



## **City of Ashtabula**

Ashtabula City Council Work Session Agenda  
Wednesday, July 31, 2024 at 5:30 PM  
Ashtabula Public Library  
4335 Park Avenue

### Agenda

- 1. Opening of Work Session**
  - a. Call to Order
  - b. Roll Call
  - c. Sunshine Law Certification
- 2. Welcome and Acknowledgement of Visitors**
- 3. Panel Discussion From Area Agencies**
  - a. GPD Group Presentation regarding the improvements and rate increase recommendations for our Wastewater Treatment Facility and Collection System
- 4. Questions/Comments**
- 5. Discussion**
- 6. Public Comment (at Council's discretion)**
- 7. Adjournment**



# City of Ashtabula

Capital Improvement Plan

July 31, 2024





# Agenda

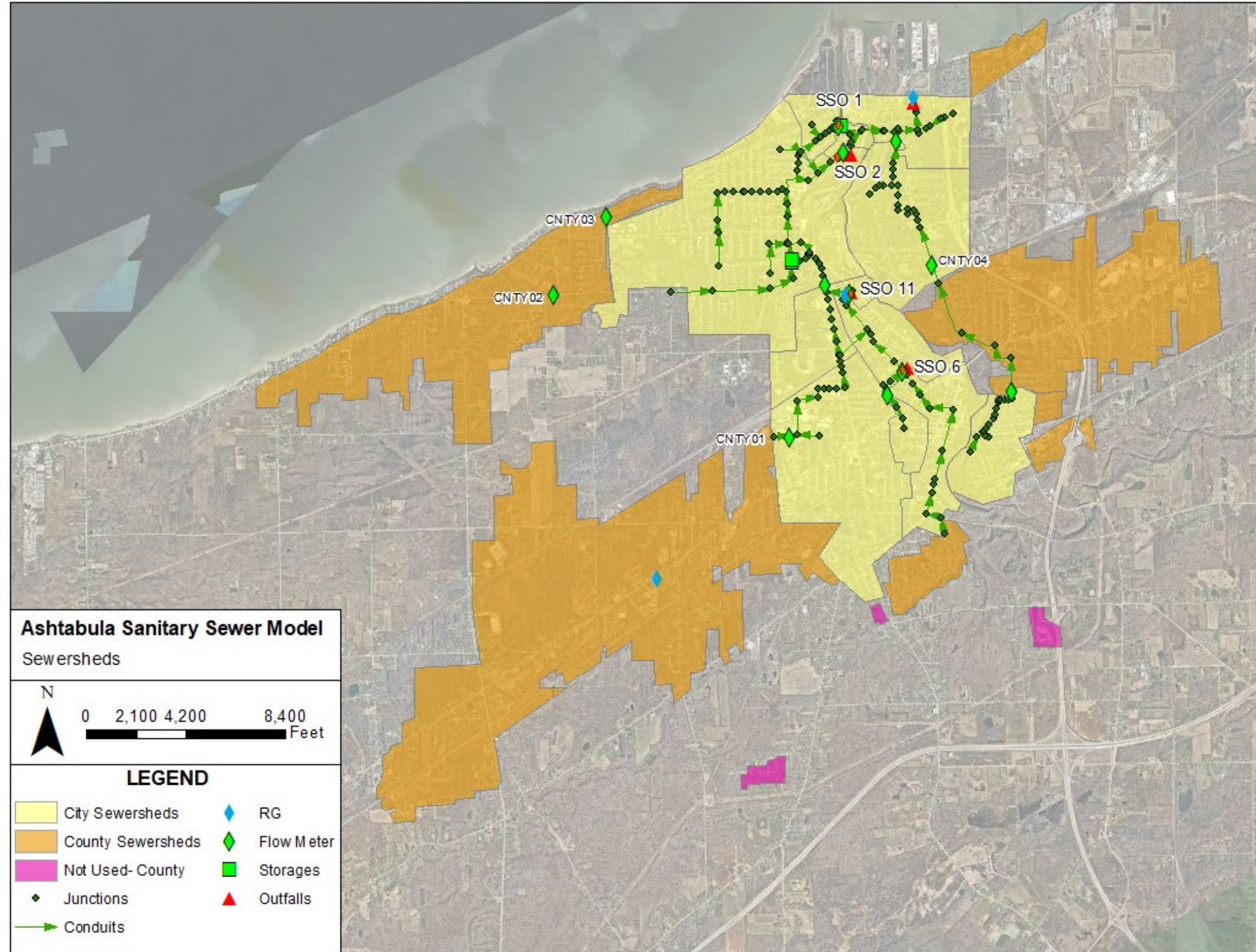
1. Summary of Work
2. Wastewater Treatment Plant (WWTP) Improvements
3. Pump Station Improvements
4. Sanitary Sewer Collection System Improvements
5. Capital Improvement Plan (CIP) Cost Summary
6. Proposed Sewer Rate Analysis
7. Continual Progress
8. Q & A



# Summary of Work



# Ashtabula Service and Treatment Area



# Summary of Work

- Condition assessment of the Wastewater Treatment Plant (WWTP).
- Development of phased Capital Improvements Plan (CIP) WWTP improvements required to maintain compliance with NPDES permit discharge limits and schedule of compliance.
- Targeted flow metering and sanitary sewer system modeling to support elimination of Sanitary Sewer Overflows (SSOs).
- Development of sanitary sewer collections system storage and improvement alternatives to address SSOs and gain compliance with OEPA requirements.
- Planning level cost estimating for improvements.
- Prioritized schedule of improvements for completion within the anticipated OEPA compliance period.
- Rate analysis and recommendations for funding improvements.





# WWTP Improvements



# WWTP Improvements – Health & Safety

- Repair Admin Building trip hazards (flooring).
- Replace hand railing systems at all structures (except the primary settling and grit tanks).
- Perform Arc Flash Study.
- Concrete bridge replacement at Grit Building.
- Replace Pre-aeration grating and handrail.
- Ventilation for Grit Building (meet code).
- Replace leaking electrical vault and conduit (flooding the tunnels).
- Improvements to potable water system (meet code).
- Ventilation for Blower Building (meet code).
- Replace Emergency Exit Signs & Lighting (meet code).

# WWTP Improvements – Operational (CIP) Improvements

- Digester Improvements
  - New lids #1 & 3
  - Complete Rehabilitation of #2
- Digester Gas Handling Improvements
- Sludge Dewatering System Replacement
- Pre-aeration Structural Improvements
- Aeration Blower Replacement
- Chemical Feed Improvements
- Grit Removal Modifications



# WWTP Improvements – Operational (CIP) Improvements

- Aeration Improvements
- Non-potable / Process Water Improvements
- Raw Sludge Building Electrical and Roof Repair
- Administration Building Mechanical, Electrical, Plumbing & Structural Repair
- Chlorine Building Roof and Electrical
- Outfall Improvements
- Plant-wide electrical improvements (SCADA, hazardous area replacement, gas detection, sensors, generator replacement, etc.)



# WWTP Improvements – Operations and Maintenance

- Remove Obsolete Piping / Equipment
- Repainting
- Pipe Labeling
- Valve / Equipment Labeling, Exercising, Removal, and Replacement Program
- Valve / Equipment Asset Management Plan
- O&M Manual Updates
- Generator Maintenance
- Replace / Maintain Sump Pumps Throughout the Plant

# Pump Station Improvements




## Pump Station Improvements – Health & Safety

- Fall Prevention Railing & Equipment
- Overall Pump Station SCADA Improvements & Standardization

## Pump Station Improvements – Operational (CIP) Improvements

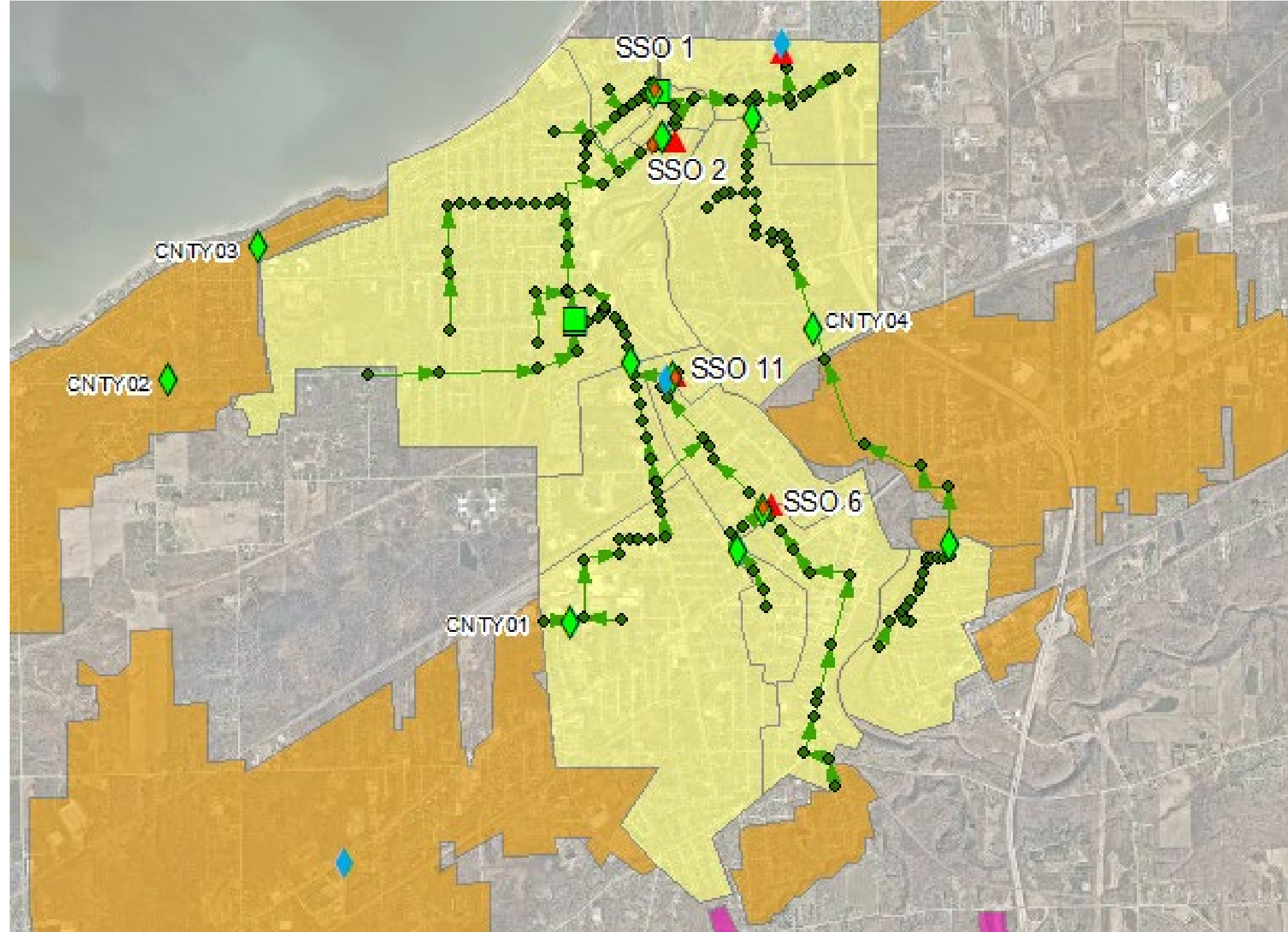
- Building waterproofing
- Detailed structural analysis and abandonment of outdated assessments
- Door replacements (security, protection of assets)
- Electrical and controls improvements
- Generator modifications and improvements
- Grating repair/replacements
- HVAC improvements
- Investigations into operational optimization of the facilities
- Piping replacements
- Pump and guide rail replacements
- Security improvements
- Site drainage improvements
- Structural inspections
- Access hatch replacements



# Sanitary Sewer Collection System Improvements



# Sanitary Sewer (SS) Model Sewersheds



# Improvements Summary – Collections System

## PHASE 1

Eliminate SSO 1 & 2

- Largest flow and volume contributors
- Morton Pump Station and Forcemain Improvements
  - Morton Pump Station would need improvements to meet existing conditions in 5 or less years
  - Siphon has seen issues and would likely need major rehabilitation within the next 5 years
- Equalization Basin to protect the WWTP (Gravity discharge, no pump station)
- Cost for Pump Station and Forcemain ~\$38 million; EQ Basin ~\$20 million
- Evaluate Improvements and effects on SSO 6 & 11

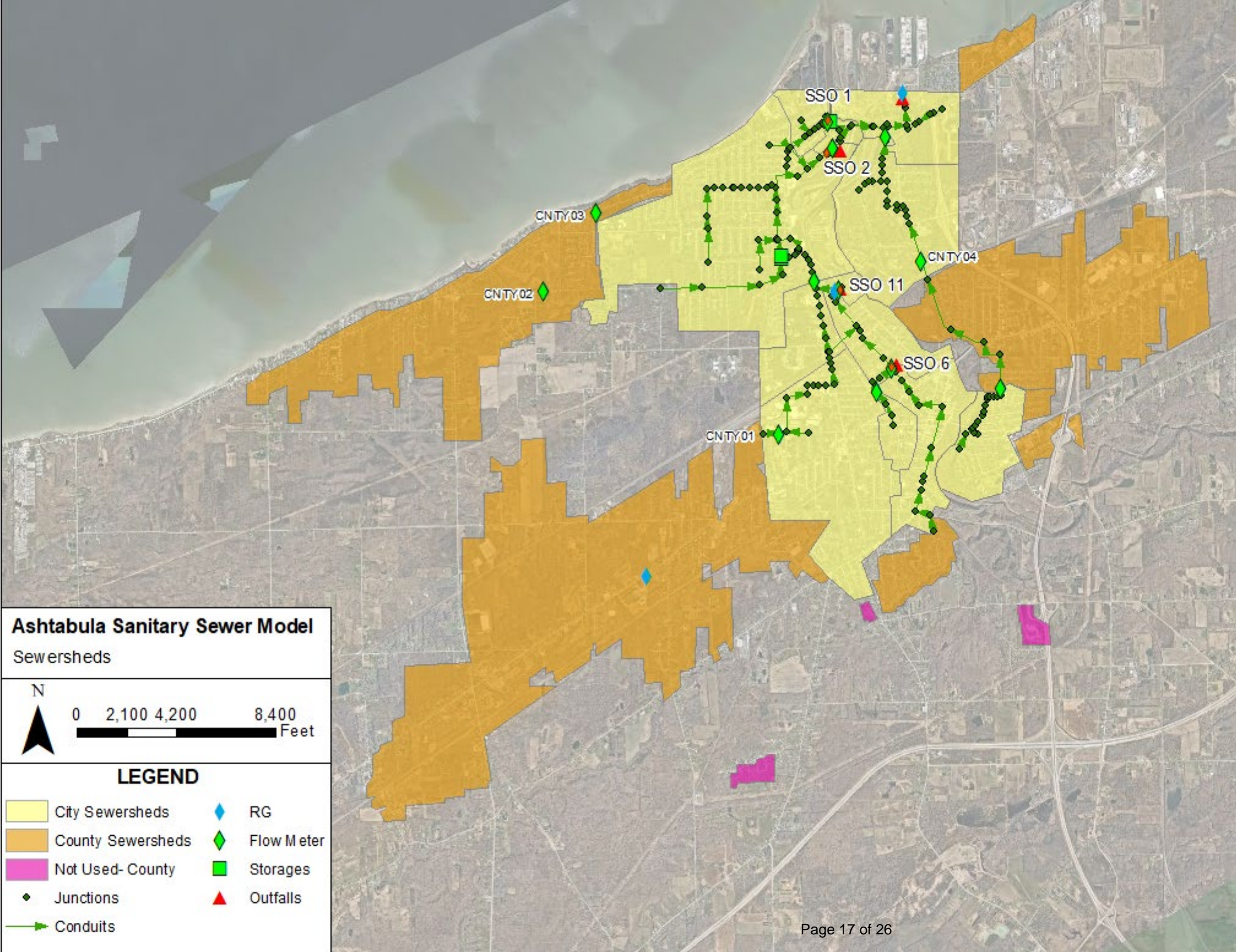
## PHASE 2

Eliminate SSO 6 & 11

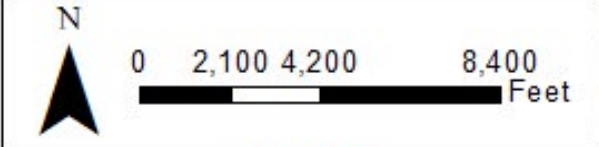
- Update Model with Phase 1 improvements to optimize basin sizing (most likely reduce basin size)
- Install Equalization Basins near SSO 6 & 11
- Cost (approximately \$5 per gallon)
- SSO 6 ~\$3 million
- SSO 11 ~ \$2.2 million

# County Flow Impacts - Sewersheds

- Agreement with the County is Annual Average Daily Flow of 1.2 MGD.
- Future plans to provide additional monitoring at connection points.
- If agreed upon Average Daily Flow is exceeded additional rates may apply – Not a source of revenue to offset rates and necessary projects.



**Ashtabula Sanitary Sewer Model**  
Sewersheds



LEGEND	
City Sewersheds	RG
County Sewersheds	Flow Meter
Not Used- County	Storages
Junctions	Outfalls
Conduits	





# CIP Cost Summary



# Cost Summary

Priority Ranking	Capital Improvement Project	Opinion of Probable Cost
1	Health & Safety Improvements	\$2,800,000
2	Collection System SSO 1 & 2 Removal Improvements (Phase 1)	\$58,000,000
3	Digester Improvements	\$13,000,000
4	Solids Dewatering Redundancy Improvements	\$2,000,000
5	Electrical, Instrumentation, and Controls Improvements	\$2,100,000
6	Fleet Vehicle Acquisitions	\$1,400,000
7	Pre-Aeration Tank Improvements, Phase 1 & 2	\$6,400,000
8	Aeration and Grit Blower Replacement	\$3,000,000
9	Collection System SSO 6 & 11 Removal Improvements (Phase 2)	\$5,200,000
10	Chemical Feed Improvements	\$400,000
11	Grit Removal Modifications	\$4,200,000
12	Aeration Improvements	\$1,600,000
<b>Total:</b>		<b>\$100,100,000</b>





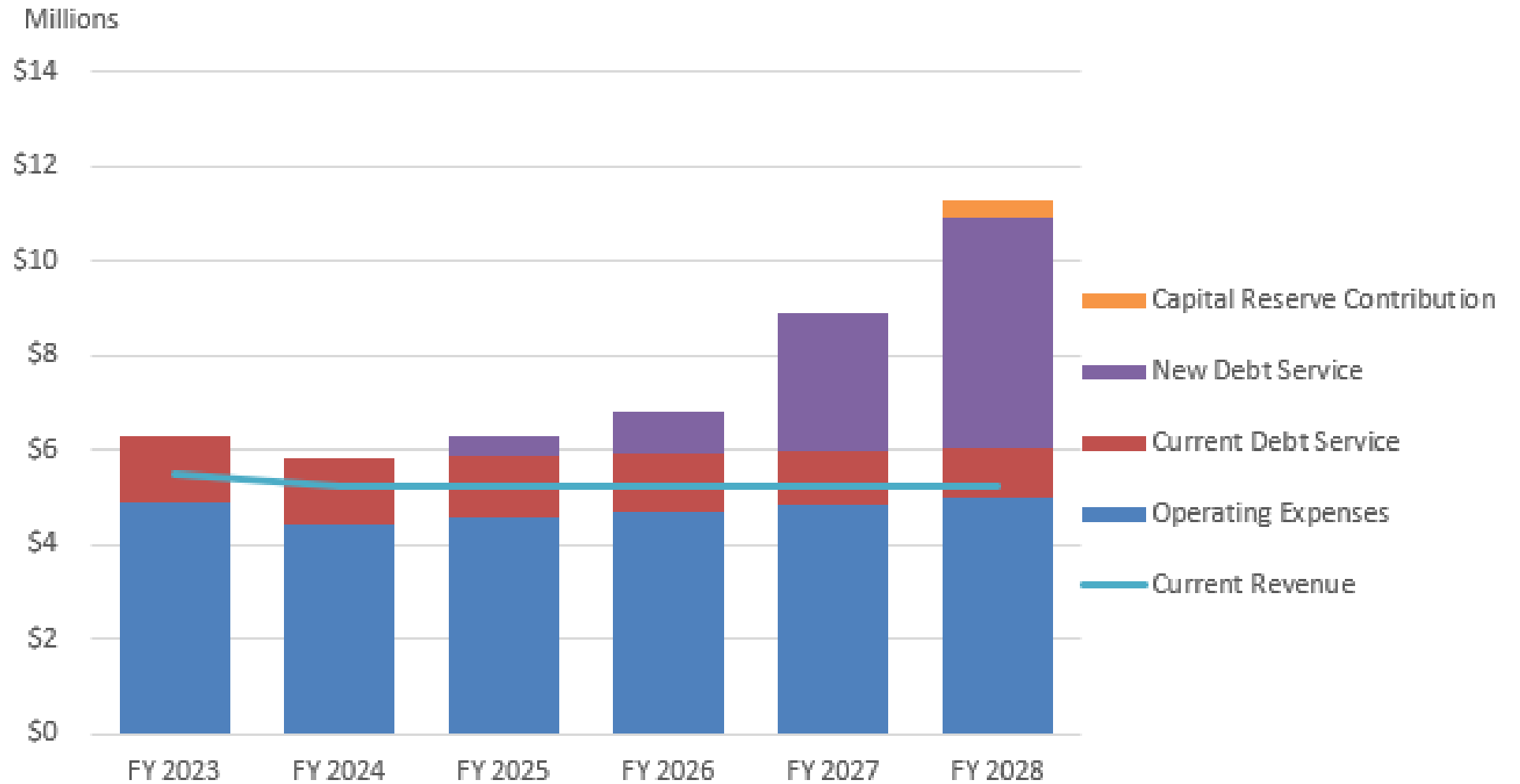
# Proposed Sewer Rates Analysis



# Current Sewer Rates with New Debt Service

- Revenue not meeting current O&M expenses and debt service.
- Overall consumption forecast flat from 2024-2028.
- Revenue requirements increase every year (inflation affects O&M expenses, plus existing debt service).
- Required/needed collection and treatment system investment increases revenue requirements.
- Loans will be used to finance capital projects – spreads debt service over life of improvements.

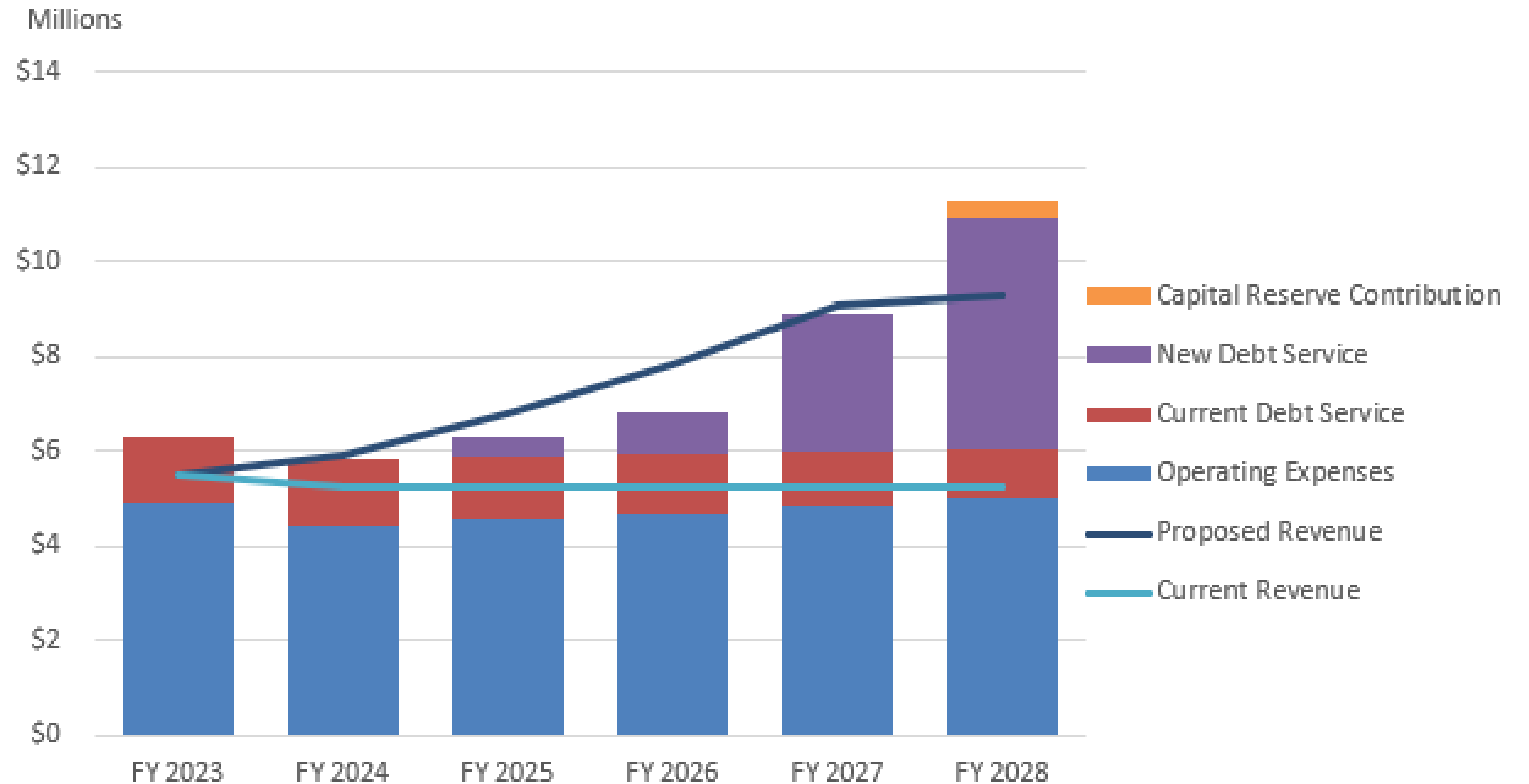
Revenue Requirements and Current Revenue



# Proposed Sewer Rates

- Increased revenue needed for:
  - Meeting current and future O&M and debt service.
  - Capital Reserve Fund for emergency/unplanned capital projects (utility best practice goal is 2% of system original costs).
  - O&M Reserve Fund (utility best practice is 90 days of O&M expenses).
- Consistent increases for 2024-2027, lower increase for 2028.
- Provide sufficient revenue to support increased O&M costs and the first five years of the capital improvement.

Revenue Requirements, Current Revenue, and Proposed Revenue



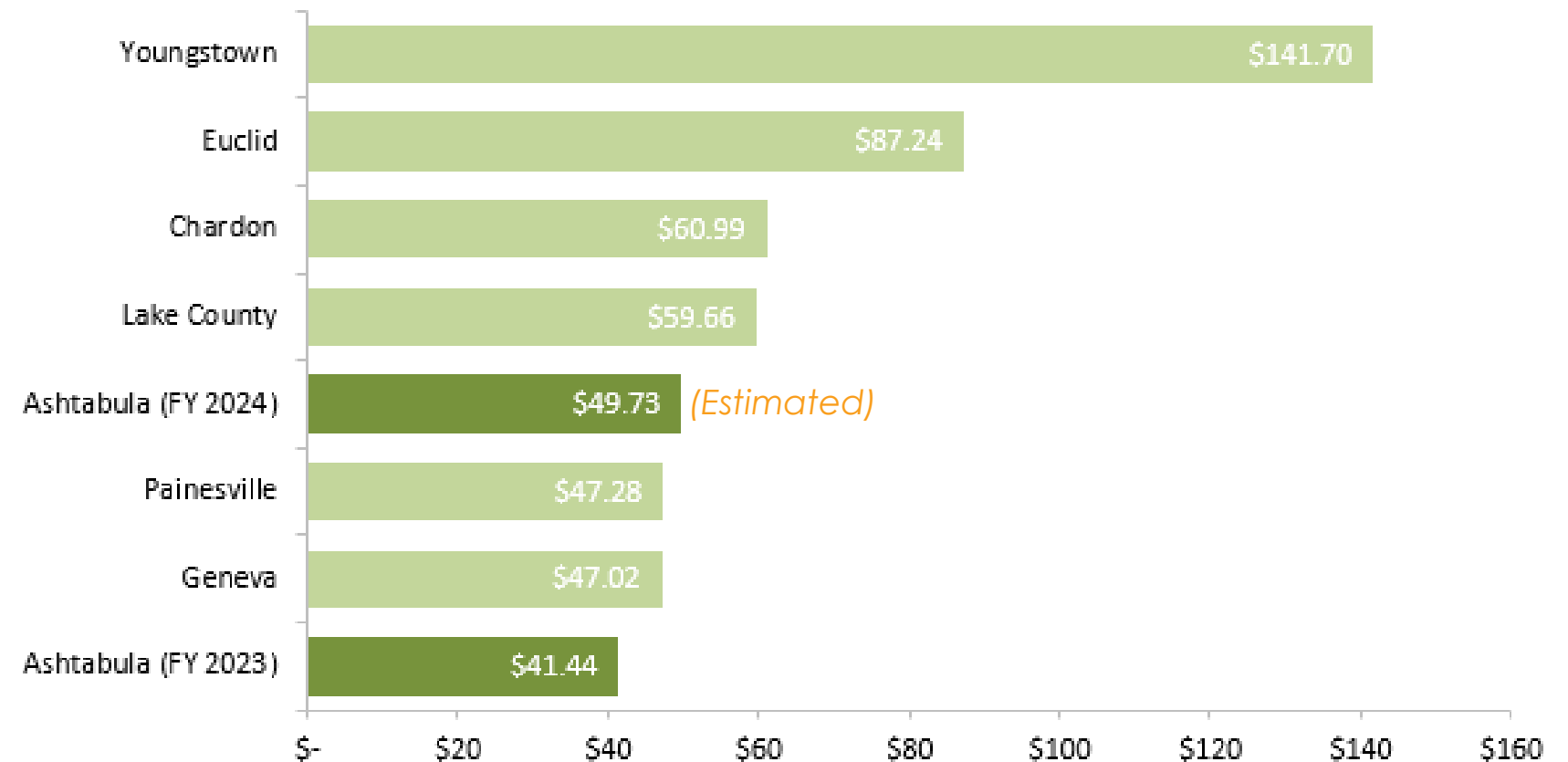
# Proposed Sewer Rates

- Median user – Average increase less than \$5 per month each year from 2024-2028.
- Keeps Ashtabula sewer bill lower than half of comparison utilities.
- Comparison utilities contemplating increases – All experiencing higher costs.

## Residential Bimonthly Bill Impact

			Bimonthly Bill				
Customer	Usage (cubic feet)	Current	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Small User	400	\$27.12	\$32.54	\$39.05	\$46.86	\$56.24	\$57.92
<b>Median User</b>	<b>800</b>	<b>\$41.44</b>	<b>\$49.73</b>	<b>\$59.67</b>	<b>\$71.61</b>	<b>\$85.93</b>	<b>\$88.51</b>
Large User	1,200	\$55.76	\$66.91	\$80.29	\$96.35	\$115.62	\$119.09
<b>Median User (\$ Inc)</b>	<b>800</b>		<b>\$8.29</b>	<b>\$9.95</b>	<b>\$11.93</b>	<b>\$14.32</b>	<b>\$2.58</b>

## City of Ashtabula Bill Comparison (2023)





# Continual Progress



# Continual Progress

## Water Pollution Control Improvements



- Started in 2012 with numerous equipment and structure failures.
- Improvements thus far include rehabilitation of final and primary settling tanks, electrical updates, and installation of new UV disinfection system.

## Tivision Place Pump Station Replacement



- System needed replacement due to age and lack of proper function.
- The replacement eliminates stagnant sewage, reduces the City's frequent repairs, and resolved issues flagged by the Ohio EPA.

## Program Management



- Providing capital planning, initiation, and funding assistance for various city projects since 2011.
- Planned, designed, and delivered construction administration for several sewer related projects.



# Q & A



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