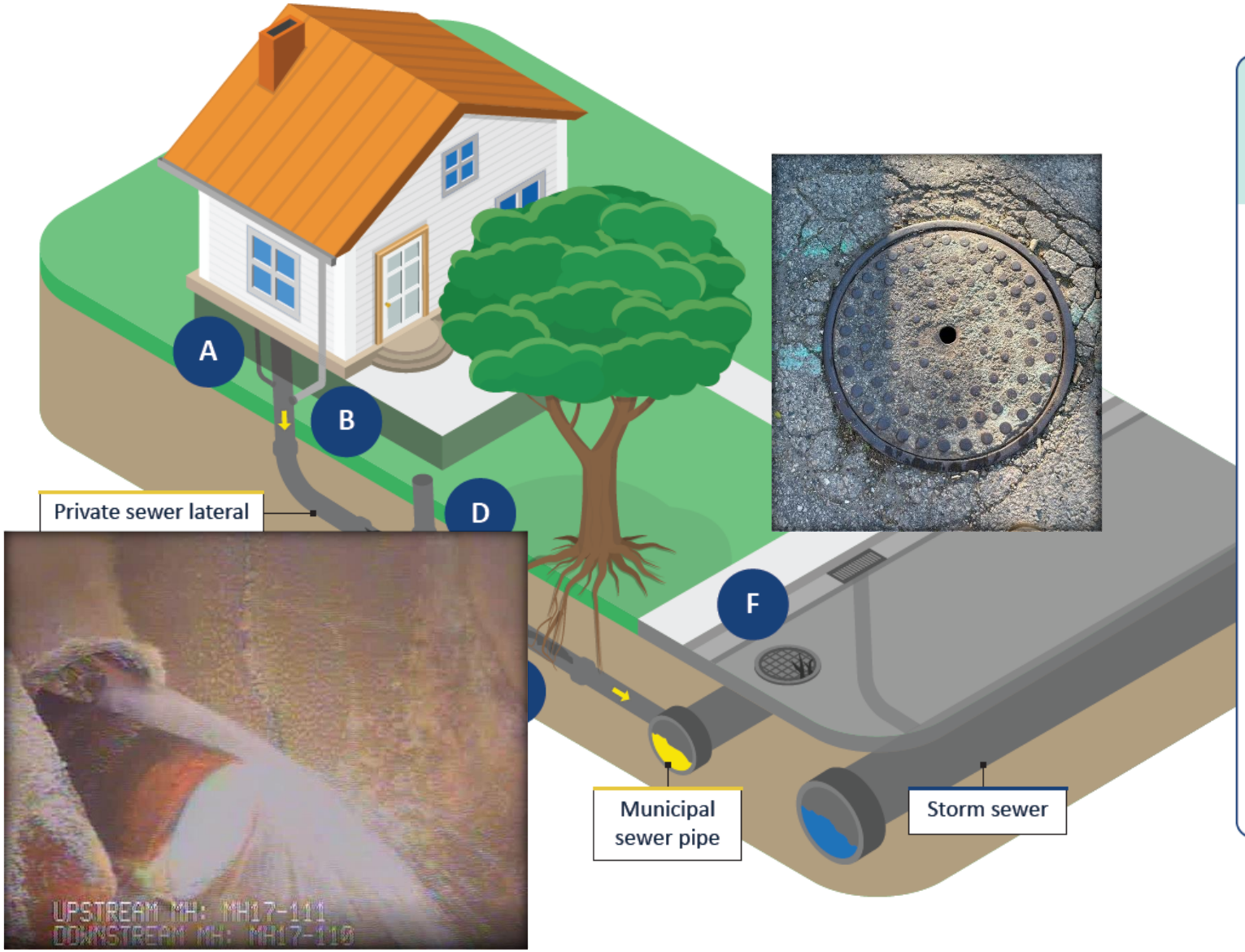
Project Update:
Inflow and Infiltration Reduction Program

June 26, 2025

Madison Metropolitan
Sewerage District

What is inflow and infiltration (I&)?

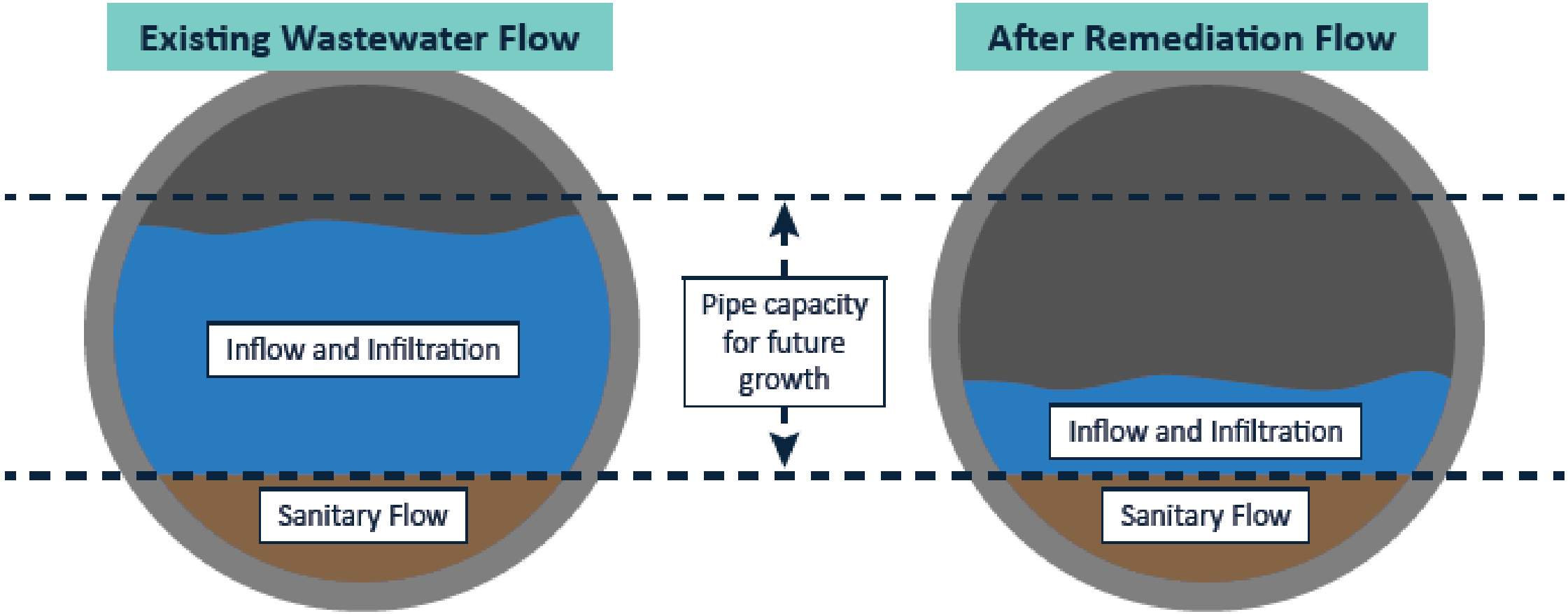


Sources of inflow and infiltration

Madison Metropolitan Sewerage District

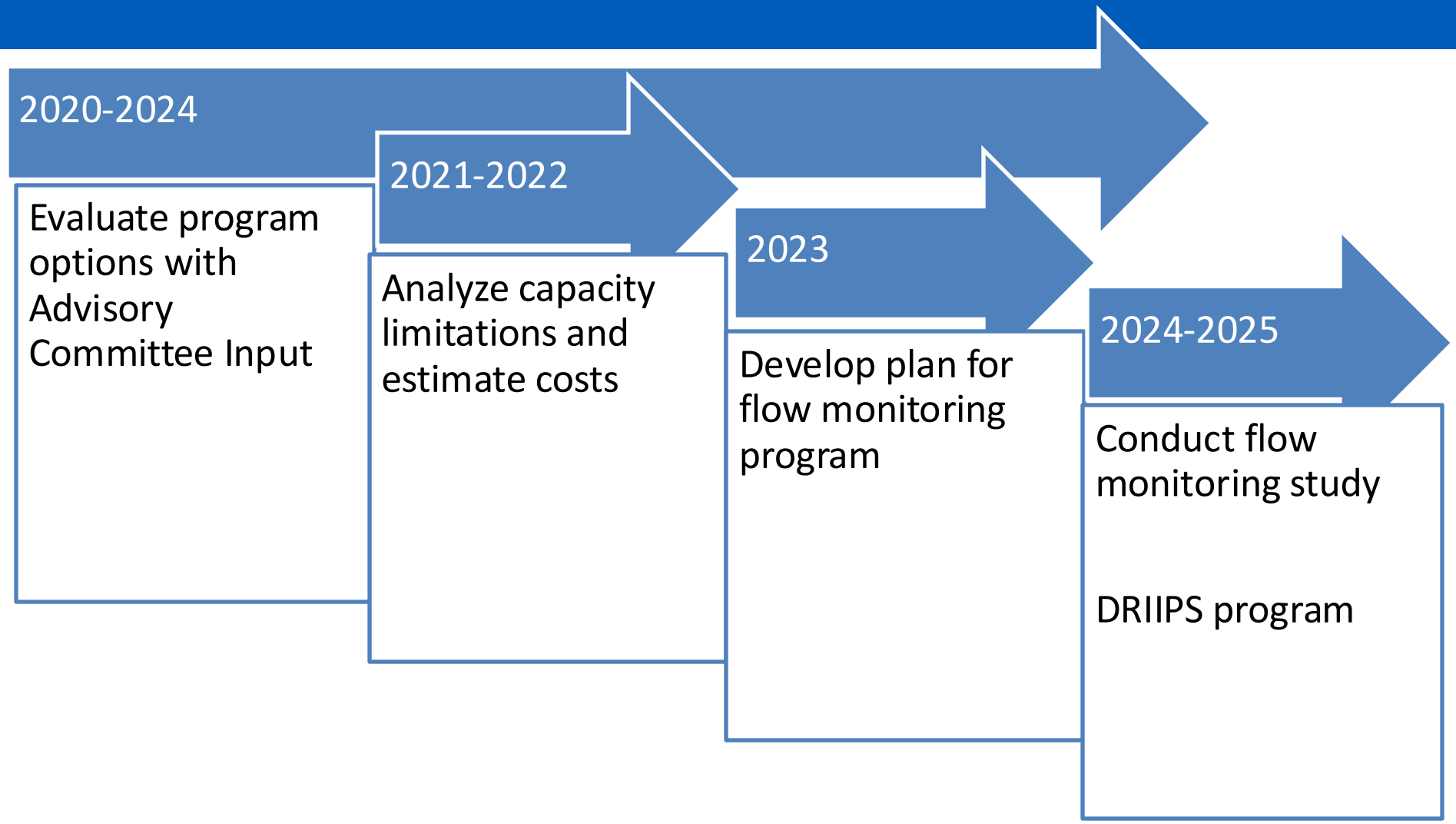
NR 210.23 Capacity, Management, Operation and Maintenance (CMOM)

- Eliminate excess I&I
- Prevent SSOs



Madison Metropolitan Sewerage District

Program Development



Madison Metropolitan Sewerage District

DRiiPS

Inflow and Infiltration (I&I) Compliance

Madison Metropolitan Sewerage District is held to water quality standards for treated wastewater required by state and federal law. However, individual community members, businesses, industries and municipalities all contribute to the wastewater system.

What goes down the drain locally, comes to the treatment plant and, often, goes back out to the environment. It's everyone's responsibility to think critically about caring for our shared water systems.

To help comply with permits and adhere to laws, the District outlines authority and regulates how communit and businesses can use the shared collection system and wastewater treatment plant through the Sewer Use Ordinance. This ordinance specifies types of waste that can be discharged from users into the sanitary sewer system. Rules related to preventing clear water from entering the wastewater system through inflow and infiltration (I&I) are included in Ordinance 4.7.5.

Ordinance 4.7.5 – Restrictions on storm drainage and groundwater

All Community Customers shall take reasonable steps to prevent Users from direct discharges of stormwater, groundwater, rain water, street drainage, roof runoff, and subsurface drainage into Community Sewers without prior approval of the community and the District, or into Intercepting Sewers without prior approval of the District.

Ordinance 4.7.5 covers storm drainage, groundwater and the discharge of clear water related to I&I. It outlines that structures connected to the sanitary sewer system must only be items that remove wastewater (sinks, toilets, etc.) Clear water sources should not be connected to the sewer system and issues from I&I should be addressed.

I&I issues in a community can include:

- Cracked or broken sewer laterals
- Missing sewer lateral cleanout caps
- Improper sump pump connections
- Gutter systems draining incorrectly
- Aged or broken municipal sewer pipes
- Open holes in sewer access lids

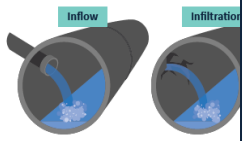
Scan this code to access DRIIPS information and resources.

Inflow and Infiltration (I&I) Reduction

The sanitary sewer system accommodates a range of wastewater volumes, but there are limits.

Inflow and infiltration (I&I) is clear water—from storm drainage and groundwater—that enters sanitary sewer pipes. Once in the system, it becomes wastewater and adds volume to the water to be treated by the regional plant.

Clear water from I&I puts unnecessary stress and costs on local and regional systems, while decreasing available capacity.



Consequences of I&I

I&I pushes wastewater treatment to the maximum and can result in:

- Sewer backups or overflows
- Environmental impacts
- Maintenance repair costs
- Upgrades to existing systems to accommodate larger volumes of water

Sources of I&I

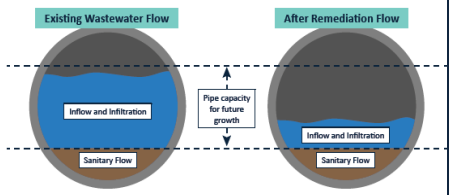
I&I enters the wastewater systems as clear water via:

- Defective sewer laterals
- Improper sump pump connections
- Gutters directing water to sewers
- Uncapped sewer lateral cleanouts
- Aged or broken municipal sewer pipes
- Open maintenance holes

Reducing I&I

Ways to help keep clear wat and wastewater separate:

- Inspect sewer laterals
- Cap sewer lateral cleano
- Repair sewer laterals
- Check sump pump disch points
- Examine stormwater cor



Private Sewer Laterals

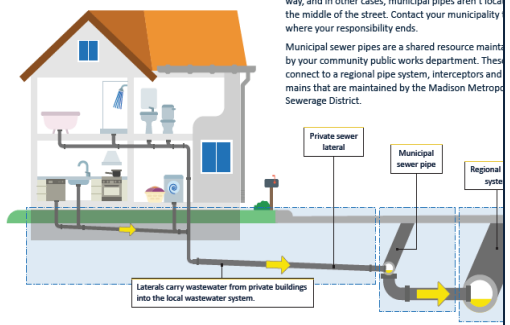
In urban areas, most homes and businesses are equipped with private sewer laterals. Private sewer laterals are pipes that carry wastewater from your property into municipal and regional sewer systems. **Property owners are responsible for maintaining and repairing all private sewer laterals.**

Understand your responsibilities

Lateral ownership belongs to each property owner, from the building to the connection with the munic sewer pipe, usually located underneath the street i of your building.

Sometimes, private ownership may only go to the r way, and in other cases, municipal pipes aren't loca the middle of the street. Contact your municipality where your responsibility ends.

Municipal sewer pipes are a shared resource maint by your community public works department. These connect to a regional pipe system, interceptors and mains that are maintained by the Madison Metropo Sewerage District.



Lateral materials

Properties built after 1980 typically have sewer laterals made of PVC, while older builds likely use clay or cast iron. The pipe's material will impact its durability against tree roots, clogs and other pressures that can deteriorate laterals over time.

- Clay breaks easily and has vulnerable joints.
- Cast iron is susceptible to corrosion.
- PVC is less prone to breaks or problems.

Clay pipes | Iron pipes | PVC pipes

Sump Pumps

Proper sump pump connections keep clear water out of sewers.

Sump pumps protect properties from water damage, especially in areas where the water table is high or groundwater seepage is common. These pumps remove water to help prevent basements and foundations from flooding. They turn on when water collected in drain tiles below the basement floor reaches a certain level.

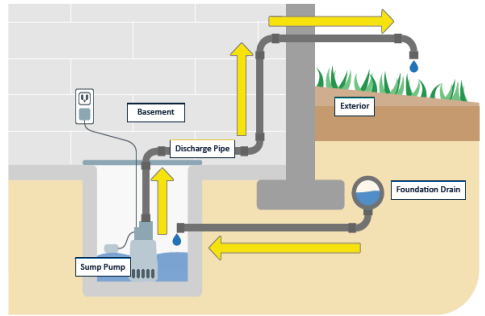
Proper sump pump discharge

Water from sump pumps should discharge back into the environment and not into the sanitary sewer system.

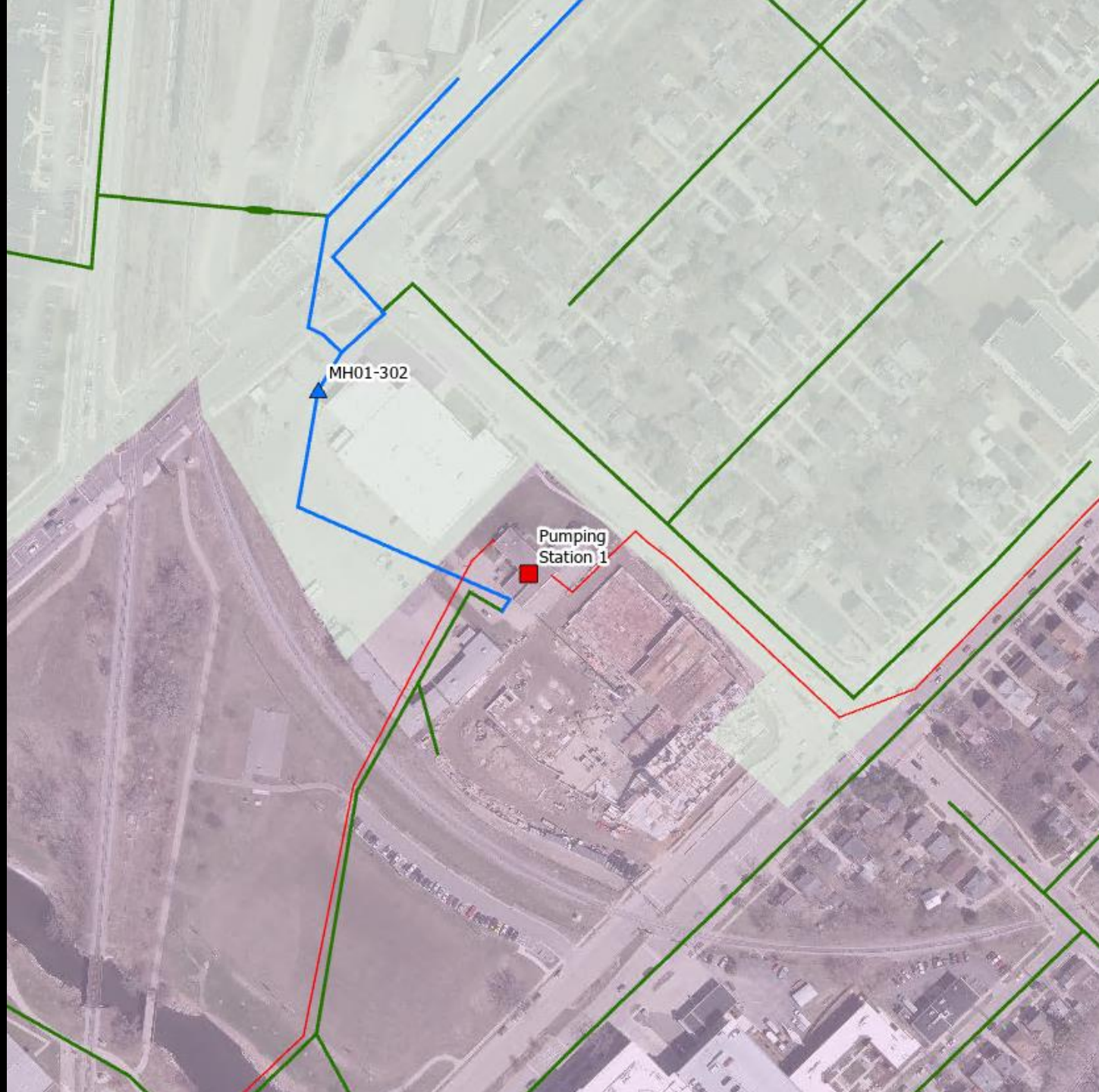
When sump pump water is not discharged correctly, local and regional sewer pipes can become overloaded with clear water, which during heavy rain events, can lead to sewer backups and overflows.

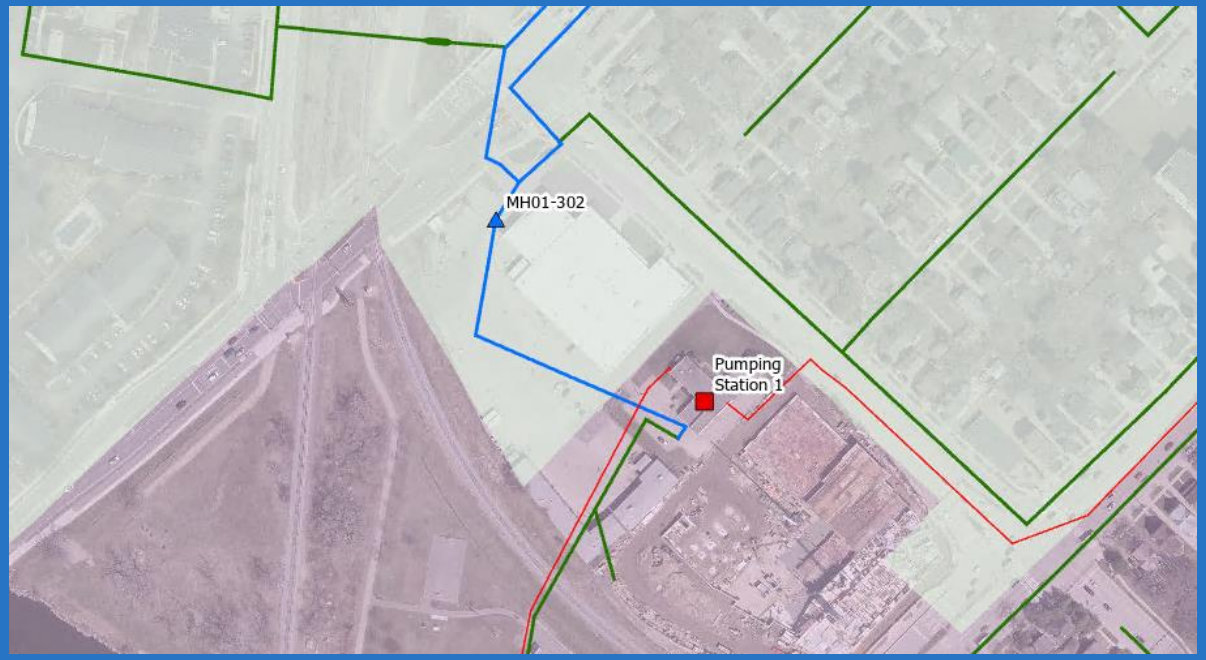
Proper setup means less waste

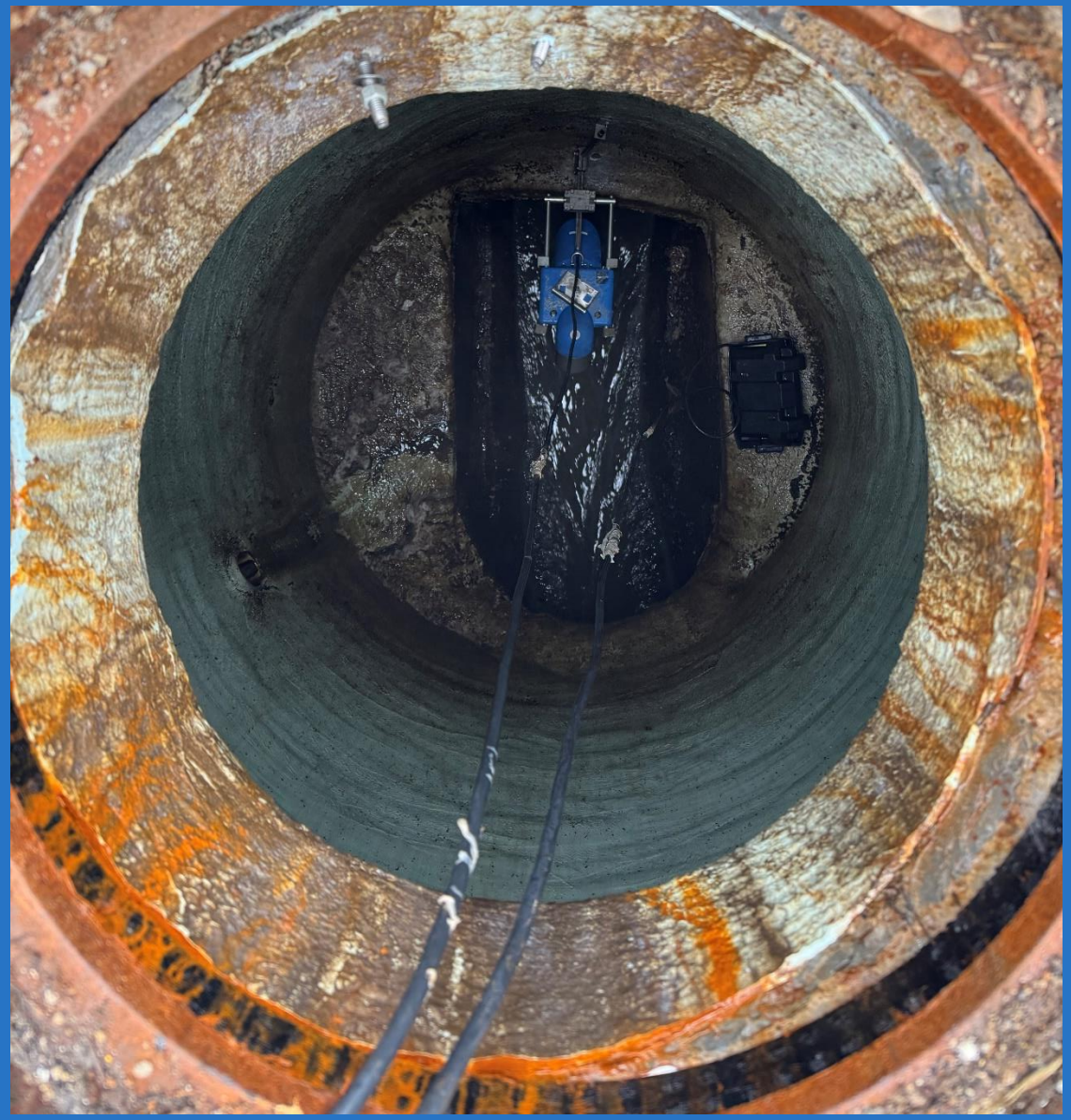
One incorrectly installed sump pump adds up to 7,200 gallons per day of clear water to the wastewater system unnecessarily. ***That's as much water as an average residential swimming pool!***




Pumping Station 13
Pumping Station 10
MH01-302
Pumping Station 1
Pumping Station 6
Pumping Station 2

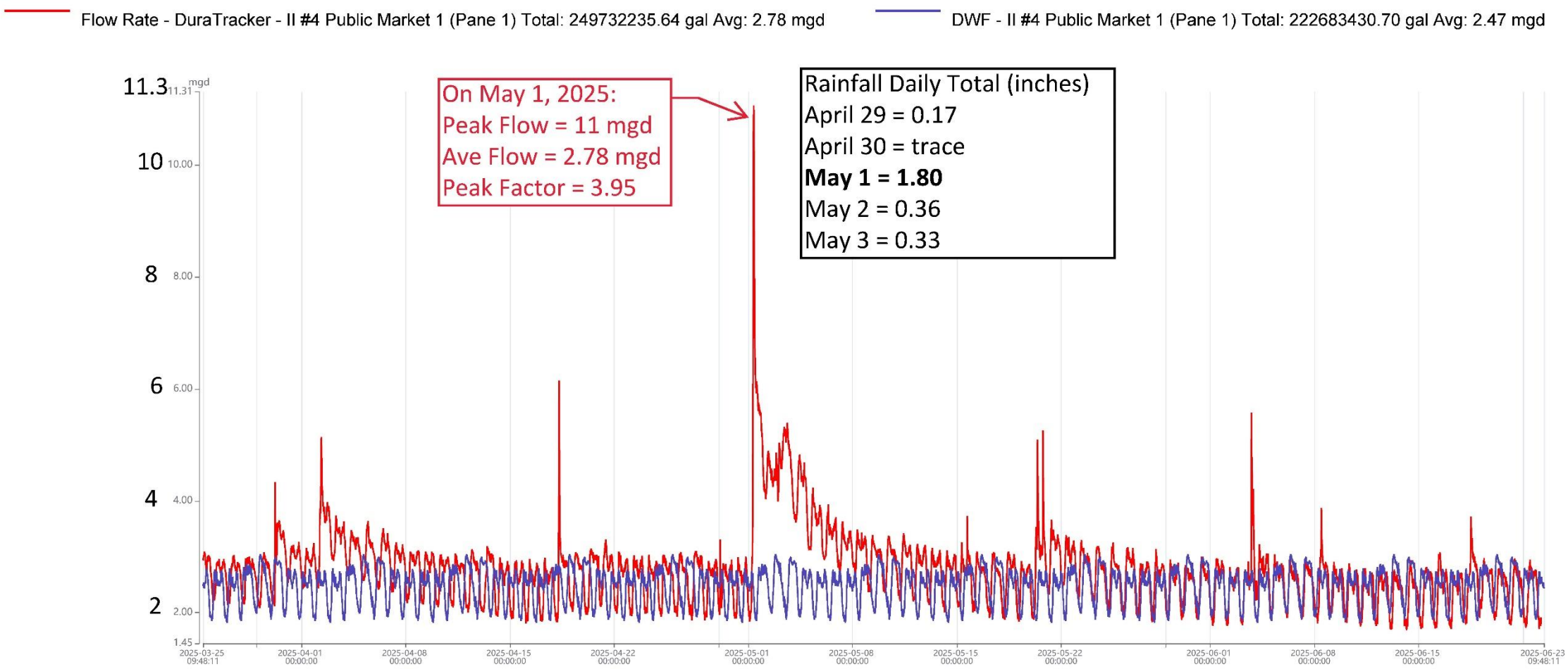

MH01-302
Pumping Station 1





Madison Metropolitan
Sewerage District

II #4 Public Market 1 (MH01-302)



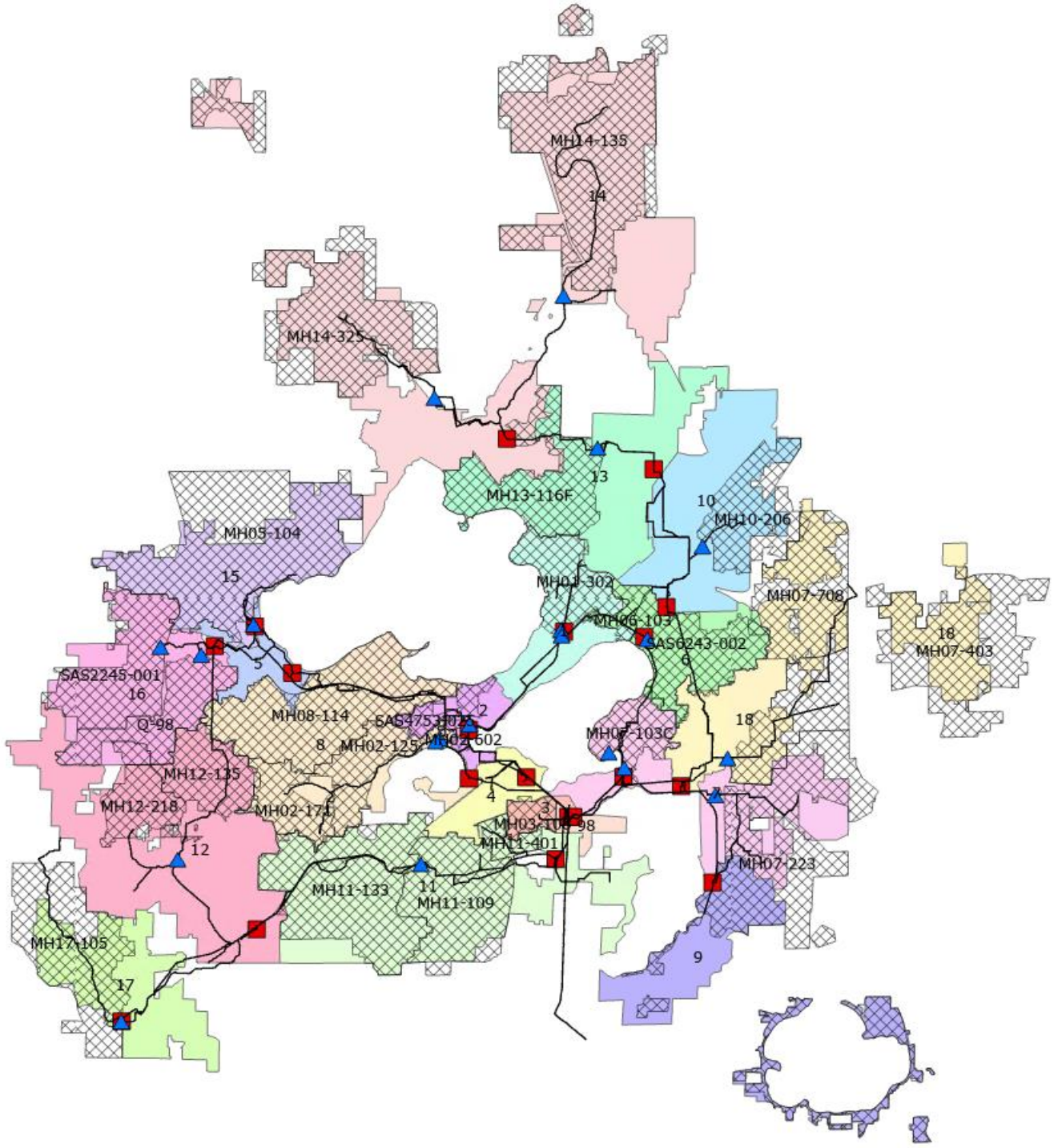
Madison Metropolitan Sewerage District

Next steps

- DRIIPS
- Gradually build flow monitoring network

Continue to monitor

- Regulatory requirements
- Critical I/I issues
- Program needs



Madison Metropolitan Sewerage District

Questions?

Madison Metropolitan
Sewerage District