Memoranda throughout 2021 and post to website
  - a) An Odor Control Master Plan for the Collection System in the area between 9<sup>th</sup> Street and the Ohio River [...].
  - b) A collection system maintenance/service schedule within the area between 9<sup>th</sup> Street and the Ohio River [...].
3. OCMP Phase I – provide Final Report summarizing work completed and remaining by December 21, 2021
4. Develop/implement Odor Event Outreach Communication Plan.
5. Advertise bid for Communication Firm assistance to implement Communication Plan (60 days after entry)
6. Submit update to APCD on Communication Plan implementation (9 months after entry)
7. Document completed maintenance to catch basins within collection system by December 21, 2022
8. Repair, rebuild and/or modify Park DuValle Neighborhood defective catch basins (109); Submit annual status update until work completed.
9. Provide a publicly available Odor Report and Resolution Log.



## Phase 1 Deliverables

Technical Memo	Description	Due In
1	Morris Forman WQTC Background Document Review	Q1 2021
2	Collection System Background Document Review	Q1 2021
3	Pump Station Background Document Review	Q1 2021
4	Planned Process Modification Review	Q4 2020
5	Current System Odor Impact Evaluation	Q1 2021
6	Sampling Program Results	Q3 2021
7	Current Odor Technologies Performance Evaluation	Q2 2021
8	New Odor Control Technology Recommendation	Q3 2021
9	Odor Control Conceptual Design	Q3 2021
	Master Plan Phase 1 Final Report	Q4 2021

Questions?



# IOAP Update

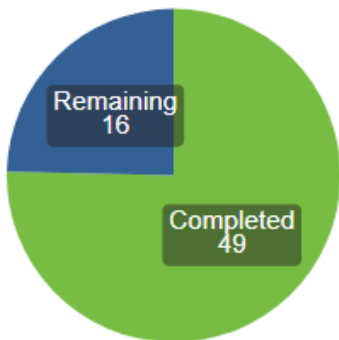
December 16, 2021



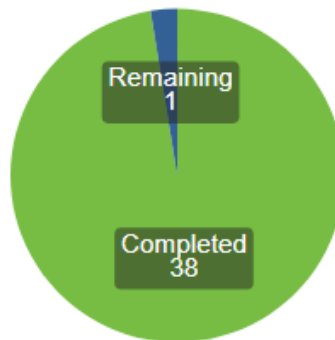
# Regulatory Compliance



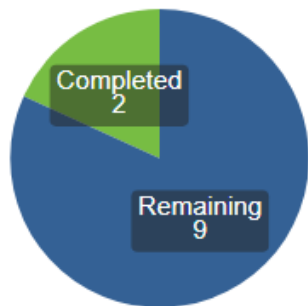
## SSO Projects



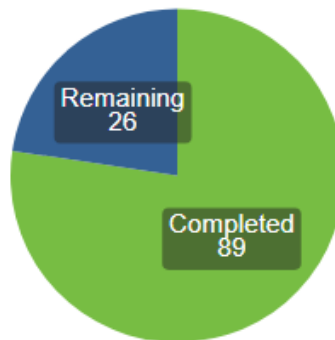
## CSO Projects



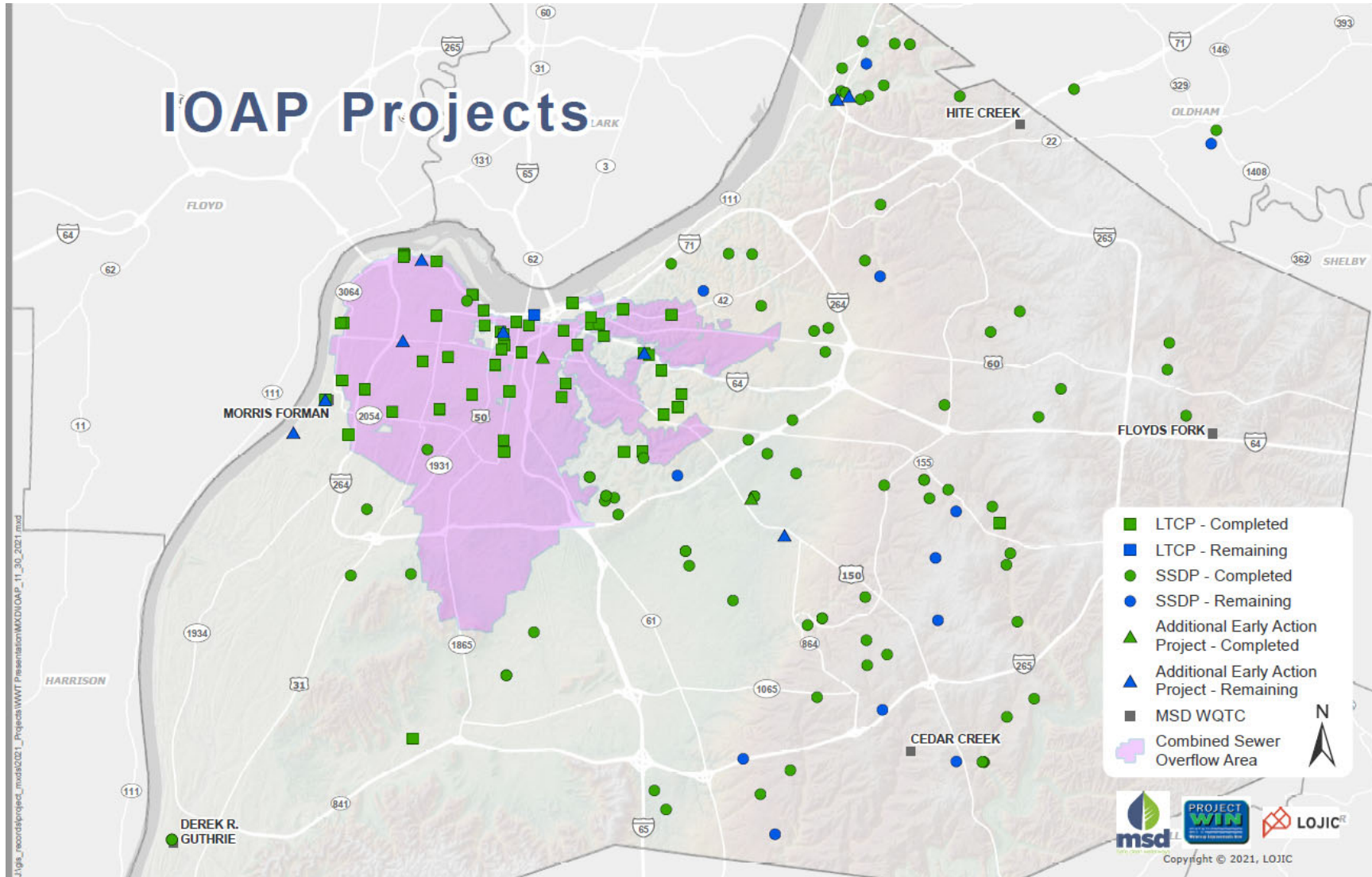
## Early Action Plan Projects



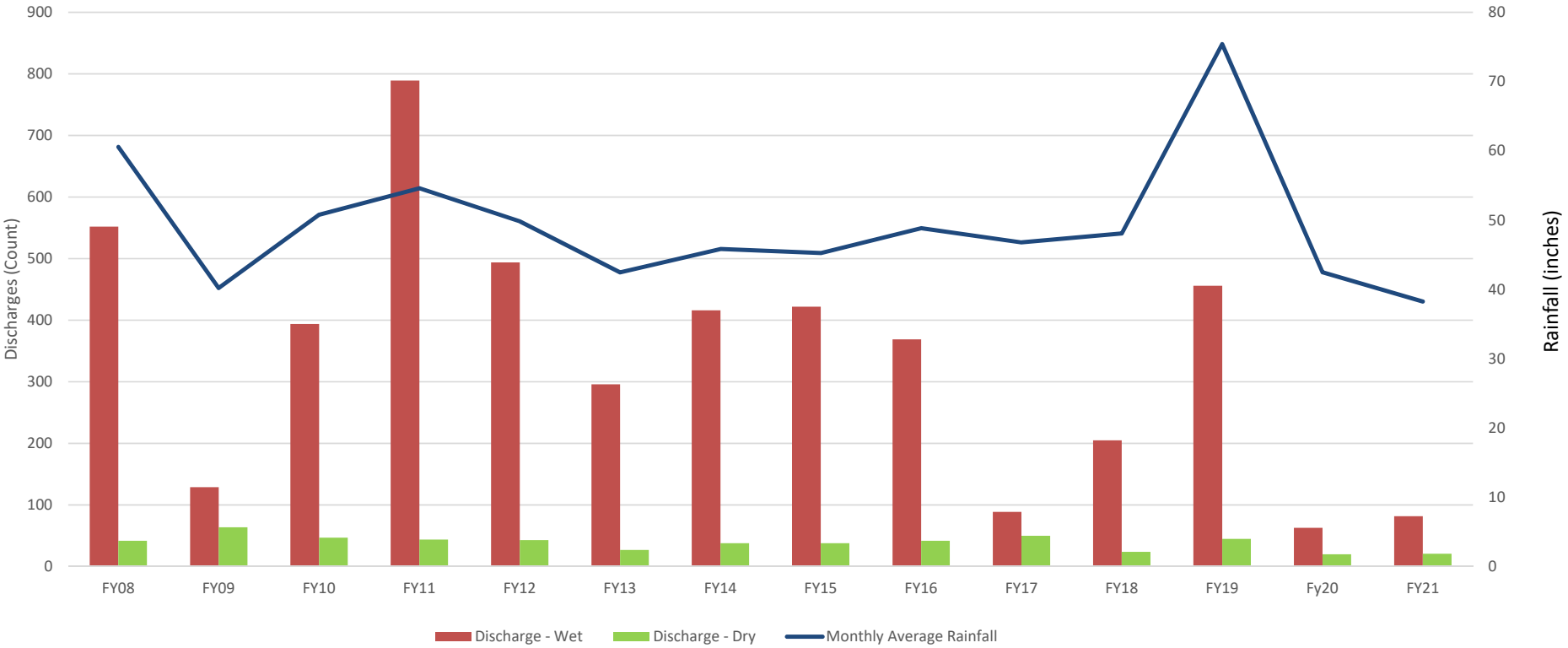
## All IOAP Projects



# IOAP Projects

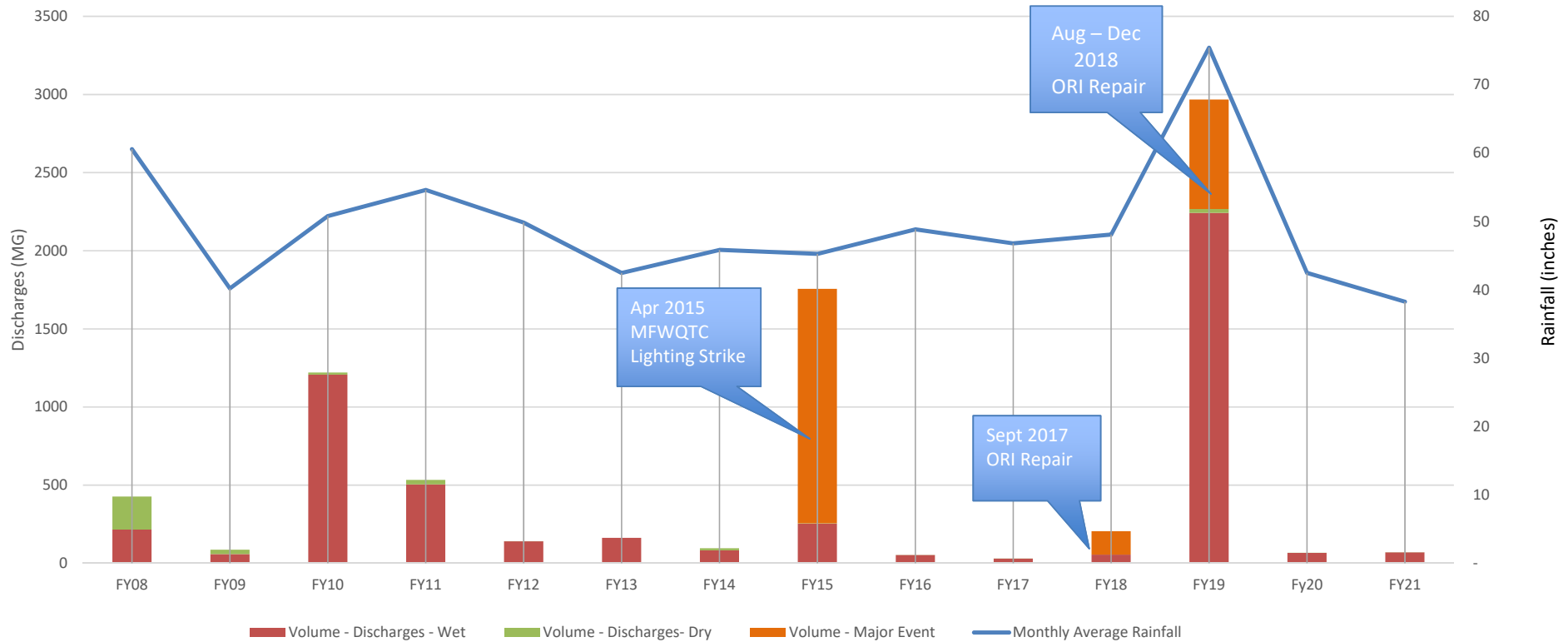


# Unauthorized Discharges - Occurrences





# Unauthorized Discharges - Volume



# Project Updates



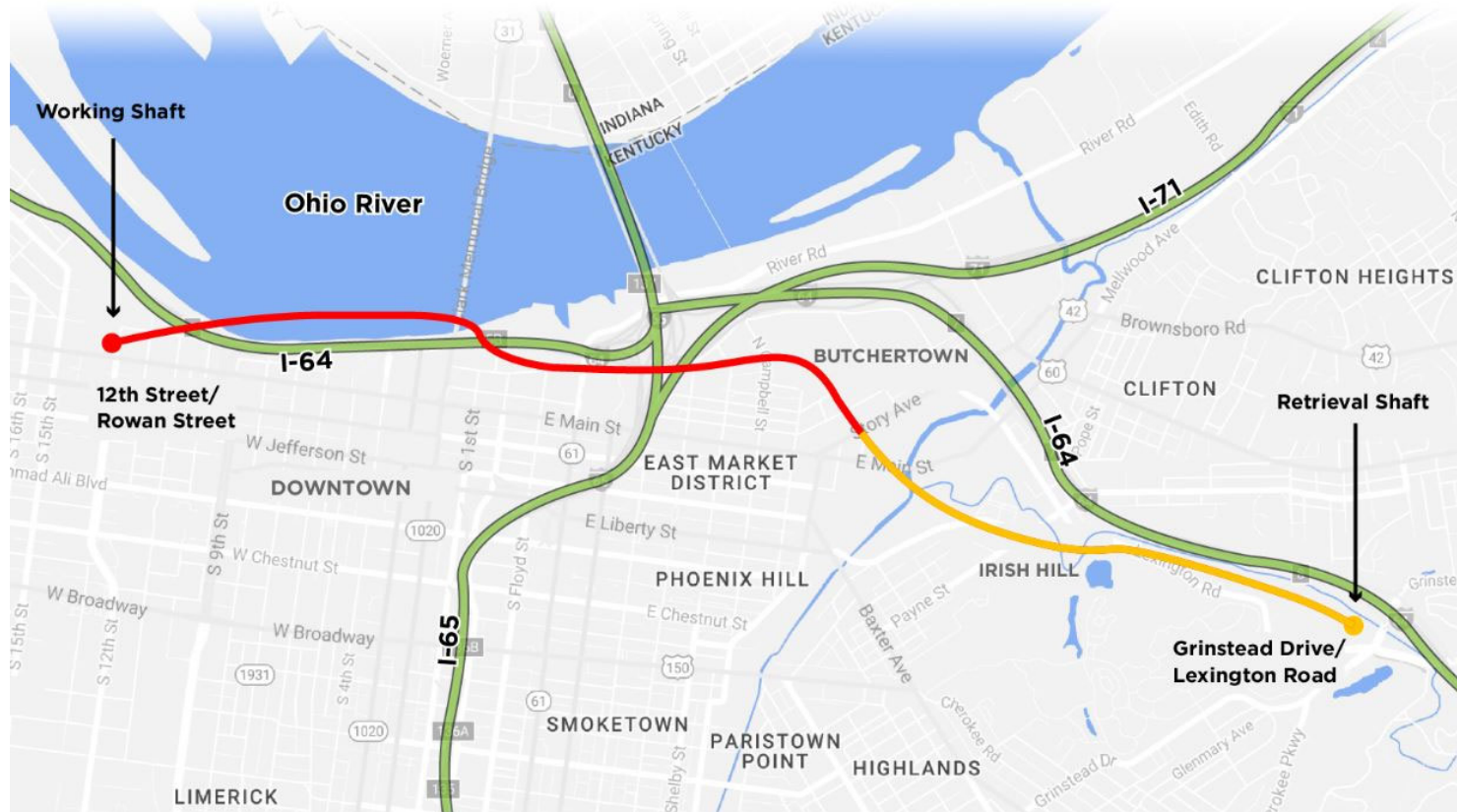
# Waterway Protection Tunnel



## Project Summary

- Storage Volume
  - Required: 44 MG
  - Provided: 55 MG
- Tunnel
  - 20-ft finished diameter
  - 20,205-LFT (4 miles) (plus 1,117 LFT for bifurcation)
  - 200-ft deep
- As of November 28, 2021:
  - Tunnel excavation was completed in September 2020
  - Approximately 12,976 LF of 20,205 LF (about 64%) of tunnel has been lined
  - Concrete lining occurring near Home of the Innocent on East Main Street
  - There is approximately 7,229 linear feet of excavation remaining
  - Consent Decree date is December 31, 2022

	Initial	Current (Change Order No 15)
Contract Amount	\$106,670,000.00	\$153,455,489.92 (+43.86%)
Notice to Proceed	November 8, 2017	-
Substantial Completion	July 28, 2020	March 25, 2021
Final Completion	October 26, 2020	July 23, 2021



## Tunnel – Concrete Lining Forms



## Tunnel – Concrete Lining Forms

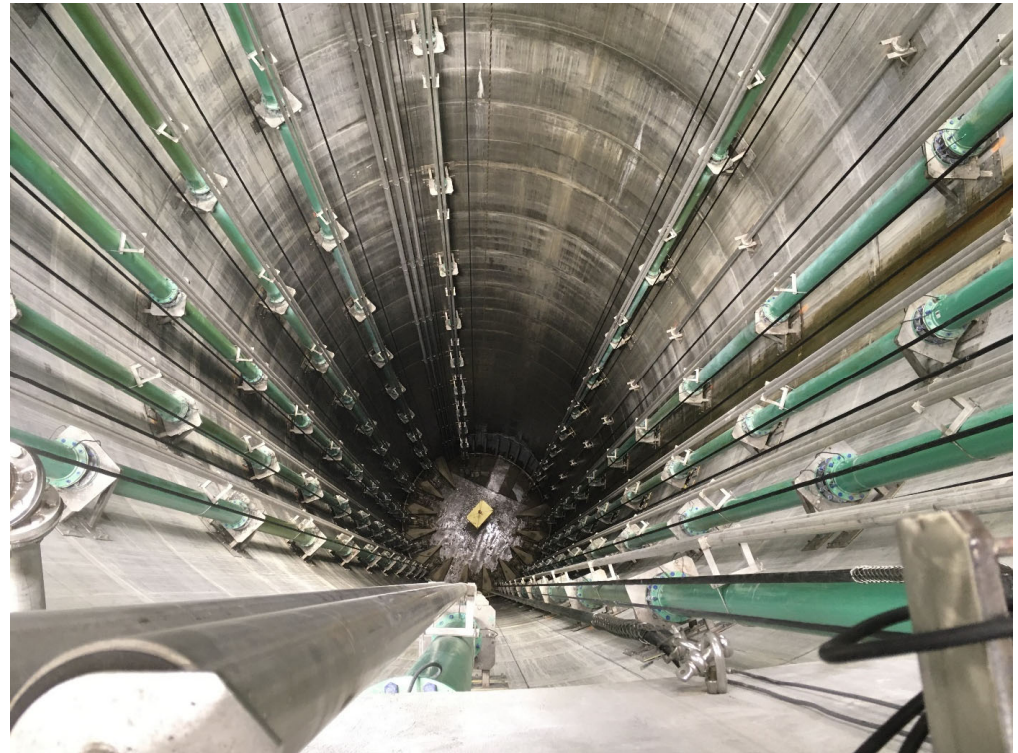


## Tunnel – Excavated vs Concrete Lined





## Tunnel Wye – Excavated vs Concrete Lined



# Drop Shaft Adit – Concrete Lining



# Rowan Pump Station & Downtown CSO Interceptor



# Project Summary

- Consent Decree Deadline: December 31, 2022
- Pump Station Building
  - 126-foot x 72-foot
  - Pump Shaft
  - Loading/Maintenance Area
  - Elevated Electrical/Control Room
- Pump Shaft – 40 MGD Capacity
  - 10 submersible pumps (3,500 gpm each)
  - 2 grit pumps (1,000 gpm each)
  - 60-inch gravity sewer to Ohio River Interceptor (ORI)

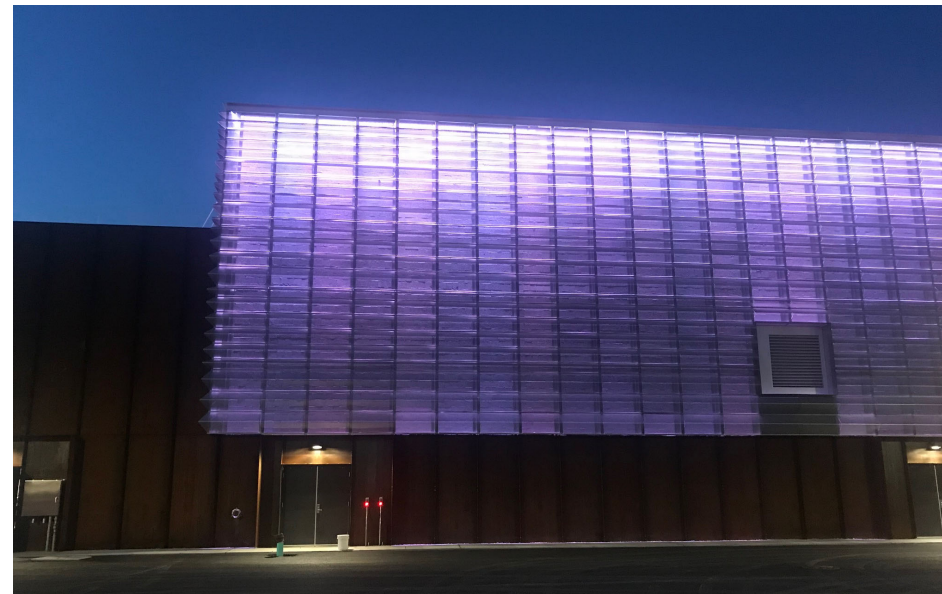
	Initial	Current (Thru CO No. 10)
Contract Amount	\$25,899,973.00	\$25,775,779.10 (-0.48%)
Notice to Proceed	July 9, 2018	-
Substantially Operational	July 8, 2020	August 8, 2020
Substantial Completion	August 17, 2020	November 11, 2020
Final Completion	September 16, 2020	June 30, 2022

## Project Summary (cont.)

- Downtown CSO Interceptor Features
  - Installation of 2,250 linear feet of sewer pipe, ranges from 12-inch to 60-inch
  - Construction of eight (8) control structures to divert flow from the existing CSO structures to the new ORT drop shafts

	Initial	Current (Thru CO No. 10)
Contract Amount	\$25,899,973.00	\$25,775,779.10 (-0.48%)
Notice to Proceed	July 9, 2018	-
Substantially Operational	July 8, 2020	August 8, 2020
Substantial Completion	August 17, 2020	November 11, 2020
Final Completion	September 16, 2020	June 30, 2022

# Rowan Pump Station Project Photos



## Rowan Pump Station Project Photos



# Rowan Pump Station Project Photos





# Rowan Pump Station Project Photos



# Lexington & Payne CSO Interceptor



## Project Summary

	Initial	Current (Change Order No 10)
Contract Amount	\$23,135,011.00	\$24,563,236.39 (6.17%)
Notice to Proceed	November 27, 2017	-
Substantial Completion	November 3, 2019	December 17, 2020
Final Completion	February 1, 2020	December 31, 2021

- Sewer line to capture overflows from nine (9) existing CSOs and convey that flow to the tunnel
- Interceptor will be below the concrete channel of South Fork Beargrass Creek
- Approximately 5,000 linear feet in length
  - From E Broadway to E Main Street
  - Pipe size ranging from 36-inch to 102-inch diameter
- Consent Decree Deadline: December 31, 2022

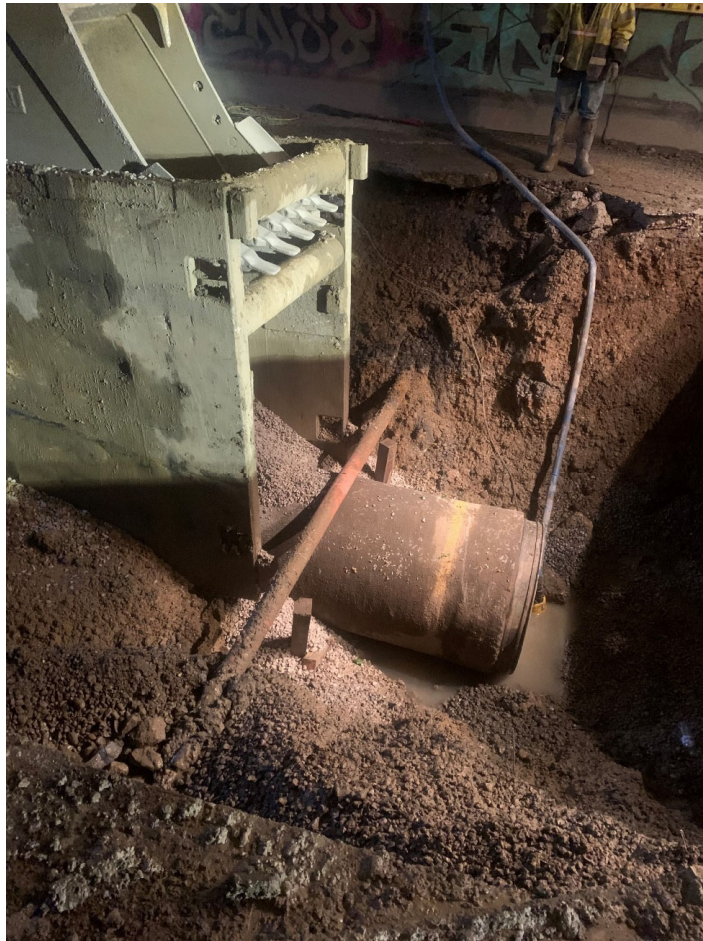
## Project Photo



## Project Photo



## Project Photo



# Raintree Court and Marian Court Pump Station Eliminations – Phase IA



## Project Summary

	Initial	Final (Change Order No 1)
Contract Amount	\$133,550.00	\$173,587.40 (29.98%)
Notice to Proceed	February 8, 2021	-
Substantial Completion	July 8, 2021	July 29, 2021
Final Completion	August 7, 2021	August 28, 2021

- Project located in Jeffersontown south of Taylorsville Road and east of Six Mile Lane
- Raintree Court Pump Station eliminated in Phase I; Marian Court Pump Station elimination part of Phase IA
- Gravity solution from Marian Court to Magnolia Place Condominiums
- Approximately 320 linear feet in length including 4 new manholes
- Project is complete and currently in warranty period
- Consent Decree Deadline: December 31, 2022



# Marian Court Pump Station Elimination Project Location



## Marian Court Pump Station



## Downstream Sanitary Sewer and Storm Pipe Installation



## Project Overall View



## Upstream Manhole, Backfill, and Restoration



# Questions?