



City of Grand Ledge

Status Update on:

Wastewater Treatment Plant and Collection
System Improvements and Project Plan
Amendment

City Council Meeting
March 25, 2024



Need for Project

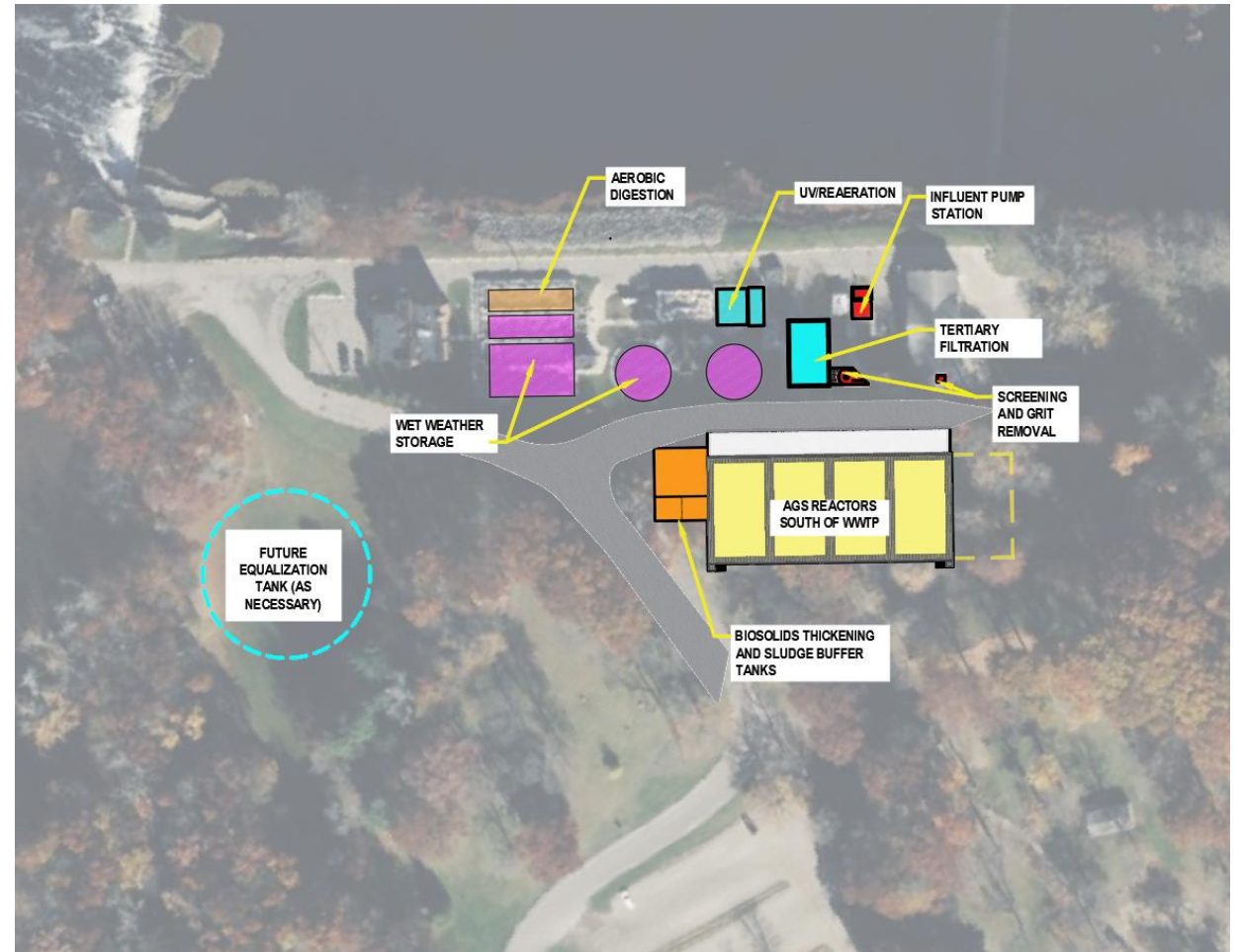
- EGLE enforcement action requires City to address SSOs caused by high wet weather flows
- Existing WWTP at capacity to handle organic loading (currently at 83% of capacity), typically when this exceeds 80% EGLE requires a capacity expansion
- Increased wastewater flows
- EGLE requires advanced wastewater treatment (AWT), typically tertiary filtration or ultrafiltration
- Biosolids handling is approaching the capacity

Wastewater Treatment Plant Improvements

- Increase hydraulic loading from 3.0 MGD to 8.0 MGD
- Increase treatment rate from 1.5 MGD to 3.0 MGD
- New screening, vortex grit removal, and influent pumps
- High-rate aerobic granular sludge (AGS) process to treat 3.0 MGD sustained treatment flow and 8.0 MGD peak hydraulic flow
- Tertiary filtration using disk filters
- Ultraviolet disinfection and reaeration
- Additional improvements (Phase II) would increase treatment loading from 3.0 MGD to 4.0 MGD, project set up to readily add equipment

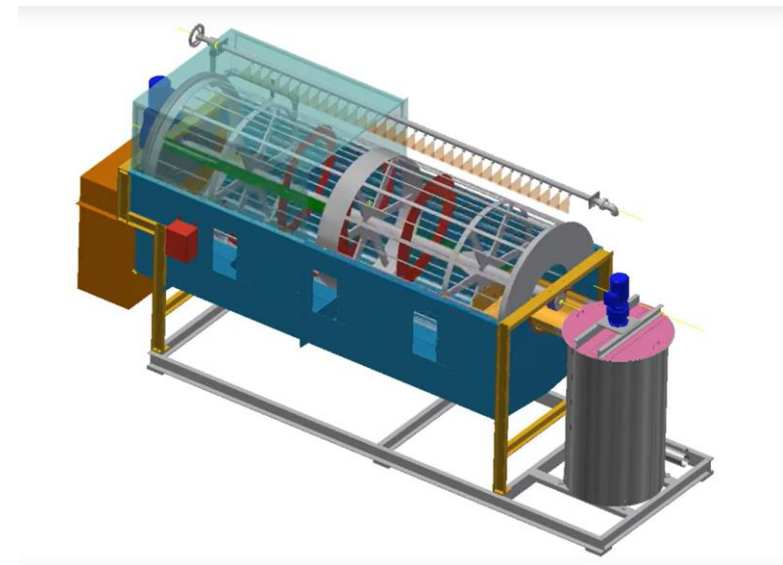
Aerobic Granular Sludge

- Construct four new AGS reactors in hill south of WWTP
 - Three 46'x80' tanks
 - One 46'x80' tank for equalization (equip in future for 4.0 MGD loading)
- Future equalization tank at bottom of the hill (as required)



Biosolids Handling

- Convert existing aeration basin tanks to aerobic digesters for biosolids stabilization to replace existing lime bag feeders (repurpose existing aeration equipment as possible)
- Thicken digested solids using mechanical sludge thickener (Rotary Drum Thickener)
- Continue land application and use existing biosolids storage for minimum 180-day storage
- After average daily flows increase to 3.0 mgd, additional biosolids improvements (Phase II) would be required

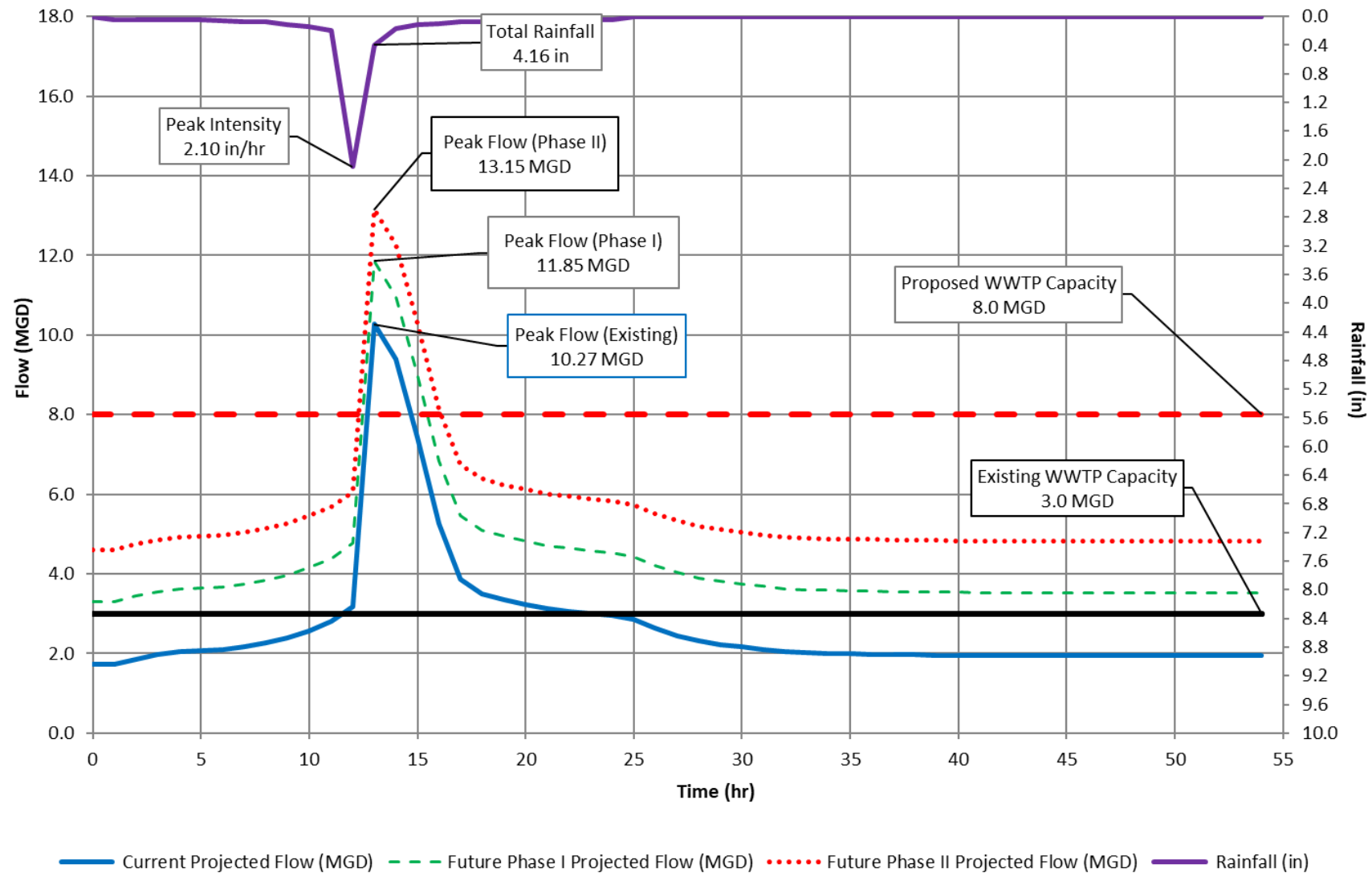


Collection System Improvements

- Increase capacity of West River Pump Station and install new inline check valve to increase the capacity of the interceptor
- Use existing tanks at WWTP to provide wet weather storage after the existing retention basin.
- With the increased hydraulic capacity and storage, will be able to meet 25-year, 24-hour flow
- Additional improvements (Phase II) should be completed to remove I&I and accommodate flows from future growth



25-Year, 24-Hour Projected (RTK) Hydrograph for the WWTP



Phase I Project Cost Estimate

Project Component	Total Estimated Cost
Wastewater Treatment	\$31,195,000
Biosolids Handling	\$3,032,000
Collection System	\$1,395,000
General Conditions, Mobilization, Bonds, and Insurance (16%)	\$5,700,000
Construction Subtotal	\$41,400,000
Contingencies (20%)	\$8,100,000
Total Estimated Construction Cost	\$49,500,000
Engineering, Legal, and Administrative Fees	\$2,900,000
Total Estimate Project Cost	\$52,400,000

Schedule and Next Steps

- By April 5, 2024: Public Hearing Advertisement and Draft Project Plan Amendment available for Public Comment
- April 22, 2024: Public Hearing on Project Plan Amendment for CWSRF FY2025 Financing
- By May 1, 2024: Submit Final Project Plan Amendment to EGLE
- May/June 2024: Procure design-build contract or commence design for design-bid-build in accordance with CWSRF

CITY OF GRAND LEDGE
NOTICE OF PUBLIC HEARING
WASTEWATER TREATMENT PLANT AND SANITARY SEWER SYSTEM IMPROVEMENTS
CLEAN WATER STATE REVOLVING FUND PROJECT PLAN AMENDMENT, PROJECT 5825-01

The City Council will hold a public hearing during its regular meeting at 7:30 p.m., on Monday, 22 April 2024, to consider and receive public input on the Wastewater Treatment Plant and Sanitary Sewer System Improvements Clean Water State Revolving Fund Project Plan Amendment, Project 5825-01. The purpose of the proposed project is to make improvements to the existing sanitary sewer collection system and wastewater treatment system. The improvements will allow for the continued treatment of sanitary sewage throughout the service area in accordance with the current NPDES permit.

Project elements include collection system improvements, a fine screening system, a grit removal system, a high-rate extended aeration secondary treatment system, tertiary filtration, an ultraviolet (UV) disinfection system, solids handling improvements, new equalization basin and conversion of existing tanks to wet weather storage, and ancillary improvements as required to provide a complete and functioning system.

Long term positive impacts from the project include improved reliability of the treatment system and improved treatment efficiencies. Short term impacts related to construction activities could include increased construction traffic and disturbances in the immediate vicinity of the Wastewater Treatment Plant site. Wastewater Treatment Plant improvements are estimated to require less than one acre on property adjacent to Fitzgerald Park.

The current total estimated project cost may be up to \$52,400,000. The project cost will be funded through a low-interest Michigan Department of Environment, Great Lakes, and Energy (EGLE) State Revolving Fund (SRF) loan.

Copies of the plan detailing the proposed project will be available for public inspection on and after 05 April 2024 at the City Clerk's office, 310 Greenwood St., Grand Ledge, Michigan, between 8:00 a.m. and 5 p.m., Monday through Friday and on the City's website at www.cityofgrandledge.com.

The 22 April 2024 City Council meeting and public hearing on the proposed Wastewater Treatment Plant and Collection System Improvements project will be held in the Council Chambers, City Hall, 310 Greenwood St., Grand Ledge MI 48837, in compliance with the Open Meetings Act, as amended, and will also be livestreamed via Zoom for informational purposes only. The online stream can be accessed at <https://www.zoom.us> with the Meeting ID: 857 5918 5252, or by calling +1 301 715 8592 US (Washington DC), +1 305 224 1968 US, +1 309 205 3325 US, +1 312 626 6799 US (Chicago), +1 646 876 9923 US (New York), +1 646 931 3860 US, +1 253 205 0468 US, +1 253 215 8782 US (Tacoma), +1 346 248 7799 US (Houston), +1 360 209 5623 US, +1 386 347 5053 US, +1 408 638 0968 US (San Jose), +1 507 473 4847 US, +1 564 217 2000 US, +1 669 444 9171 US, +1 669 900 6833 US (San Jose), +1 689 278 1000 US, +1 719 359 4580 US with Meeting ID: 857 5918 5252.

The City Council invites anyone interested to attend in person and offer comments at the public hearing. Written comments can be mailed or delivered to Elected or Appointed Officials to:

Gregory Newman, City Clerk
City of Grand Ledge
310 Greenwood St.

Grand Ledge MI 48837

or placed in the drop box in front of City Hall, or emailed to cityhall@cityofgrandledge.com. All written comments will be considered during the public hearing if received by 5:00 p.m. the day of the hearing. Written comments received before the hearing record is closed on 22 April 2024 will receive responses in the final project plan. Written comments should be sent to:

Please call (517) 627-2149 or email cityhall@cityofgrandledge.com for further information or to request accommodations for disabilities.

Gregory Newman, City Clerk