










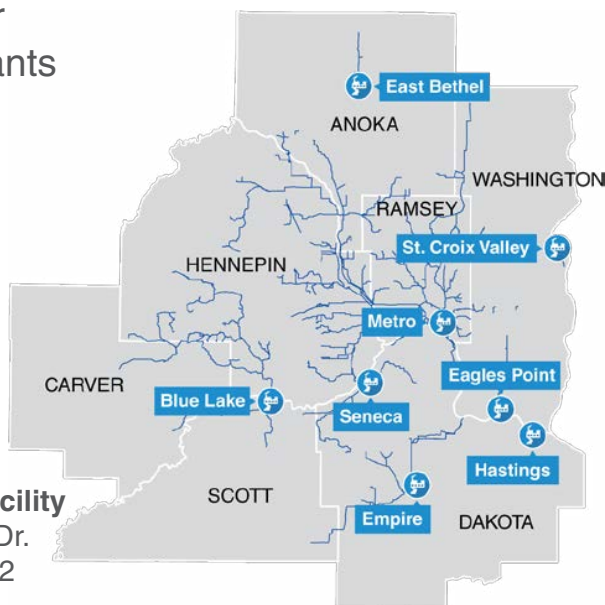
# INTERCEPTOR SEWER SYSTEM

## What does MCES do?

-  **Protect public health and the environment** through reliable and effective wastewater conveyance and treatment.
-  **Foster economic growth in the region** by maintaining low service rates through efficient operations and smart planning.
-  **Collaboratively engage with our customers**, stakeholders and partners to provide excellent wastewater conveyance and treatment services.
-  MCES has a comprehensive program to evaluate the condition of our interceptor system, and have developed a plan to rehabilitate or replace interceptors and manholes based on:
  - Age
  - Condition
  - Criticality
  - Capacity
  - Need to accommodate growth
  - Opportunity to coordinate with other planned infrastructure improvements

## Our wastewater infrastructure

-  **8** wastewater treatment plants
-  **610** miles of sewer pipe
-  **213** meters
-  **62** pump stations
-  **Regional Maintenance Facility**  
3565 Kennebec Dr.  
Eagan, MN 55122  
651.602.4500  
metro council.org



## Who is MCES?

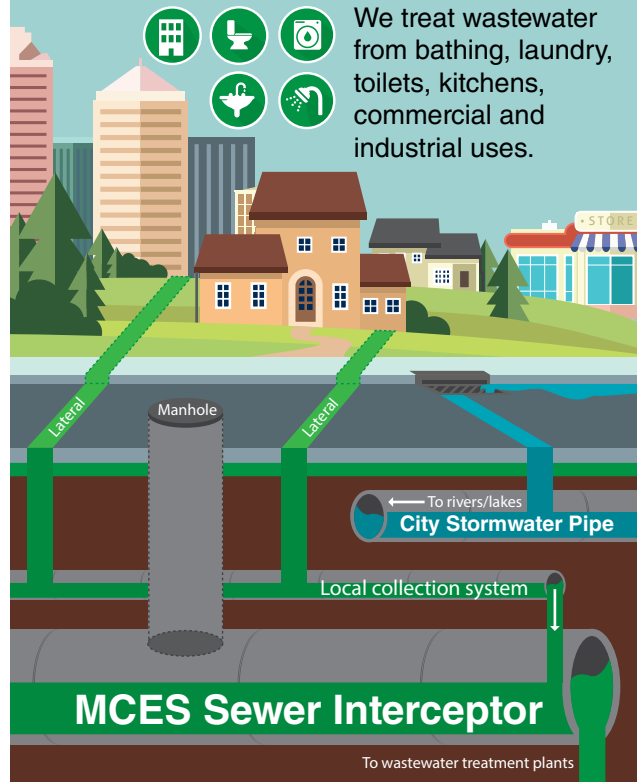
### OUR CUSTOMERS

**109** communities in the 7 county Metro Area  
**2.6 million** population served  
**250 million gallons** treated daily

### OUR ORGANIZATION

**600+** employees  
**\$7 billion** in valued assets  
**\$100 million/year** capital investment for interceptor program planned until 2030

## What is wastewater?



Our treatment process removes pollutants and returns clean water to the environment.

## Why is it important to keep our sewer system in good repair?



**Protect public health**



**Manage assets effectively**



**Protect other infrastructure**

# How do we select our interceptor system projects?

We evaluate priority based on the following considerations:

## PIPE AGE

While the age of a pipe doesn't necessarily determine its condition, it can be an indicator when considered alongside the pipe's material and situation. For example, some brick pipes that are over 100 years old are still in good working condition, but a newer concrete pipe with a highly turbulent flow can become corroded and need repair after 40 or 50 years.



## PIPE CORROSION

Concrete and metal pipe can be damaged by chemicals released by wastewater. This happens when sewer gas is converted by bacteria living on the pipe walls into an acid which corrodes the pipe material.

## IMPACT OF FAILURE

The impacts of pipe failure are taken into account when prioritizing projects. If a pipe is located in a sensitive area that would result in environmental impacts, disruption to homes or business, or a major transportation or rail corridor, its rehabilitation will be prioritized.

## PIPE TYPE & INSPECTION FINDINGS

Our interceptor system consists of gravity pipes and pressure pipes. Gravity pipes use gravity rather than pumps to move wastewater through, as where pressure pipes use pumps. Gravity pipes can be inspected visually with video, laser, or sonar. Most often, pressure pipes can't be easily inspected without establishing a temporary conveyance system.

21%  
Pressure

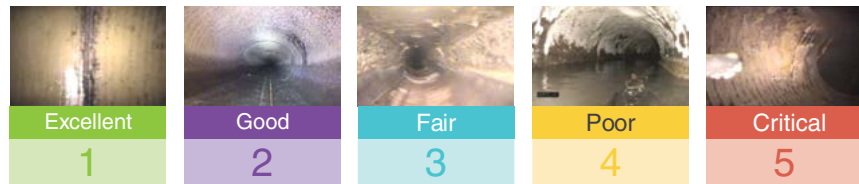
79%  
Gravity

## SOIL CONDITION

Gradually shifting soil, tree roots, the turbulence of the wastewater moving through the pipe, and other situational factors can have a big impact on the condition of a pipe. When combined with age and pipe material, different situations can result in how long a pipe can last before needing repair or replacement.

## PIPE CONDITION

MCES regularly inspects its gravity pipes and assigns each pipe a condition rating from 1 (excellent - newly installed) to 5 (critical - needs immediate attention). Approximately 20% of our gravity pipes are rated as 4 and need a repair scheduled, and less than 2% are critical and require immediate attention.



## Construction Methods

MCES is engaged in a systematic sewer rehabilitation program that is designed to keep our sewers reliable while accommodating growth in the region.



**Cured-in-Place Pipe**  
Adds a new liner to the inside of an existing pipe. **This process has the lowest impact.**



**Remove & Replace Pipes**  
Excavate to remove and replace sections of pipe.



**Repair & Reconstruct Maintenance Holes**  
Reline or remove and replace maintenance structures.

## Our system's future

### MCES CAPITAL IMPROVEMENT PROGRAM

The regional wastewater system has an estimated replacement value of approximately \$7 billion. MCES plans to invest \$100 million/year in the interceptor system over the next 10 years and beyond on projects that will:

- Protect public health
- Preserve our wastewater assets
- Meet planned regional and local capacity
- Coordinate with other infrastructure projects
- Protect public assets and natural features