



KEEPING OUR GREAT LAKE GREAT

KYLE DREYFUSS-WELLS, CHIEF EXECUTIVE OFFICER | MAY 9, 2024

 **Northeast Ohio
Regional Sewer District**

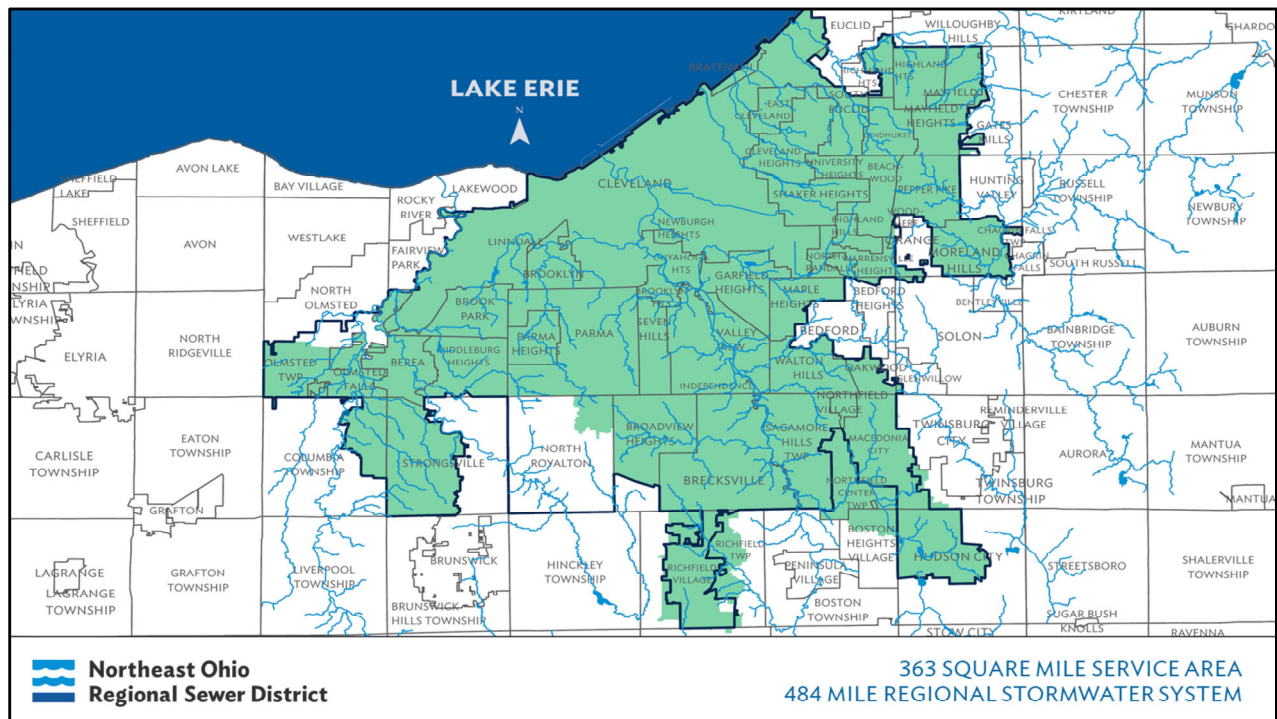
NEORSD: Our work

- **Services:** Sanitary and stormwater management to the City of Cleveland and 62 municipalities across 4 counties
- **Governance:** Independent political subdivision of the State of Ohio governed by a 7-trustee Board



We are the Northeast Ohio Regional Sewer District.

We provide regional sanitary and stormwater management services to the City of Cleveland and 62 member communities across portions of 4 counties, including the majority of Cuyahoga County.



And here we see our 363 square mile service area and 63 member communities as well as the 484 miles of streams, pipes and culverts that make up the Regional Stormwater System and the focus of our Regional Stormwater Management Program.

Staff & Facilities

- 784 employees
- 3 wastewater treatment plants
- 484 miles of regional stormwater system
- 341 miles of sewers

Challenges and Opportunities

- Cut pollution from combined sewers by 4 billion gallons
- Assist local governments to address water quality and public health issues beyond combined sewer overflows
- Address flooding, erosion with regional stormwater management



Affordable Means

- Efficient and effective utilities
- Sound planning and decision making
- Conservation and sustainable practices
- Cost savings programs

Challenges and Opportunities

- Cut pollution from combined sewers by 4 billion gallons
- Assist local governments to address water quality and public health issues beyond combined sewer overflows
- Address flooding, erosion with regional stormwater management
- Respond to more rain, more often, for a longer time
- Provide services while focusing on affordability for all customers and supporting a diverse and inclusive workforce



Affordable Means

- Efficient and effective utilities
- Sound planning and decision making
- Conservation and sustainable practices
- Cost savings programs

 <p>Treatment plants</p>	 <p>CSO control</p>	 <p>Regional Stormwater Management</p>
<p>Easterly Wastewater Treatment Plant</p> <p>Wastewater treatment</p> <ul style="list-style-type: none"> • 3 plants • 90 billion gallons annually • Certified lab <p> Northeast Ohio Regional Sewer District</p>	<p>Doan Valley Tunnel construction</p> <p>Project Clean Lake</p> <ul style="list-style-type: none"> • \$3 billion, 25 years • Cut annual CSO volume by 4 billion gallons • Sewer fees 	<p>Willey Creek, Moreland Hills</p> <p>Addressing flooding, erosion</p> <ul style="list-style-type: none"> • \$48 million annually • Regional approach • Impervious surface fee

90BG as an average, in 2023 specifically we treated 87B

**\$194
million**

OPERATING EXPENSES

**\$228
million**

CAPITAL EXPENSES

**\$108
million**

DEBT SERVICE

4.2% annual rate increase

FOR THE YEARS 2022-2026

Average customer pays \$73 a month in 2024 for sewer and stormwater services

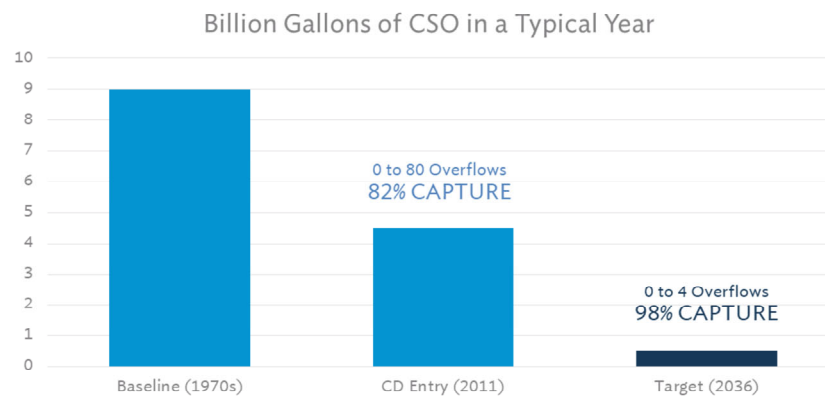
Ca. \$35 monthly for Cleveland Water

About \$100 a month for clean water services 24/7/365



What you saw today at Easterly is a result of Project Clean Lake.

Project Clean Lake: Reducing CSO Activations

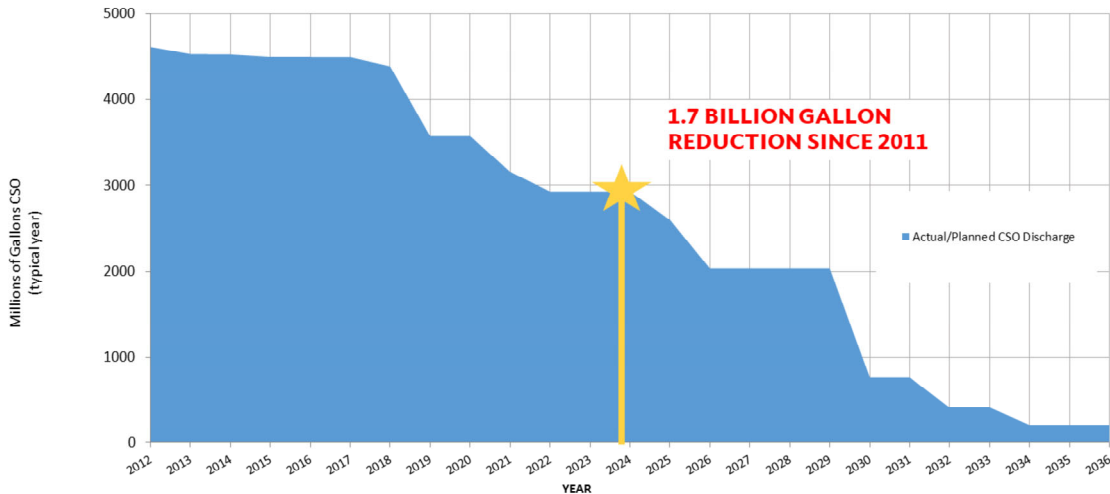


 **Northeast Ohio
Regional Sewer District**

When the Sewer District was formed in 1972, there was 9 billion gallons of overflow in a typical year. Through the good work of the District, this was reduced to 4.5 billion gallons when we entered the Consent Decree in 2011.

We are well on our way to reducing that for 98% capture rate by 2036 – one of the highest percent capture in the country. Between 2 and 3 remaining overflows in a Typical Year for compliance.

Project Clean Lake: *Progress*



Additional 310 million gallons of CSO reduction by mid-2024

District advancing projects ahead of schedule and reducing CSOs beyond the requirements of the CD so that we are on track to achieve a greater reduction in CSO by the end of the CD. Work through 2024 and planned beyond are shown blue. At end 2023, reduced CSOs by 1.7 billion gallons. Additional reduction of **310MG** gallons per year from Westerly Storage Tunnel have been delayed by supply chain issues but WST is anticipated to go online later this year.

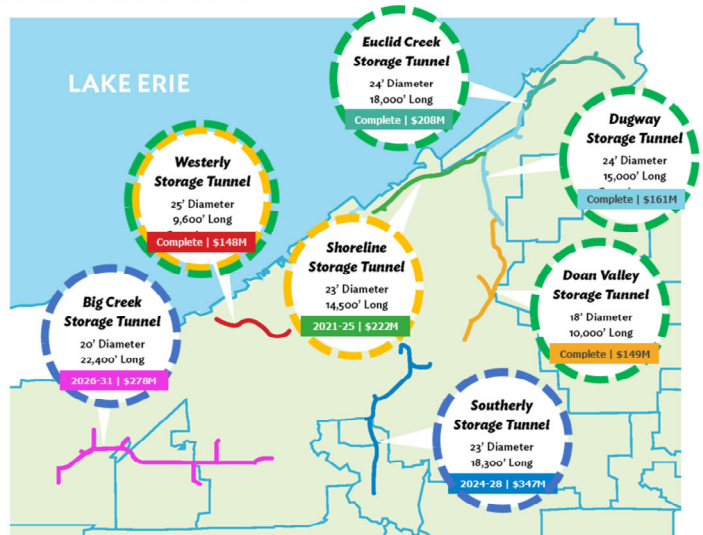
13 years into our implementation of our Decree, **13 of 25** Control Measures have met Achievement of Full Operation including 3 of the tunnels.

Including the recently bid SOTC project, we have spent or awarded **\$2.28 billion** dollars and realized **\$568 million** in value engineering savings.

District is on track to achieve a higher level of control than what is required in the Decree. The original target was 494 MG in remaining overflow. The District is on track to achieve significantly less than that – 200 MG by 2034. The District is also going beyond “CSO control” to elimination – including the elimination of 16 permitted CSO outfalls.

Project Clean Lake: Overview

- 7 Large Tunnels
- 3 Large Pump Stations
- Operations upgrades
- Chemically Enhanced High-Rate Treatment Facilities
- Green Infrastructure



Northeast Ohio
Regional Sewer District

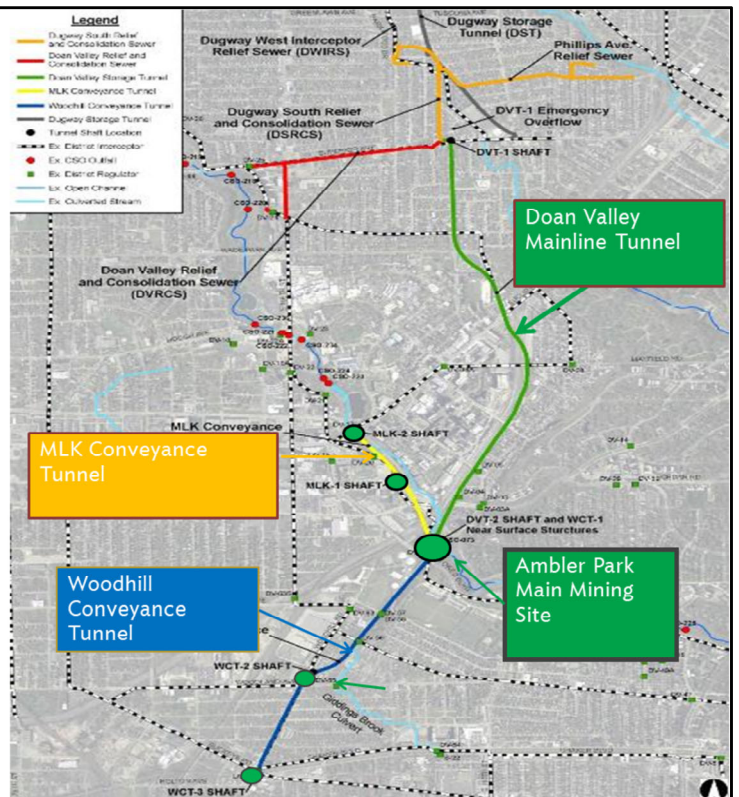
Project Clean Lake was a 25 year, \$3B program that includes 25 control measures to address the District's compliance with the CWA by significantly reducing CSOs. After the 5th Amendment, it will now be a 24 year CD. The 25 control measures consist of 7 large diameter tunnels shown here, pump station upgrades, WWTP upgrades (like increasing secondary capacity at Easterly and Southerly), chemically enhanced high rate treatment for select CSOs and plant bypasses and the requirement to build green infrastructure projects. Implementation of all 25 control measures translates into 98% capture of CSO in a TY.

7 tunnels ranging in size from 18-25' diameter and 9,000 to 22,000 feet long and 100-200' deep

Doan Valley Tunnel

- \$5.7 million under budget
- 18 ft & 8.5 ft diameter
- 5 near surface structures
- Community coordination

 Northeast Ohio
Regional Sewer District



Could have been a deep tunnel to Dugway Storage Tunnel and than pumped by pump station but worked hard to keep high enough to act as a collection system interceptor and not have to pump.

Generally, goal was to leave tunnel high and drain by gravity to save energy. Part of lifecycle costs analysis done by an "involved owner" focused on a long view.



This is hole through or hole out in Doan Valley Tunnel

MLK-2 Diversion Structure @ MLK Blvd/Euclid Ave
Dry Weather Flow



This flow is sanitary – combined and straight sani – that went to Easterly for treatment before tunnel was built

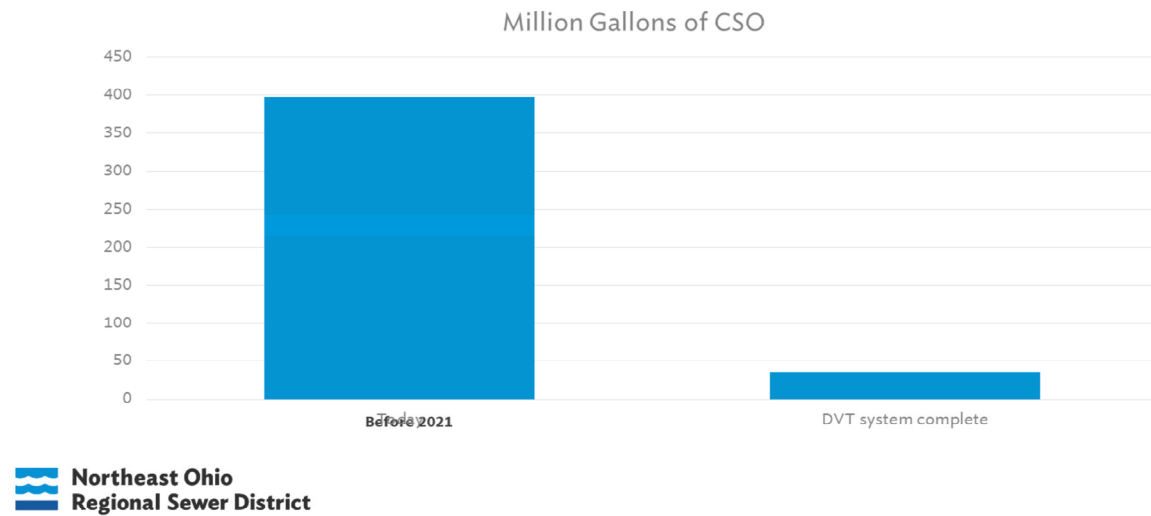
MLK-2 Diversion Structure @ MLK Blvd/Euclid Ave
Wet Weather Flow



 **Northeast Ohio
Regional Sewer District**

This wet weather flow went to the environment before the tunnel and now goes into the tunnel for treatment.

DVT Long-Term Benefits: Typical year



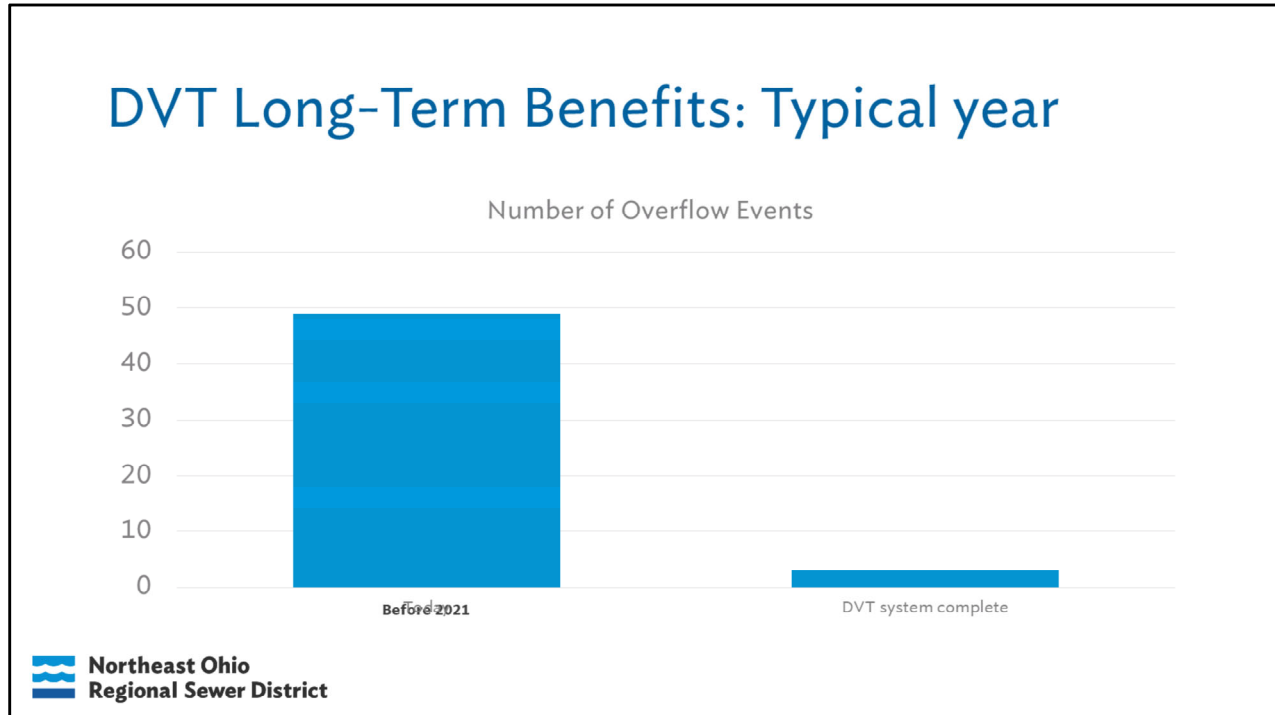
Meets/exceeds performance requirements at CSO locations along Doan Brook from Shaker Heights to Lake Erie

Additional capacity and improved level of service achieved in existing Doan Valley Interceptor

CSO volumes to Doan Brook reduced by 363 million gallons each year

398 MG of CSO to Doan Brook without DVT

35 MG of CSO to Doan Brook with DVT



49 overflows across 10 CSO points which have different activations without DVT

3 overflows across 10 CSO points with DVT



 **Northeast Ohio
Regional Sewer District**

CSO CONTROL
Easterly Wastewater Treatment Plant expansion, Project Clean Lake



Actively pursue implementation and maintenance of green infrastructure across programs

CAPITAL IMPROVEMENT
OPERATION & MAINTENANCE

WATER RESOURCES
RESTORATION SPONSORSHIP

GREEN INFRASTRUCTURE
PLANT PROGRAM

COMMUNITY DISCHARGE
PERMIT PROGRAM

INFRASTRUCTURE PROGRAM

REGIONAL STORMWATER
MANAGEMENT PROGRAM



 **Northeast Ohio
Regional Sewer District**

FAIRHILL/MLK GREEN INFRASTRUCTURE
35-acre drainage area, 15 MG/year stormwater control, 2 MG/year CSO control

Project cost \$6.6 million

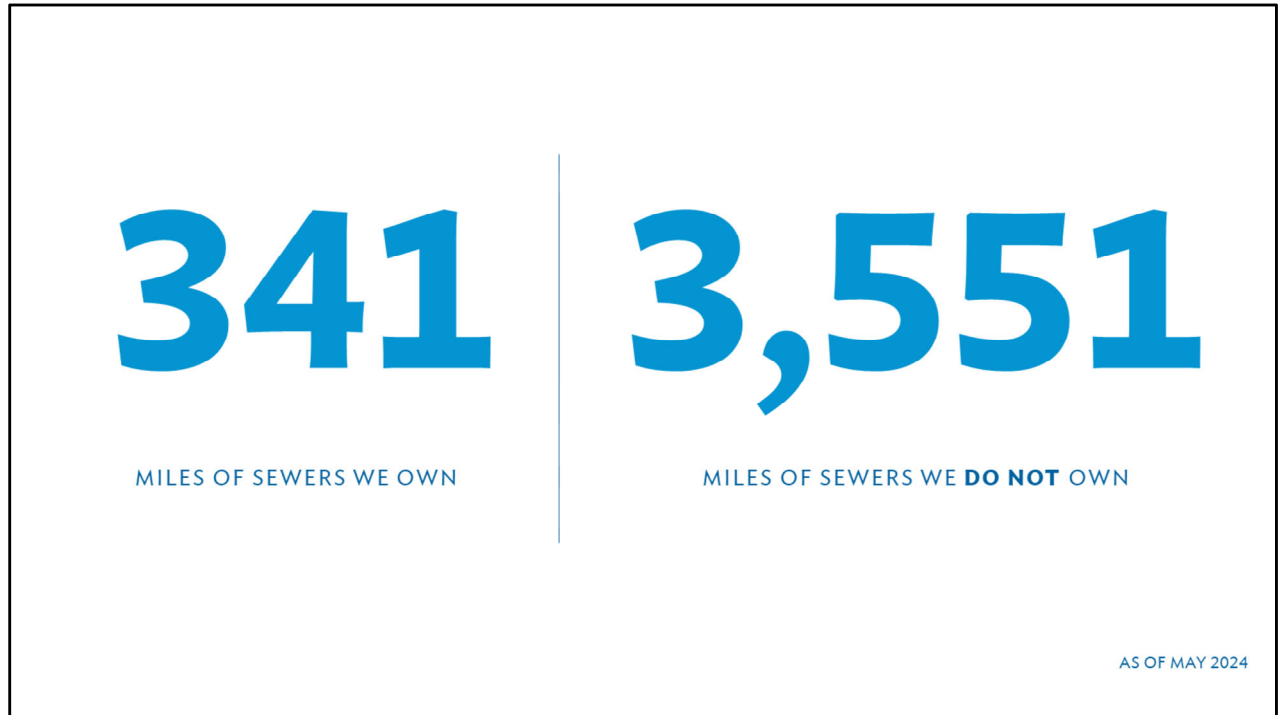
9 large scale consent decree GI projects



Partnerships to Protect Water Quality and Public Health.

MEMBER COMMUNITY INFRASTRUCTURE PROGRAM



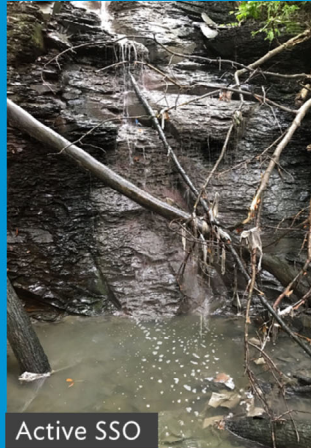


All the same rate payers and this is the sewer infrastructure needed to ensure clean water

Member Community Infrastructure Program

- District effort to support repair/renewal of sewer infrastructure and reduce human health & environmental impacts from:

- Sanitary Sewer Overflows
- Basement Back-ups
- Septic Systems
- Common trench sewers
- Illicit Discharges

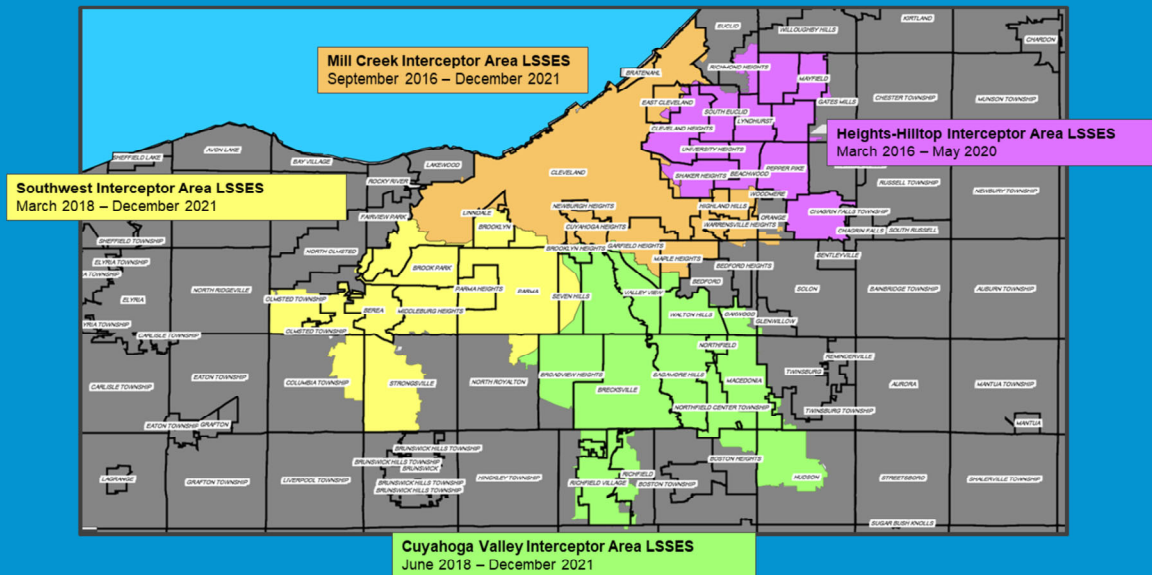


Active SSO



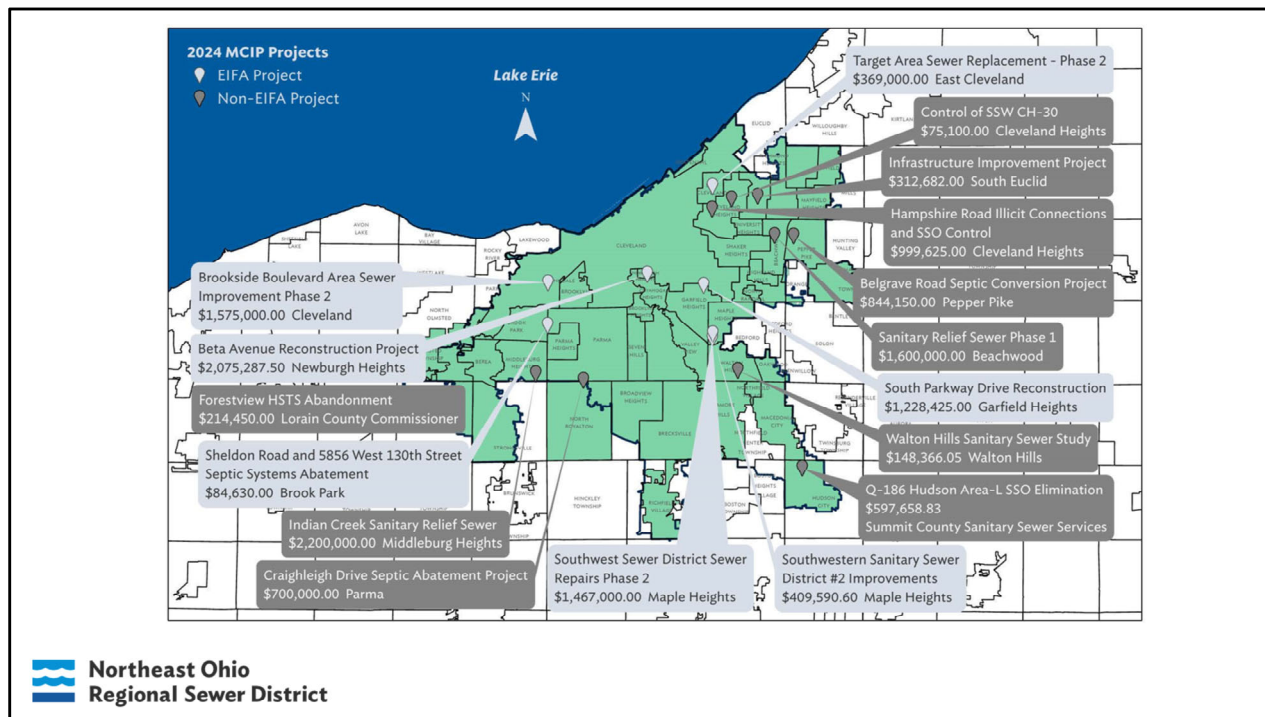
Basement Back-up

District-wide Local Sewer System Evaluation Studies



Member Community Infrastructure Program \$15 Million Annually 2022-2024 \$25 Million for 2025

INVESTED \$77.4 MILLION IN 107 PROJECTS SINCE 2016



It's Not Enough Money...

- Project Clean Lake and other capital program
 - \$826M from 2021 to 2025
- Member Community Infrastructure Program
 - \$3.4B to address local sewer problems
- Regional Stormwater Management Program
 - \$1.1B for flooding, erosion and water quality issues



CIP numbers are based on March 31 2024 report <https://www.neorsd.org/CIP> including 2024-2028 Project Clean Lake, Treatment Plants, Collection System, and Building Improvements capital plans



- 1952 fire, not 1969



 **Northeast Ohio
Regional Sewer District**