



# MSD of Greater Cincinnati State of the Utility

*5Cities+ Conference*

September 27, 2023

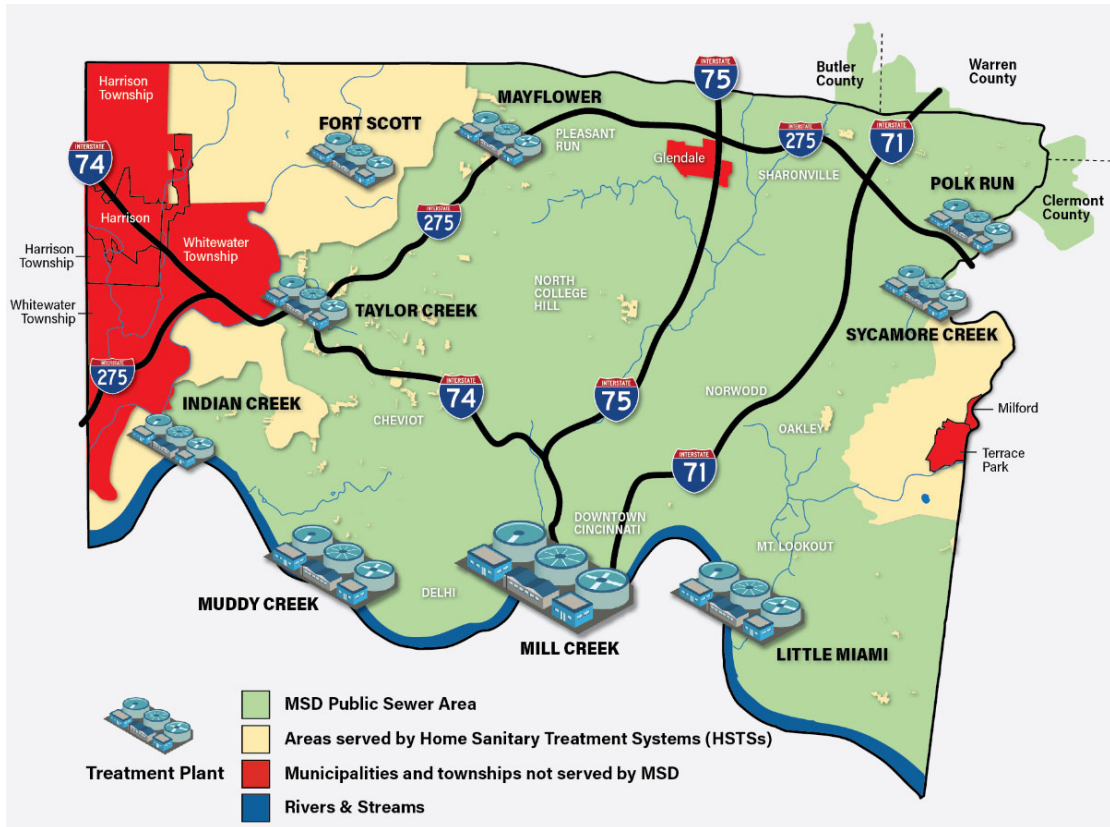


**We think about wastewater, so you don't have to. We're here 24/7, keeping our waterways clean and addressing your needs as a customer.**



- MSD at a Glance
- Telling Our Story
- Operational Highlights
- Engineering Highlights
- 10-Year Horizon

# MSD Greater Cincinnati at a Glance



## \$13B Infrastructure Value:

- ✓ 3,000 miles of conveyance
- ✓ 9 WWTPs
- ✓ 100 Pump Stations
- ✓ 9 Wet Weather Facilities
- ✓ 223,000 customers
- ✓ 290 square mile service area

## \$1.5B in Active Capital Projects

## \$231M Operating Budget



# MSD Provides a Vital Service

At MSD, caring for the environment isn't just our job. It's our priority. Rivers and streams depend on us to help keep them clean.



- MSD collects, conveys and treats 65 billion gallons of wastewater annually.
- Average single-family household cost for sewer is **\$630/year**
  - Average US household pays \$900/year for internet and \$600/year for cell service



**What's more important to human quality of life and environment?**



# Overhauled MSDGC.ORG

## **PAY SEWER/WATER BILL**

Online Bill Pay if you are an MSD and GCWW

## **GET A PERMIT**

Need sewer records, sewer tap permit, or

## **REPORT A SEWER BACKUP**

Experiencing a sewer backup? Report it now

# MSDGC.ORG

- Consolidated 3 domains
  - Mobile friendly
- Customer-driven focus
  - Simplified messages
  - Menus and Icons

## CARING FOR OUR CUSTOMERS

LEARN MORE

### FEATURES



**LICK RUN GREENWAY**  
With the Lick Run Greenway, Cincinnati's newest urban recreational space

LEARN MORE



**MILL CREEK'S JOURNEY TOWARD RECOVERY**  
The Mill Creek, once named the most endangered urban stream in America, is on the road toward recovery.

LEARN MORE

### PROGRAMS



**SEWER BACKUP (SBU) PROGRAM**  
MSD's SBU program provides assistance to customers who have experienced sewer backups from the public sewer.

LEARN MORE



**CUSTOMER ASSISTANCE PROGRAM (CAP)**  
MSD offers a Customer Assistance Program (CAP) to help low-income senior citizens pay their sewer bills.

LEARN MORE



**WET WEATHER PROGRAM**  
MSD is implementing a Wet Weather Program to reduce sewer overflow into local rivers and streams.

LEARN MORE



**WATER QUALITY MONITORING PROGRAM**  
MSD monitors water quality in major streams and rivers across Hamilton County.

LEARN MORE



**CSO NOTIFICATION PROGRAM**  
Information about combined sewer overflow (CSO) in Hamilton County.

LEARN MORE

### RESOURCES



**Find an MSD project**  
MSD is hard at work upgrading the public sewer system. Find an MSD project across Hamilton County.

LEARN MORE



**Rules for Industrial and Commercial Customers**  
Forms and reference materials for industrial and commercial customers.

LEARN MORE

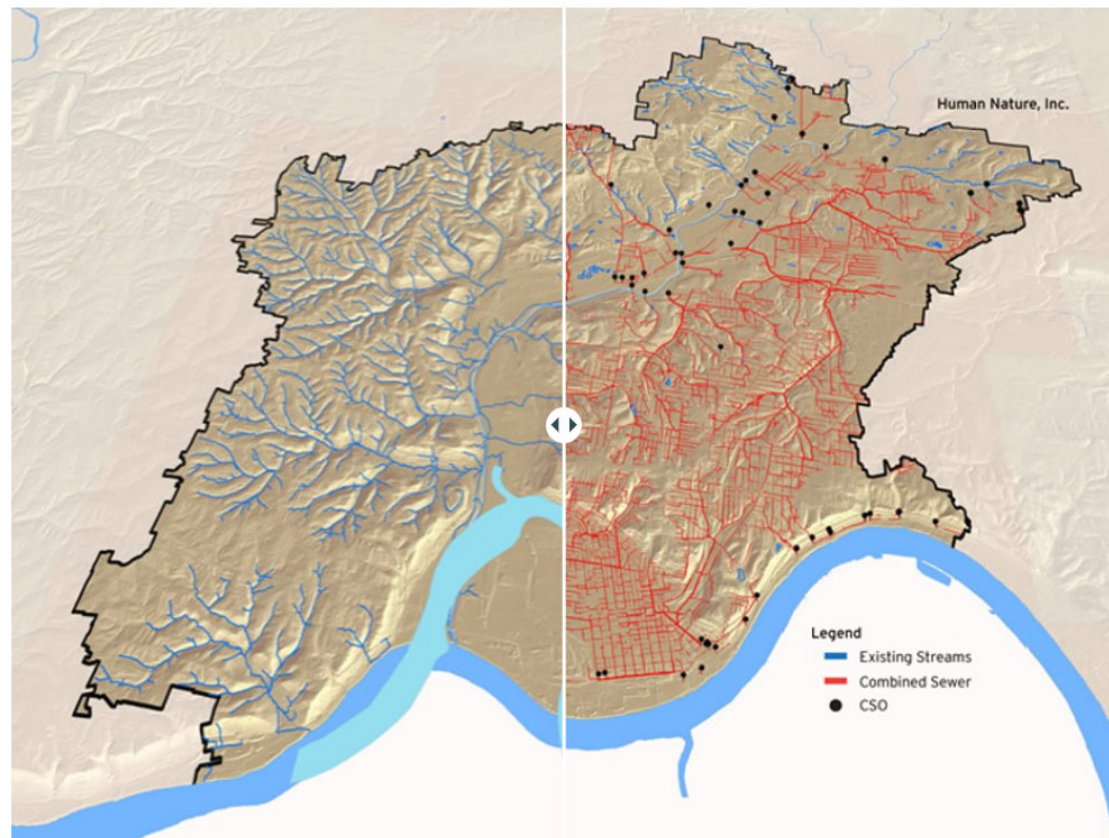


Water Quality Story Map

# Water Quality Story Map

## Mill Creek Basin

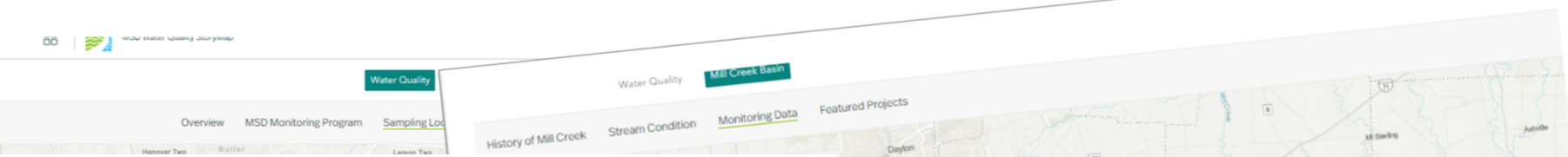
- History of Mill Creek
- Stream Condition
- Monitoring Data
- Featured Projects



Comparison of historical and existing streams



# Water Quality Story Map



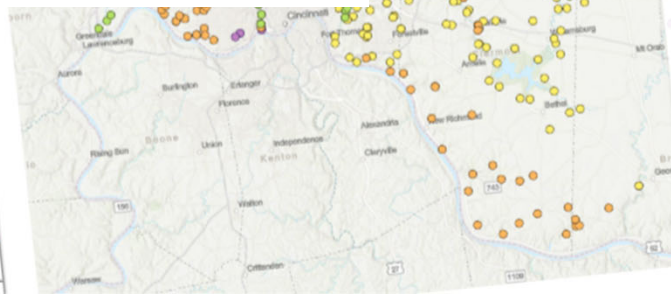
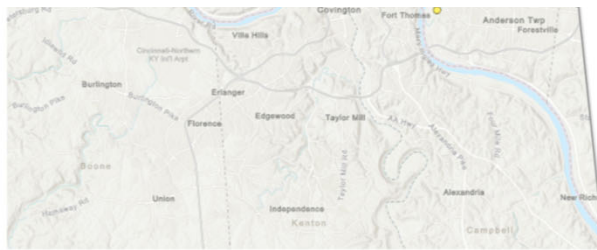
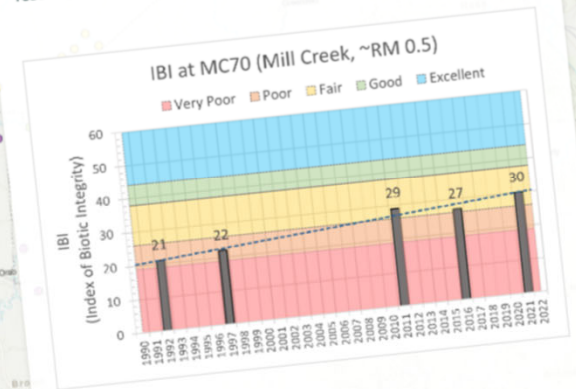
There are many science-based metrics used when evaluating water quality. But as a lay person, I know MSD's efforts are working when I see a community of mussels surviving in the Mill Creek (first time in over 100 years), an increase of fish populations and diversity (ask members of the Buckeye United Fly Fishers), and herons, osprey, and eagles feasting in the Mill Creek shallows. For me, a healthy, vibrant habitat is the best indicator of water quality.

**John Mangan**

Board Chair Mill Creek Alliance

Board VP Hamilton County Conservation District

Results for ICI, IBI, MIwb, and QHEI by sampling location can be reviewed by clicking on a trend sampling location in the map to the right. An example results graphic is shown below for MC70 IBI.



# Water Quality Study

- Continued improvements between 2016 and 2021, and significant improvements since 2011.
- 8 of 11 sampling sites in the lower Mill Creek are in full attainment of Aquatic Life Attainment Status. 20 of 25 sites in the upper Mill Creek are in full or partial attainment.
- Exceptional macroinvertebrate scores were recorded in the Mill Creek for the first time.
- Chlorides and total dissolved solids continue to impact the Mill Creek.
- E. coli counts are going down, but no site met the standards for wading or swimming (Primary Contact Recreation criteria).
- 61 different species of fish found in the Mill Creek, with 7 new species, including smallmouth redhorse for the first time.
- Species that are sensitive to pollution are now being observed in the Mill Creek such as striped shiner, silver jaw minnow, and orange throat darter.

10/2/2023



## Biological and Water Quality Study of Mill Creek 2021



10

# CSO Notification Dashboard

## CSO Notification Program

MSD maintains a CSO Notification Program which includes signage, notification emails, and a CSO Activity Map.



# Honors and Awards

MSD and its employees are recognized locally, state-wide, and nationally for our commitment to protect public health and the environment and to operate safely and efficiently.



*ACEC 2022 Grand Award for Lick Run Greenway*

- NACWA Gold Peak Performance award for MSD's Indian Creek, Mayflower, Mill Creek, Muddy Creek, Polk Run, Sycamore Creek, and Taylor Creek plants for 100% compliance
- Water Environment Federation (WEF) George W. Burke Award awarded to MSD's Sycamore Creek plant for its active and effective safety program
- National Association of Flood and Stormwater Management Agencies (NAFSMA) - 2nd Place, Innovative Projects
- American Public Works Association (APWA) - Public Works Project of the Year, MSD's Lick Run Greenway project
- American Council of Engineering Companies (ACEC), Ohio Chapter - Grand Award, MSD's Lick Run Greenway project
- American Council of Engineering Companies (ACEC), Ohio Chapter - Outstanding Achievement Award, MSD's Lick Run Greenway project

# Capital Improvement Highlights

Since 2009, MSD has been implementing the Wet Weather Improvement Program

175 Wet  
Weather  
Projects  
Completed

69 SSO's  
Controlled or  
Eliminated

72 CSO's  
Controlled or  
Eliminated

7.8 Billion  
Gallons of  
Overflow  
Eliminated

Water Quality  
Improvement  
in 114 Miles of  
Local Streams

# 2024 CIP: Solids Handling Project

- Design and construct an anaerobic digestion facility at the Little Miami Wastewater Treatment Plant near Lunken Airport
  - Design start: January 2023
  - Construction: 2024-2028
- Process the waste solids from the Little Miami, Polk Run, and Sycamore Creek treatment plants on the east side of Hamilton County
- This project will **reduce our carbon footprint, improve energy efficiency, and divert waste from the landfill for beneficial reuse**



# Little Miami Treatment Plant



# Project Benefits

- **Diverts Waste from Landfill for Beneficial Reuse** – MSD is evaluating ways to reuse the biosolids (e.g., soil amendments and fertilizers).
- **Reuses Biogas as Energy Source** – Biogas, which is primarily methane, will be reused onsite as a renewable energy source to run other plant operations. This will reduce our carbon footprint and reliance on the grid.
- **Improves Plant Operations** – New solids handling and processing facilities help optimize operations and maintenance.





# Project Benefits

- **Reduces Truck Traffic** – Fewer trucks needed to haul away biosolids, due to 30-45% reduction in solids volume
- **Reduces Odors** – New odor controls on solids handling processes to minimize/eliminate odors
- **Save Money** – Since the project involves renewable energy generation (biogas), the project is eligible for reimbursement of up to \$50 million in project costs through the IRA\*

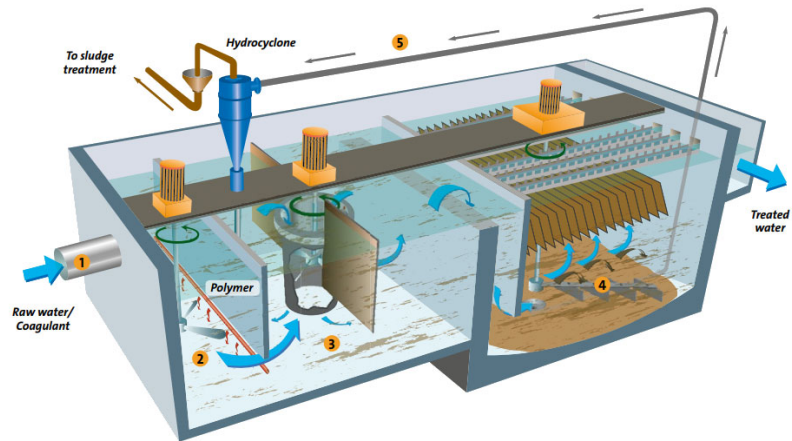
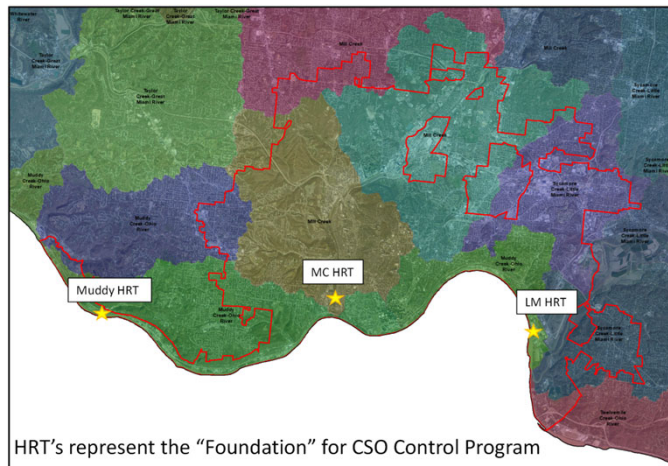


*\*Inflation Reduction Act*

# The Next 10-Year Horizon

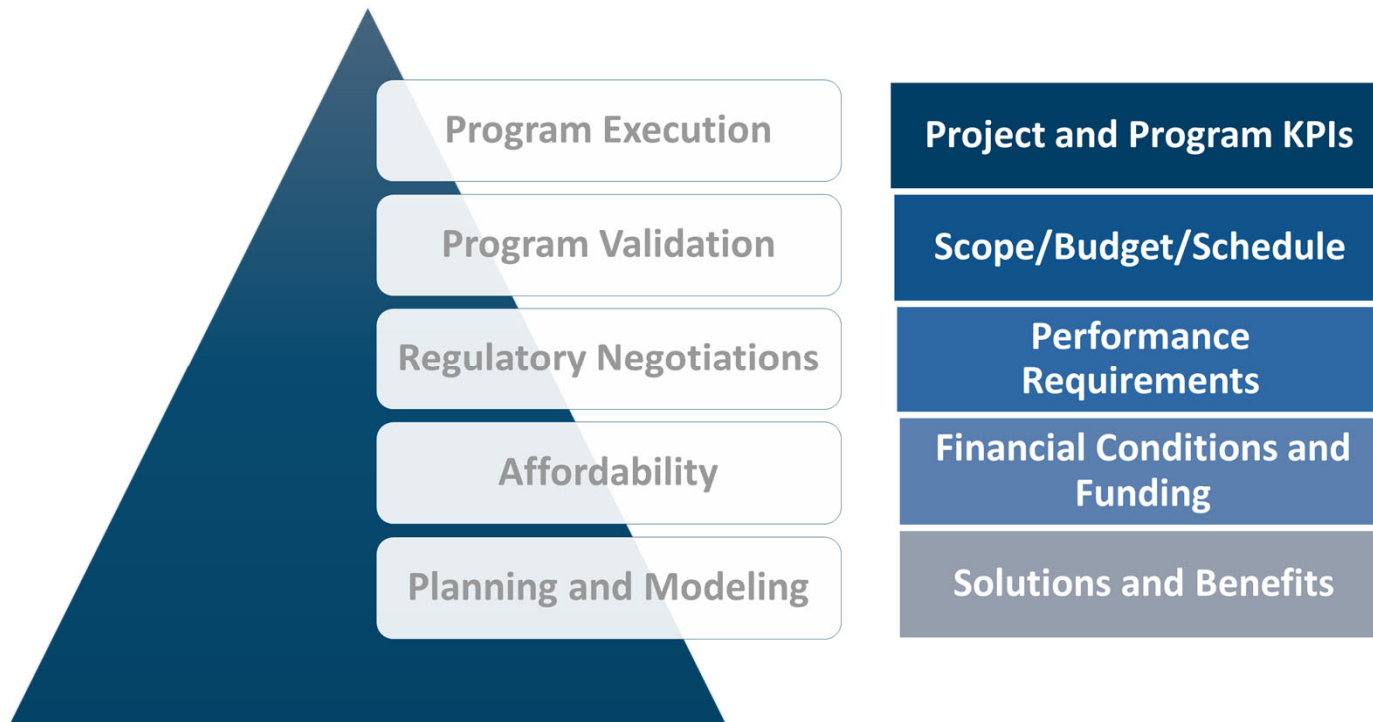
## High-Rate Treatment Facilities are Foundational Elements to CSO Control Strategy

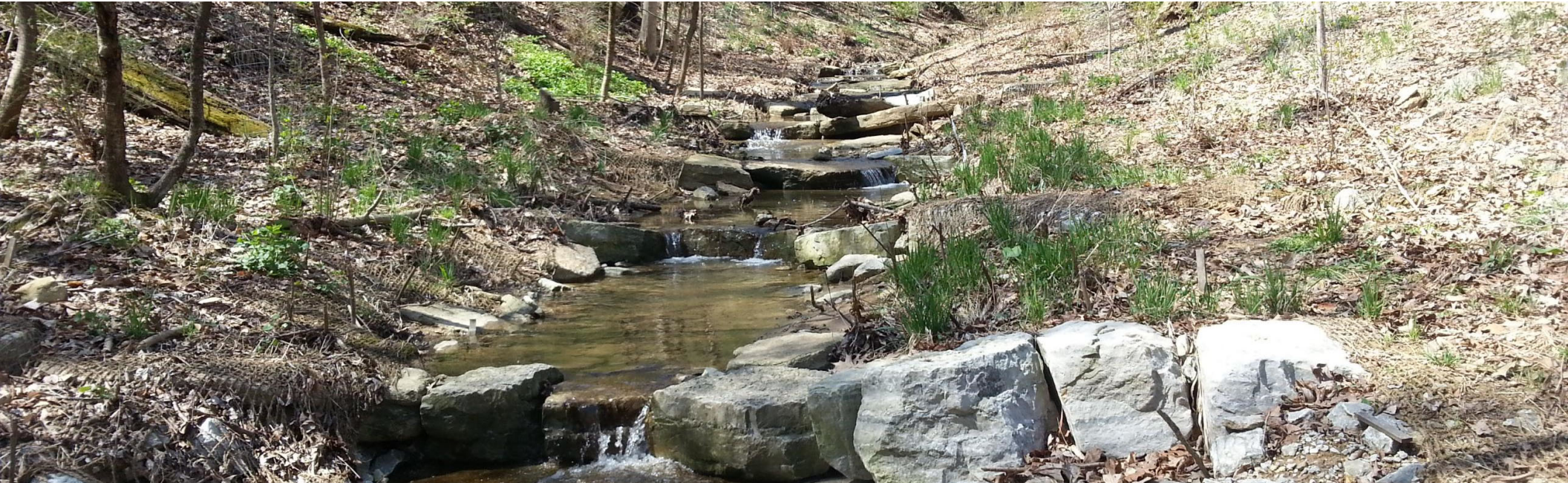
- Over \$2B in capital project value has been identified
- 3 HRT's located at the largest WWTP Facilities
- 7 projects with a total estimated cost of more than \$100M each



# Future Phase 2 Program Development

MSD is currently negotiating Phase 2 of the Wet Weather Improvement Program.





# Questions?



**METROPOLITAN  
SEWER DISTRICT**  
OF GREATER CINCINNATI