

Tri-Cities North Regional Wastewater Authority

Capital Improvement Project Update
Updated March 8, 2024



Today's Objective

1. EQ and Collection System Improvement Project Update
2. Plant Improvement Project Update
3. Past and Future Rates
4. Project Funding
5. Questions

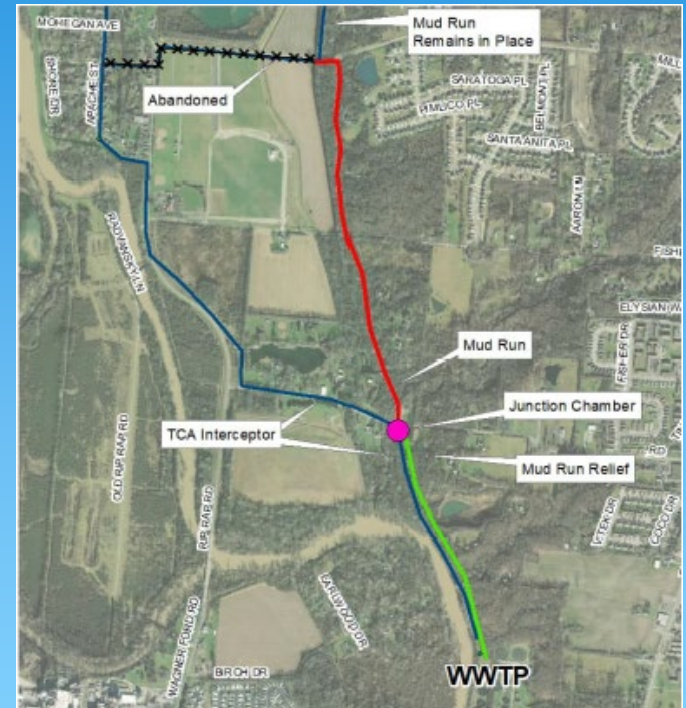
Needmore Road Treatment Plant



Tri-Cities Historical Background

- TCA was constructed in 1985 by Miami Conservancy District to serve the three cities sewer needs.
- MCD sold in 1996 and TCA was legally formed.
- Our service area consists of Tipp City, Vandalia, and Huber Heights. TCA serves over 67,000 residents between Montgomery and Miami Counties.
- We treat over 4 billion gallons of wastewater per year,
- We are the third largest wastewater system in the MVRPC's planning region.
- We own and lease over 600 acres in Tipp City, where we land apply 10 million gallons of biosolids per year.
- Flows per community= Huber 53%, Vandalia 25.6%, Tipp City 21.4%

EQ and Collection System Improvement Project



OPINION OF PROBABLE CONSTRUCTION COST

Deliverable	EQ Site	Relief Sewer	Sludge Line	Total Cost	Notes
Planning	\$11.74 M	\$8.89 M	\$ -	\$20.63 M	•Class IV Estimate (-30% to +50%) •Initial AquaStore Est. \$2.63 M
30%	\$16.14 M	\$7.63 M	\$ -	\$23.77 M	•AquaStore increased Est. to \$4.63 M •Foundation/ GeoPeirs Not included •Included 30% Construction Contingency
60%	\$16.38 M	\$7.48 M	\$0.63 M	\$24.48 M	•Added Sludge Line Replacement to Project •Additional Tank details included •Contingency only reduced to 25%
90%	\$15.88 M	\$8.24 M	\$0.45 M	\$24.57 M	•Contingency Reduced to 5% •Increase in Relief Sewer size to 30" •Communications Antenna (100')
*100%	\$15.49 M	\$7.8 M	\$0.43 M	\$23.72 M	•Contingency Reduced to 0% •Included cable/conduit pricing •Updated equipment quotes

* Cost shown are for all work combined into 1 bid package. If separated into two separate projects the general conditions would increase within each package (i.e. - separate supervision and trailers, etc)

EQ and Collections System Improvements

Project Goals:

- Achieve long-term state and federal EPA compliance- eliminate all Sanitary Sewer Overflows (SSO)
- Encourage economic development within three member cities
- Increase collection system capacity during extreme wet weather events
- Eliminate the possibility of sewage in basements
- Increase system reliability and resiliency

Sanitary Sewer Overflow



2010 USEPA Administrative Order

 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

APR 28 2010

REPLY TO THE ATTENTION OF: WC-15J

CERTIFIED MAIL 7001 0320 0006 0191 0332
RETURN RECEIPT REQUESTED

Mr. David J. Heckler
Tri-Cities North Regional Wastewater Authority
3777 Old Needmore Road
Dayton, Ohio 45424

Subject: Tri-Cities North Regional Wastewater Authority Order for Compliance and Request for Information Pursuant to 33 U.S.C. §§ 1318 and 1319(a)(3) Docket No. V-W-10-AO-06

Dear Mr. Heckler:

Protecting water quality is a high priority of the U. S. Environmental Protection Agency. Pollutants such as pathogens discharged to waterways from sanitary sewer overflows contribute to poor water quality and impairment of uses of those waterways.

EPA is issuing this administrative order to the Tri-Cities North Regional Wastewater Authority, pursuant to sections 308 and 309(a) of the Clean Water Act (CWA), 33 U.S.C. § 1319(a). In the Order, EPA asserts that the Tri-Cities North Regional Wastewater Authority has violated the conditions of permit number OH0049646 issued under the National Pollutant Discharge Elimination System (NPDES) and seeks to bring the Tri-Cities North Regional Wastewater Authority back into compliance with the terms of the permit.

In March and April of 2009, representatives of EPA and the Ohio EPA conducted an inspection of compliance evaluation inspection at Tri-Cities North Regional Wastewater Authority and the associated cities of Huber Heights, Vandalia, and Tipp City. Information gathered during the field inspection and additional information

2022 Ohio EPA Notice of Violation



Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

August 31, 2022

Transmitted Electronically

Jeremy Bowser, Project Manager
Tri-Cities North Regional WW Authority
3777 Old Needmore Road
Dayton, Ohio 45424

Re: Tri-Cities North Regional WW Authority
Notice of Violation (NOV)
NOV
NPDES
Montgomery County
1PD0020

Subject: Notice of Violation

Dear Mr. Bowser:

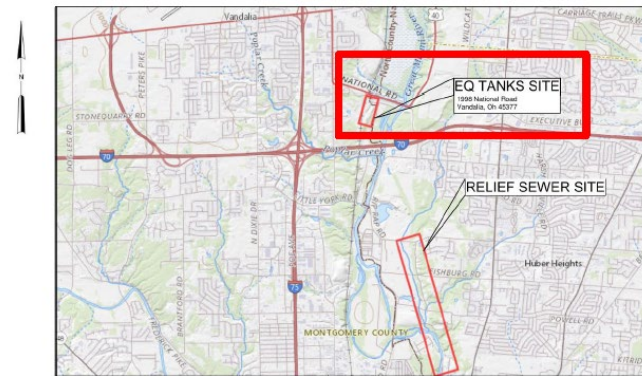
On, August 17, 2022, I met with you and conducted a compliance evaluation inspection of Tri-Cities Wastewater Treatment Plant (WWTP) located at 3777 Old Needmore Road, Dayton, Ohio. Along with myself Kari MacCune, representing Tri-Cities North Regional Wastewater Authority, Pam Whited, Gary Bunnell, and Jake Hayslett, representing the City of Huber Heights/Veolia, Wally Ritchie, representing the City of Vandalia, and Kevin Price, representing Tipp City, were also present during the

EQ Tank Improvements- Phase 1

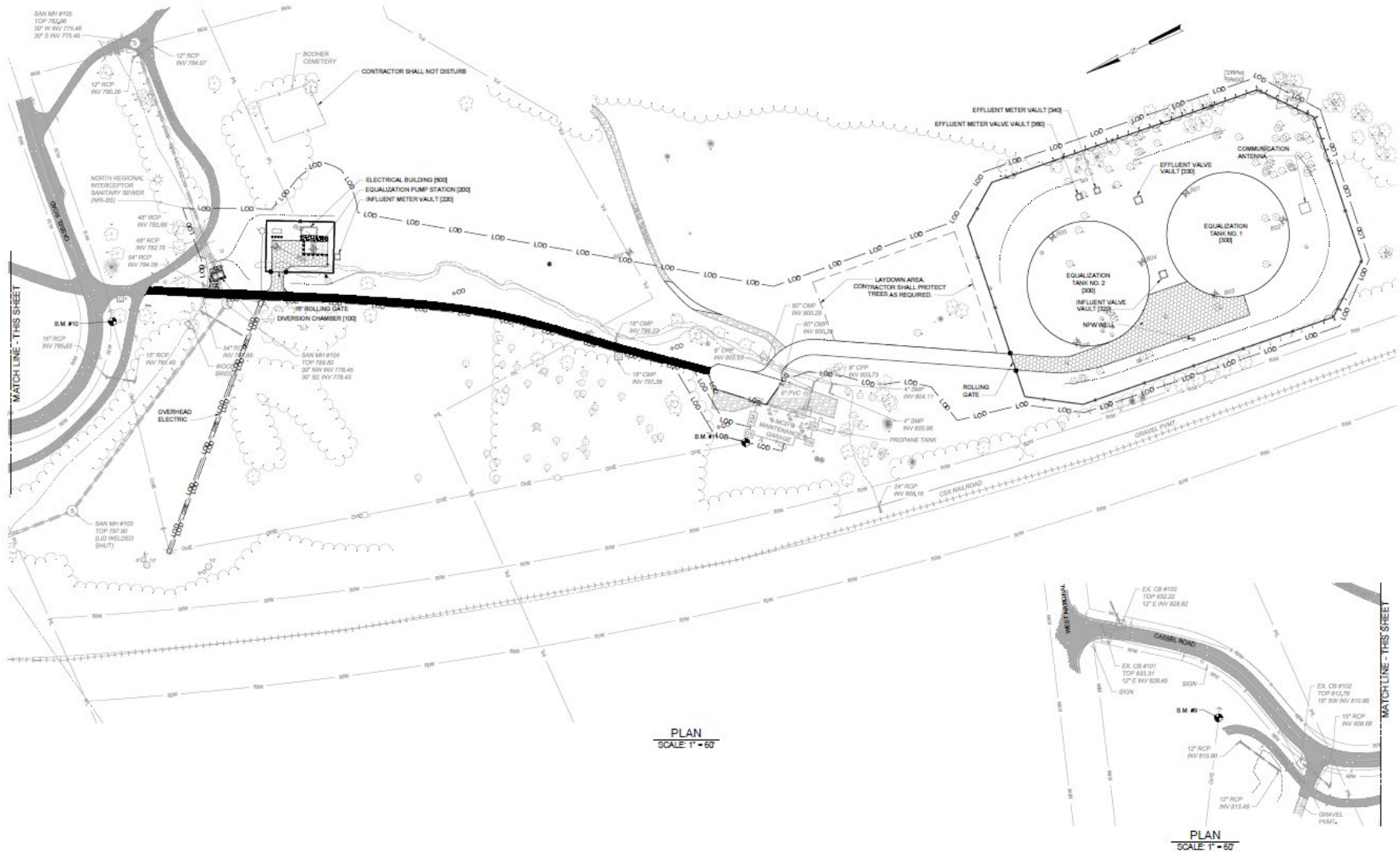


TAYLORSVILLE EQUALIZATION IMPROVEMENTS

HAZEN CONTRACT NO. 55003-017
DECEMBER 2023

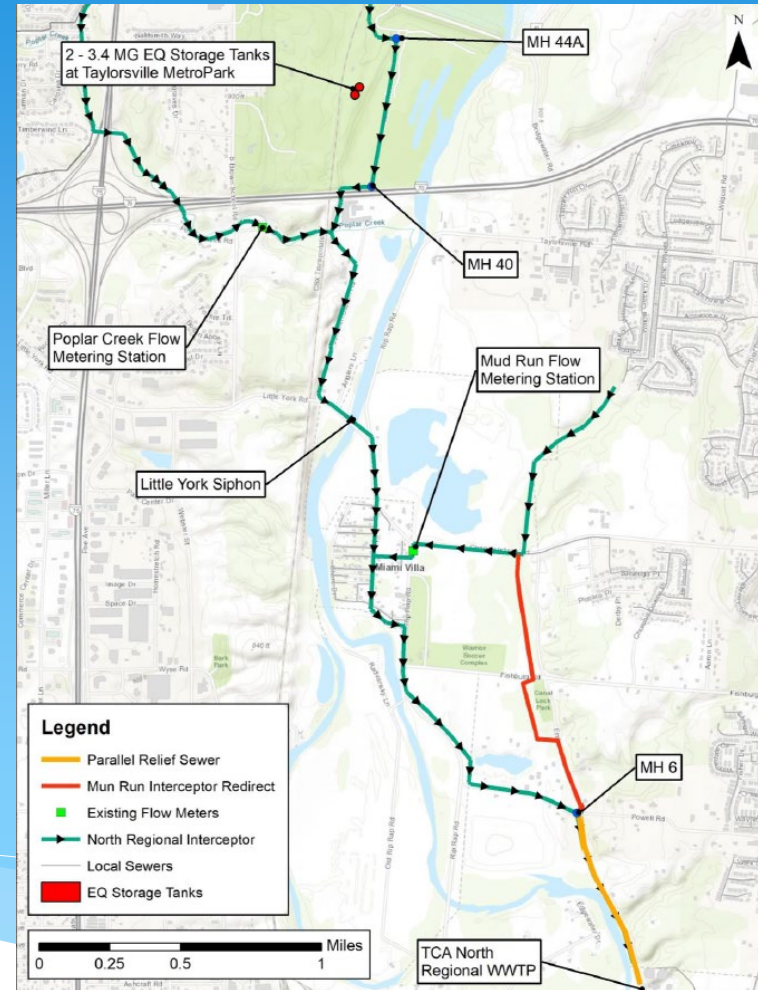
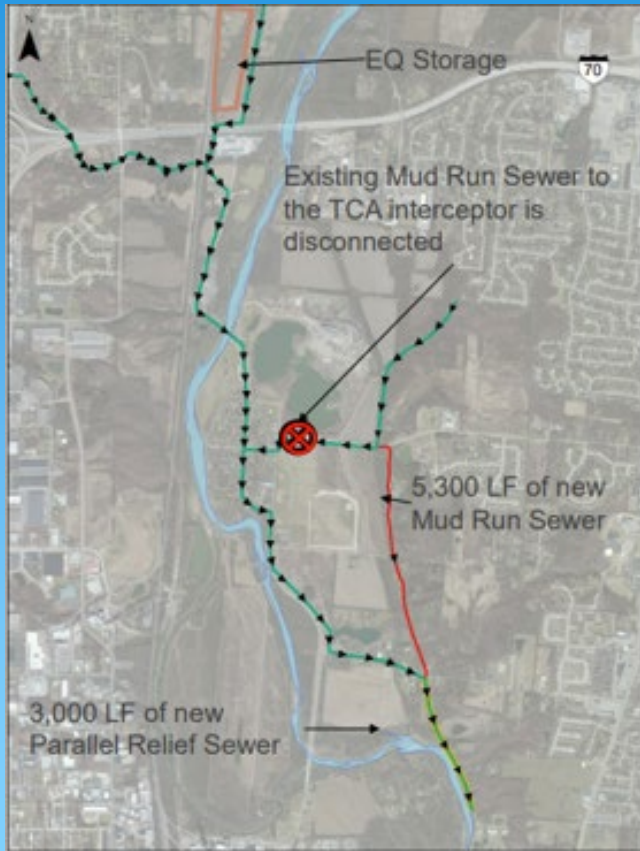


LOCATION PLAN
NOT TO SCALE



Construction to take place in the Taylorsville Metro Park, south of US 40 in Vandalia.

Interceptor Sewer Line Improvements- Phase 2



EQ and Collection System Improvements

Project Schedule

- Construction to start in May 2024
- Construction estimated to be completed December 2025

Estimated Cost- as of 12/2023

- \$24,100,000

Project Partners



**THE MIAMI
CONSERVANCY
DISTRICT**



Plant Improvement Project



Plant Improvement Project

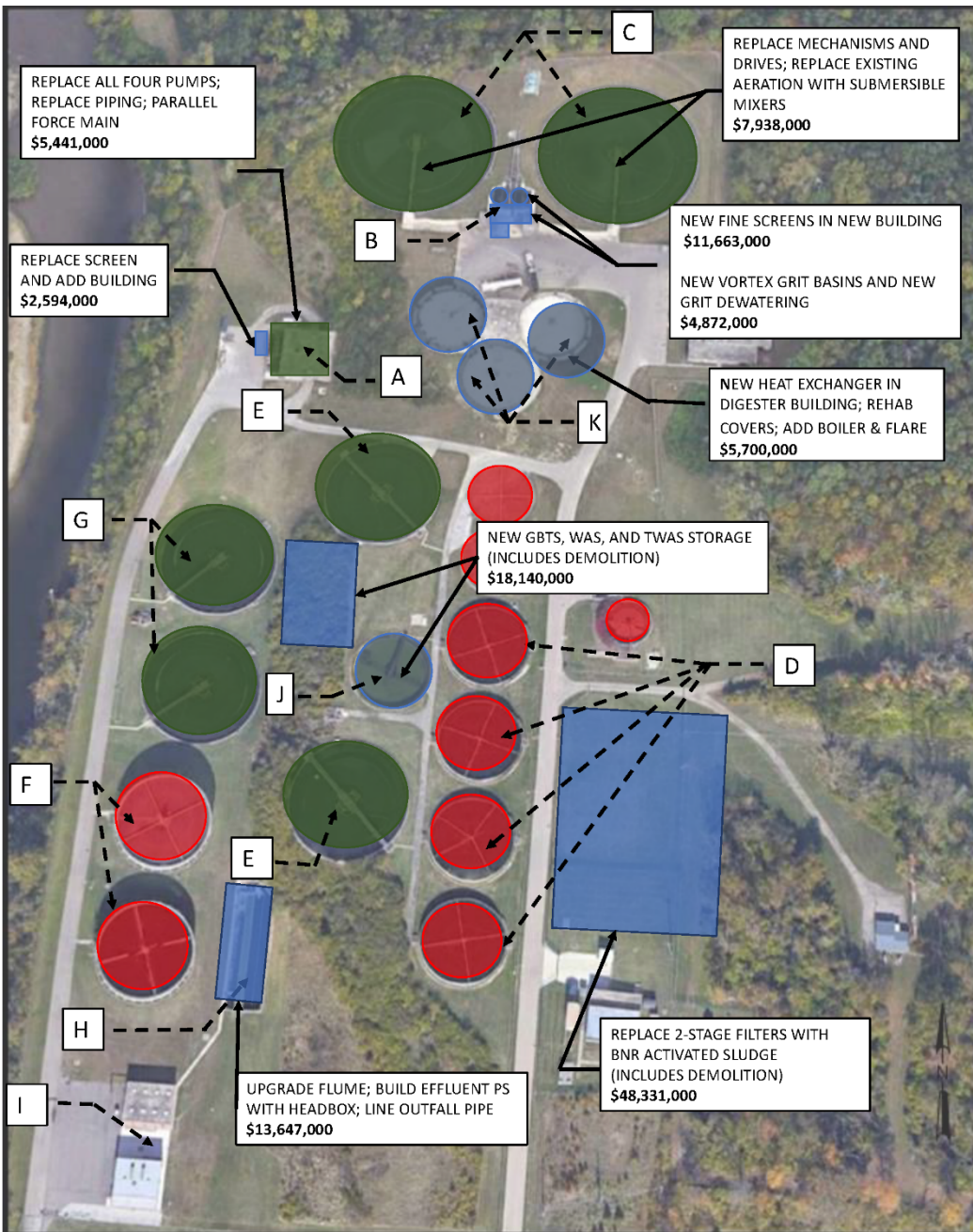
Project Goals:

- Encourage economic development via increased wastewater treatment services
- Comply with future Total Phosphorus, along with stricter Ammonia, BOD (biochemical oxygen demand) effluent limits from OEPA
- Increase plant flow capacity from 11.2 MG to 17.3 MG, to address growing communities
- Update grit removal system
- Convert two-stage trickling filter system to activated sludge
- Address aging infrastructure
- Improve antiquated and inefficient treatment processes

Plant Improvement Project

Background:

- Current infrastructure cannot meet the future regulatory mandates, along with future flow and loadings to plant.
- 2019-2022- three third-party professional planning studies conducted, to evaluate treatment plant needs.
- Future flow, loading, and population study completed in fall of 2022.
- Strand Associates selected as project engineer in May of 2023.
- Construction Manager at Risk selected as project delivery method in May of 2023.
- Project began in July of 2023.



TRI-CITIES NORTH REGIONAL WATER AUTHORITY

TRI-CITIES NORTH REGIONAL WATER AUTHORITY, OH



Proposed Upgrades

Legend

EXISTING LAYOUT

- A. MAIN PUMP BUILDING WITH ROUGH BAR SCREENS
- B. GRIT REMOVAL
- C. PRIMARY CLARIFIERS
- D. RANDOM MEDIA TRICKLING FILTERS
- E. INTERMEDIATE CLARIFIERS
- F. NITRIFICATION TOWERS
- G. FINAL CLARIFIERS
- H. CHLORINE CONTACT TANK
- I. FINAL EFFLUENT BUILDING
- J. SLUDGE THICKENER
- K. SLUDGE DIGESTERS

PROPOSED

- PROPOSED CHANGE
- PROPOSED DEMOLITION
- REPLACE EQUIPMENT

Proposed Upgrades

Item	Recommendation	Opinion of Capital Cost ^b
Coarse Screening + Building	Replace screen and add building	\$2,594,000
Influent Pump Station ^a	Replace two small pumps with larger pumps ^a ; replace piping	\$5,441,000
Fine Screening + Building	New fine screens in new building	\$11,663,000
Grit Removal	New vortex grit basins and new grit dewatering	\$4,872,000
Primary Clarification and Equalization Mixing	Replace mechanisms and drives; Replace existing aeration with submersible mixers	\$7,938,000
Biological Treatment	Replace 2-stage filters with BNR activated sludge	\$48,331,000
WAS Thickening and Storage	New GBTs, WAS and TWAS storage	\$18,140,000
Peak Flow Management	Upgrade post aeration tank and outfall; Add effluent PS with Head Box	\$13,647,000
Digester Upgrades	Add boiler, Rehab covers, Provide heating for secondary digester	\$5,700,000
Misc. Site Demolition		\$1,000,000
Electrical Service Upgrade	Placeholder until electrical needs are defined	\$2,130,000
Opinion of Total Project Cost		\$121,816,000

^aAssumed firm capacity = 35 MGD

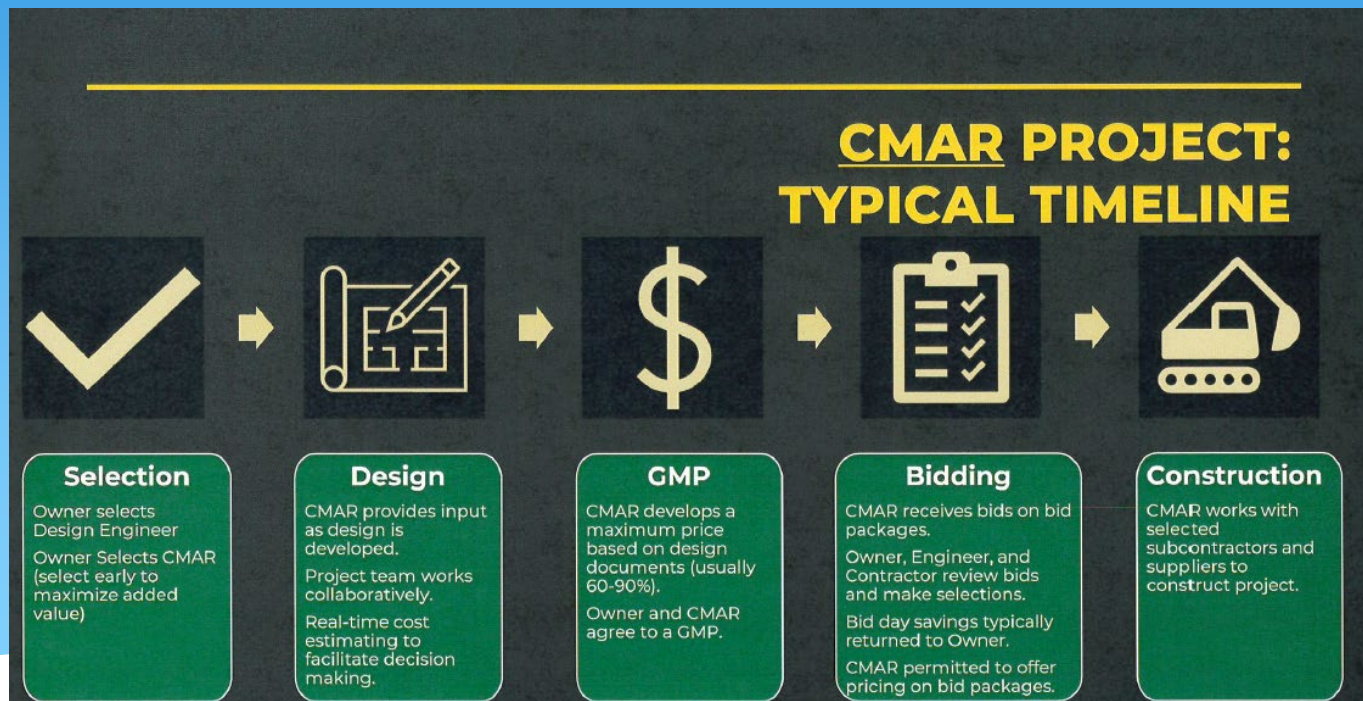
^bAll costs are in 2nd quarter 2027 dollars.

Plant Improvement Project- Planning Phase

- Month long wastewater sampling study
- Lead and asbestos study
- Phase 1 environmental study
- Surveying
- Flow monitoring
- Data evaluation
- Apply for 0% interest OEPA/DEFA planning loan for \$1,250,000
- Apply for up to \$5,000,000 in principal forgiveness
- Submitted Congressionally Directed Spending Request
- Create facilities plan for OEPA

Project Delivery Method

CMAR- Construction Manager at Risk



Plant Improvement Project

Project Schedule:

Planning Phase- 7/2023- 2/2024

Design Phase- 2/2024- 12/2025

Construction- 2/2026-12/2029

Estimated Cost: as of 2/2024

\$100,000,000

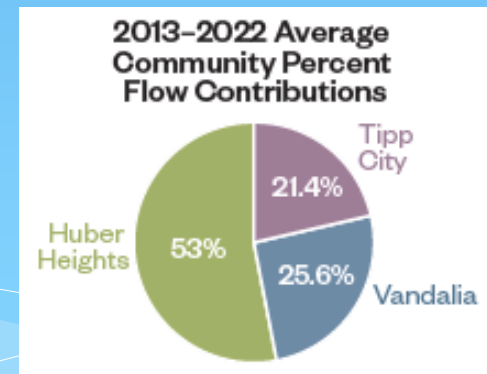
Past and Future TCA Sewer Rates

2000-2020- No sewer rate increases from TCA to three member cities

2021-2024- Annual 10% rate increases to three member cities

2025-2026- Annual 10% rate increases to three member cities approved by TCA Board

- Rate increases are necessary in order to build fund balances in preparation of future debt payments



Below Market Rate State Funded Loans

EQ and Collections System Project- Loan Schedule

- 6/2022- \$1,200,000 OWDA planning loan 3.69%
- 4/2024- \$12,050,000 OWDA construction loan 3.79%
- 10/2024-\$12,050,000 OWDA construction loan 3.79%

Repayment

- Estimated \$1,500,000 estimated annual debt payment
- Repayments begin 2026
- 30-year term

Below Market Rate State Funded Loans

Plant Improvement Project- Loan Schedule

- 2/2024- \$1,250,000 OEPA planning loan 0%
- 2/2025- \$6,000,000 OEPA design loan 0%
- 2/2026- \$100,000,000 OEPA construction loan 3.34%

Repayment

- Estimated \$5,000,000 annual debt payment
- Repayments begin 2030
- 30-year term

Funding Opportunities

- **March 2023-** applied for three Congressionally Directed Spending request
- **Fall 2023-** Congressman Turner's office verbally committed \$750,000
- **August 2023-** Applied for 0% interest loan through OEPA for planning phase.
 - Applied for \$5,000,000 in principal forgiveness.
- **November 2023-** Applied for \$5,000,000 Ohio Water and Wastewater Infrastructure Grant
- **November 2023-** met with State Representative to discuss our funding needs and gather support.
- **November 2023-** submitted projects for the DDC's PDAC review. Projects were supported in 2023.
- **Jan. 2024-** met with Assistant Director of the Ohio EPA to discuss funding needs and gather support. Received project letter of support from OEPA.
- **Feb. 2024-** Submitted Ohio Senate Capital Budget application
- **March 2024-** Setting up meeting with State Senators to discuss funding needs.

Thank you to all City of Vandalia supporting staff!

Questions?