

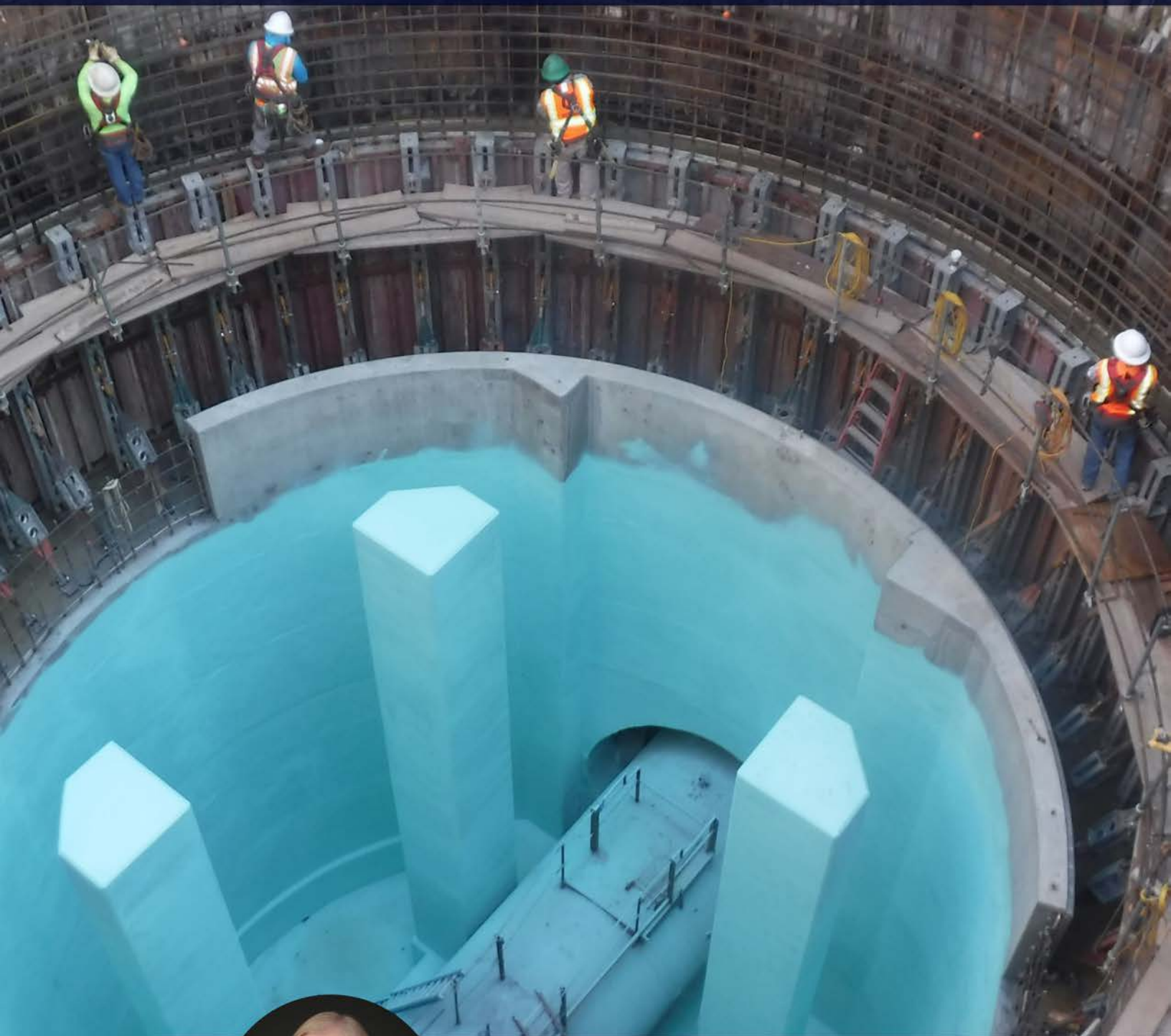


# 2023 MIDD Report

MACOMB INTERCEPTOR DRAINAGE DISTRICT (MIDD)

**CANDICE S. MILLER**

MACOMB COUNTY PUBLIC WORKS COMMISSIONER



The Macomb Interceptor Drain Drainage District is governed by Chapter 20 of the Michigan Drain Code of 1956. This annual report of the Macomb Interceptor Drainage District is presented by Macomb County Public Works Commissioner Candice S. Miller, Chair of the MIDD.

Pictured: Segment 5 Sewer Rehabilitation Project near 15 Mile Road & Schoenherr Road



A photograph showing construction workers in a trench. One worker in the foreground is welding a large pipe, creating a bright orange glow. Other workers in safety gear are visible in the background. A large, curved pipe is on the left side of the trench.

Millions of federal, state and county funding successfully secured by Commissioner Miller

## No More Sinkholes!

### Work continues on major projects along 15 Mile Road

Construction is expected to be completed at three locations along 15 Mile Road to prevent another major sewer collapse and sinkhole like the one that occurred in Fraser in late 2016 from happening again.

At the section of the Macomb Interceptor known as “Segment 5”, the construction contractor is building a new, permanent pump station inside the 60-foot deep shaft that was excavated west of Schoenherr Road in Sterling Heights. It sits atop the 11-foot diameter concrete pipe that is the last major stretch of unreinforced concrete of the MIDD installed in 1972 and carries the sanitary sewage from almost 600,000 people from 11 of Macomb County’s communities.

A bit upstream in the Interceptor, workers will continue clearing sediment and debris that may have accumulated for about a

dozen years. The contractor will install impervious glass fiber-reinforced polymer pipe – known as HOBAS – to line 7,000 feet of the pipe’s interior to protect it from further corrosion caused by hydrogen sulfide gas. Where the pipe transitions to a narrower, 8-foot-diameter stretch, 1,300 lineal feet will be spray-lined with a geo-polymer coating.

Segment 5 is a \$30 million project but will not require an increase in sewer rates for the MIDD communities. The project is funded in part with the \$12.5 million lawsuit settlement paid to the MIDD after the MIDD board chaired by Macomb County Public Works Commissioner Candice S. Miller sued three contractors whose mistakes while working in the Oakland-Macomb Interceptor sewer to the west caused conditions that eventually led to the 2016 sinkhole.



The rest of the project is paid with state funding successfully obtained by Commissioner Miller.

"To be honest and forthright, the project has been impacted by labor shortages and supply chain issues, just like various aspects of the construction industry, government services and other sectors of the economy," Miller said. "As much as we'd like to be, we're not immune to those factors."

Further east, Ric-Man Construction of Sterling Heights continues to work in a section of the MID known as Segment 6. The contractor began with construction of a 40-foot-deep shaft on 15 Mile, east of Garfield Road along the Clinton Township-Fraser border, to provide access to the Interceptor. This sewer rehabilitation contract features the "slip lining" – or insertion -- of approximately 2,100 feet of HOBAS into the 5-foot-diameter concrete pipe.

To the immediate west, construction continues in a second phase of Segment 6

sewer rehabilitation, with the slip lining of a 1,200-foot curved portion of the 11-foot-diameter Romeo Arm Interceptor, at the 15 Mile-Garfield intersection.

There will also be installation of an "air-jumper" just west of the intersection which will be connected to the existing bio filter. This will help alleviate odors that have been an ongoing issue for many years.

Segment 6 has a total project cost of \$17 million and is paid with state and federal funds. Weather permitting, it is scheduled to be completed by the end of spring 2023.

The need for these critical projects was identified during inspections of the MID ordered by Miller after she took office in January 2017.

"We sincerely appreciate the patience shown by nearby residents and businesses as we complete the very necessary repairs to the sewer interceptor."





# Sewer Inspections Continue

Inspection of underground infrastructure is an ongoing, important process.

In late 2020, a \$421,254 contract was awarded to Warren-based Doetsch Environmental Services to inspect sewers that are under the jurisdiction of the Macomb County Public Works Office. It's the most widespread inspection of underground infrastructure in county history. It includes inspection of 19 linear miles of sanitary sewers. The pipes range from 24 inches in diameter to the 11-foot-wide interceptors that carry the sewage from lateral pipes. The contractor is also inspecting 145 manholes and eight drop shaft/connecting sewers.

In 2023, we will begin a full laser and sonar profile inspection which will gauge the amount of sediment to be removed from the interceptors.

Reinforced concrete pipes will be inspected every six years, and non-reinforced concrete pipe will be examined every three years. An annual inspection of critical areas will also occur.



"Inspections are necessary to identify degradation caused by corrosive sewer gas and to detect infiltration of sand and groundwater that, left unchecked, could lead to sewer collapses and giant sinkholes," Public Works Commissioner Candice S. Miller said.



# 'Spiral wound' sewer lining project underway



On-site work began in February 2023 on the “spiral wound” sewer lining/rehabilitation project at 21 Mile and Garfield roads to protect a 755-foot stretch of the Garfield Interceptor from further degradation of the concrete pipe caused by corrosive hydrogen sulfide gas.

After careful study by engineers of rehabilitation methods and material options that would meet long-term structural requirements, the spiral-wound approach was selected by the MIDD board as optimal in part because of:

- The ability to install the PVC material while maintaining sanitary flow in the 7-foot-diameter pipe is continuous.
- Requires minimal bypass operation.
- The ability to carry out the rehabilitation without the need to construct an access shaft to reach the interceptor, thereby minimizing cost and the impact of construction to nearby property and traffic.

“Not only is spiral wound a great product and fit for this important sewer rehabilitation project in Macomb County, it will be given strong consideration for future repairs and is a pilot project for the region,” Macomb County Public Works Commissioner Candice S. Miller said.

The project is expected to be completed in April 2023.





Biofilter on 15 Mile Road west of Garfield Road

## Odor & Corrosion Control

In addition to lining underground cement sewer pipes, even those reinforced with steel bars, there is a need to prevent corrosive, hydrogen sulfide gas from causing further degradation and reduce odor. MCPWO has begun construction of 4 odor & corrosion control facilities:

- Improvement to the existing bio-filter on 15 Mile Road, west of Garfield, by converting it from an open bed of wood chips that act as a filter by removing hydrogen sulfide gas from the Macomb Interceptor pipe, to an enclosed bed with an engineered carbon material to capture odor. That project is expected to be completed by late spring 2024.
- Construction of odor and corrosion controls will be built at the North Gratiot Interceptor Pump Station in Chesterfield Township starting in January 2023, and also at the Clintondale Pump Station on Union Lake Road near 15 Mile in Clinton Township beginning in September 2023.
- Construction of a biofilter at 21 Mile & Garfield Roads, utilizing engineered media will start in April 2023 and is expected to be completed by April 2024.

## Water Residential Assistance Program (WRAP) available to help with water bills.



### WRAP

Water Residential Assistance Program

\$\$\$ \$300/year per household

Minimum assistance \$25/mo (\$300/yr); maximum assistance \$1500 annually (arrearage payments up to \$1200)

\$\$\$ Water conservation & repairs

Use a lot of water? Households with high water consumption may qualify for additional assistance of up to \$1500 in minor plumbing repairs and water saving kits

\$\$\$ Eligibility

Must reside in a participating municipality in Macomb County; must provide proof of residency and income; income eligible at 200% of Federal poverty level or below

Don't wait until you have a shut off!

**586-469-6464**

[mca.macombgov.org/MCA-ES-ActionCenters](https://mca.macombgov.org/MCA-ES-ActionCenters)

## FIND YOUR LOCAL ACTION CENTER



For cities in blue...

Macomb Community Action  
Central Action Center  
196 North Rose Street  
Mount Clemens, MI 48043  
P: (586) 469-6964  
F: (586) 469-7436

For cities in green...

Macomb Community Action  
South Action Center  
11370 Hupp Avenue  
Warren, MI 48089  
P: (586) 759-9150  
F: (586) 759-9156

[MCA.MACOMBGOV.ORG](https://MCA.MACOMBGOV.ORG)



Macomb  
Community  
Action

If you are behind or struggling to pay your water bill, the WRAP program at the Community Action Alliance may be able to help. To find more information, and to see if you qualify, please visit <https://mca.macombgov.org/MCA-WRAP>



# OMIDD Update



Several major upgrades have been finished, and others are progressing towards completion, at the Northeast Sewage Pump Station (NESPS) in Detroit, part of a massive, multi-year capital improvement program directed by the Oakland-Macomb Interceptor Drain Drainage District board.



Completed parts of the overhaul at NESPS include a new electrical building at the pump station, new electrical equipment, knife gate valve removal/rehabilitation and new pipes. Two of the five new pumps have been installed and are expected to be operational this summer. This project is expected to be completed by summer 2024.

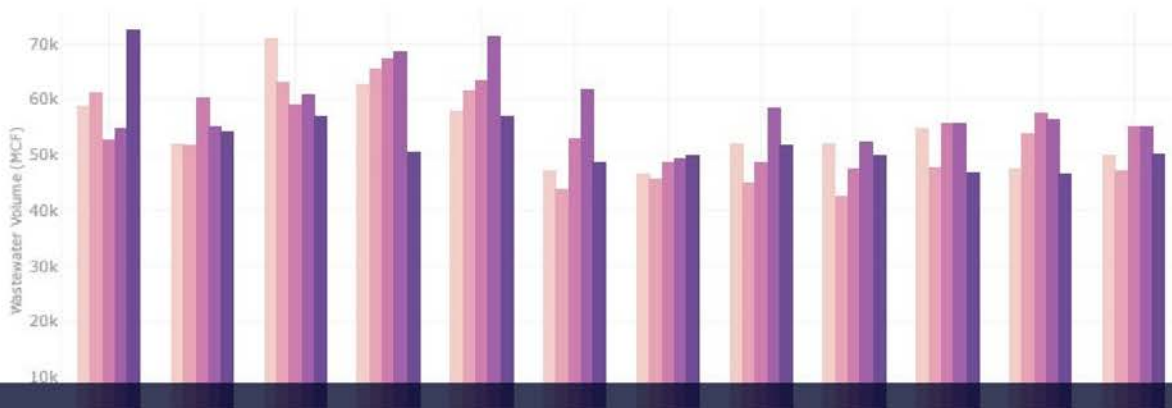


The design phase and bid specifications of an Odor & Corrosion project is expected to be completed in 2023. This includes three sites in Sterling Heights: Utica Road at Dodge Park Road; Dodge Park at Sorrento Boulevard; and an area south of 15 Mile Road, west of Schoenherr Road. The project will protect the OMID system from corrosive, hydrogen sulfide sewer gas that damages pipe, and will reduce odor in those locations.



Meantime, the pilot project to line the interior of a 7-mile stretch of the Northeast Interceptor-East Arm (NIEA) sewer that carries sewage from the 11 communities in the MIDD and 12 in Oakland County, to extend the life of the pipe and reduce odors, continues.

OMIDDD reached an agreement in 2018 with the Great Lakes Water Authority, to take over much-needed upgrades and repairs of the pump station built by the Detroit Water and Sewerage Department in the late 1960s. The entire capital improvement program will total approximately \$100 million – but with no net increase in sewer rates, thanks to savings OMIDD negotiated with GLWA.



## Go With The Flow: Meter Dashboard Available to Community Leaders

Thirty sanitary sewer outlet meter facilities maintained by the Macomb County Public Works Office allow officials from the communities in the Macomb Interceptor Drain Drainage District to view the data that's used to calculate billing of sewer service.

These facilities monitor and collect data on the sewage volumes on a continuous basis. A cloud-based meter data management tool -- called ACE -- allows municipal finance administrators, elected officials, wastewater and DPW officials to view the data on a user-friendly dashboard. Previously, they would have to wait for Public Works staff to download the data and provide it in a spreadsheet.

Data from rain gauges is also included in the dashboard. An analysis of sewage flow and rainfall totals can determine whether there is any infiltration of ground water into the sanitary system. Infiltration of storm water increases the amount of flow measured by the meters and increases cost to the local community.

COMMUNITY DASHBOARD IS INTENDED TO PROVIDE A QUICK LIVE SNAPSHOT OF COMMUNITY SANITARY SEWAGE FLOW METERS:

### KEY FEATURES INCLUDE:

- 24-HOUR INTERACTIVE TREND OF ALL SANITARY SEWAGE FLOW METERS.
- DAILY AND HISTORIC RAINFALL TOTALS
- DATA QUALITY (SANITARY SEWAGE FLOW METER UPTIME PERCENTAGE)
- 24-HOUR ANALYTICS ON LOW, NORMAL AND HIGH FLOWS
- 90-DAY CERTIFICATION HISTORY; AS REVIEWED AND CERTIFIED BY MCPWO



# MIDD Wastewater Master Plan Update

The first county-wide Wastewater Master Plan in decades was started several years ago and is now complete.

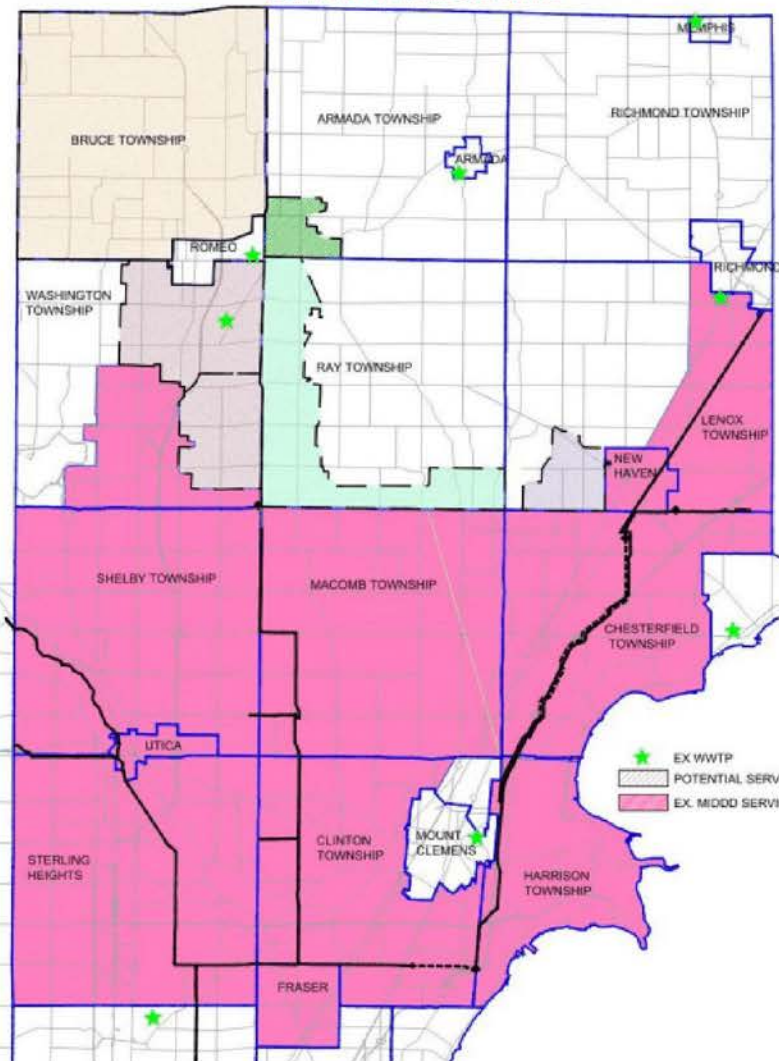
The plan was needed to ensure that our underground infrastructure continues to be a critical component of current and potential future economic activity, while also protecting the environment. The current and future sewer needs of each community were determined with input from local officials.

The plan was originally expected to take 18 months to complete, but we subsequently added several additional options for potentially service to our northern communities. The plan balances the needs of communities in the southern part of Macomb County, and those to the north.

The plan finds that with continued future infrastructure rehabilitation over the next 25 years -- continued inspections, grouting, pipe lining, and corrosion control facilities -- there is enough total flow capacity to serve current and future customers through 2045. Importantly, no community's flow capacities have been decreased. In fact, most community capacity limits have increased.

"The master plan will allow us to best serve our communities by ensuring we have the infrastructure necessary to continue to enhance the quality of life we all enjoy here in Macomb County and to serve as a critical component of economic prosperity for this and future generations," Macomb County Public Works Commissioner Candice S. Miller said.

Figure 4.2 – Potential Service Area



Community	Proposed Maximum Allowable Flow (cfs)
Chesterfield Township	39.66
Clinton Township	104.40
Fraser	21.70
Harrison Township	28.49
Lenox Township	11.64
Macomb Township	43.00/48.00
New Haven	6.40
Shelby Township	61.00
Sterling Heights	139.60
Utica	7.90
Washington Township	10.00/15.00/24.00



# MIDD Projects Timeline

## **Northeast Sewage Pump Station**

Start: October 2020

Finish: August 2024

**2020**

## **Segment 5 Sewer Rehab**

Start: October 2020

Finish: December 2023

## **North Interceptor East Arm Lining/Gates**

Start: February 2021

Finish: June 2024

**2021**

## **Segment 6 Sewer Rehab**

Start: October 2021

Finish: June 2023

**2022**

## **4 Odor Corrosion Facilities**

Start: January 2023

Finish: September 2024

**2023**

## **21 Mile & Garfield Lining**

Start: January 2023

Finish: April 2023

## **8 Meter Facility Drop Shaft Rehabilitations**

Start: January 2024

**2024**

## **3 OMID Odor & Corrosion Facilities**

Start: January 2024

**Grouting**  
Start: Ongoing

**Inspections**  
Start: Ongoing

## **System Wide Cleaning & Sediment Removal**

Start: January 2024





# MIDD By The Numbers



11 Communities  
Served



600,000 Residents &  
Businesses Served



29 Miles of  
Interceptor



2.1 Million Cubic Feet  
Annual Flow Volume



**ZERO** Sanitary Sewer  
Overflows since 2016



**ZERO** Sinkholes  
since 2016



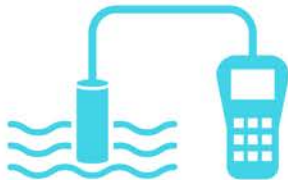
30 Billing Flow Meters



\$12.4 Million in Savings  
from Refinancing Bonds



2.8% Avg. Annual Rate  
Adjustment since 2017 vs. 15%  
Annual Increase from 2010-2016



43,000 SCADA  
Remote Senosors



Contractors spent 282 days  
working in underground pipe  
in 2022



12 billion gallons of flow stored  
& safely released while workers  
present underground



17 Employees



15 Rain Gauges

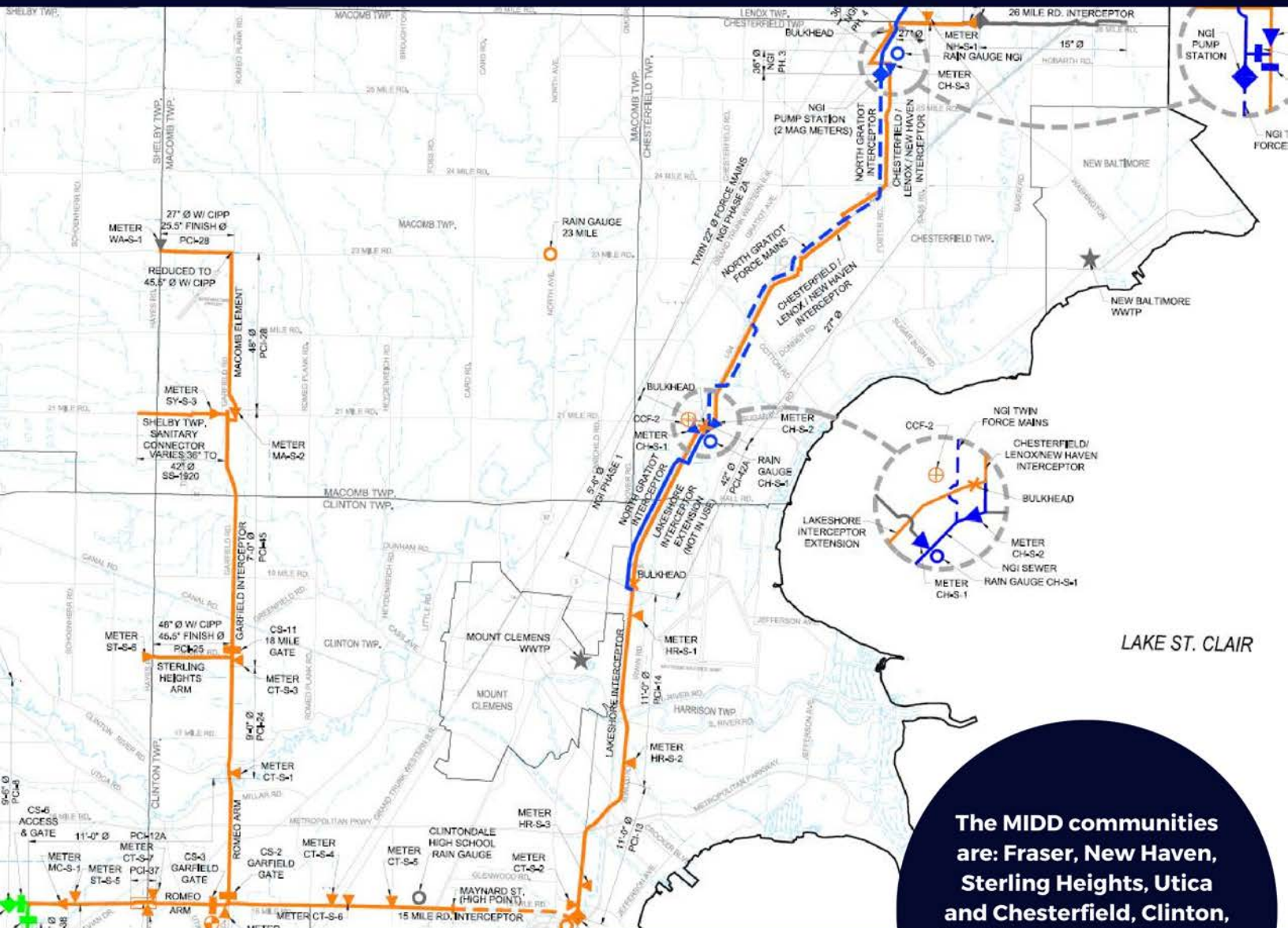


784 Manholes



# REPORT A POLLUTER: 24-Hour Toll Free Emergency Hotline 1-877-679-4337

If a discharge is detected in a Macomb County drain, please contact the Macomb County Public Works Office.



LAKE ST. CLAIR

The MIDD communities are: Fraser, New Haven, Sterling Heights, Utica and Chesterfield, Clinton, Harrison, Lenox, Macomb, Shelby and Washington townships.

Macomb County Public Works Office  
Commissioner Candice S. Miller

21777 Dunham  
Clinton Township, MI 48036

586-469-5325

public.works@macombgov.org

