

Capital Projects Update

September 12, 2024

Lisa Coleman, Director of Engineering

Madison Metropolitan Sewerage District





Preview

- Overview of Projects in Planning/Design/Construction
- Projects completed this year
- Cost update
- Project highlights





Planning



Treatment Plant

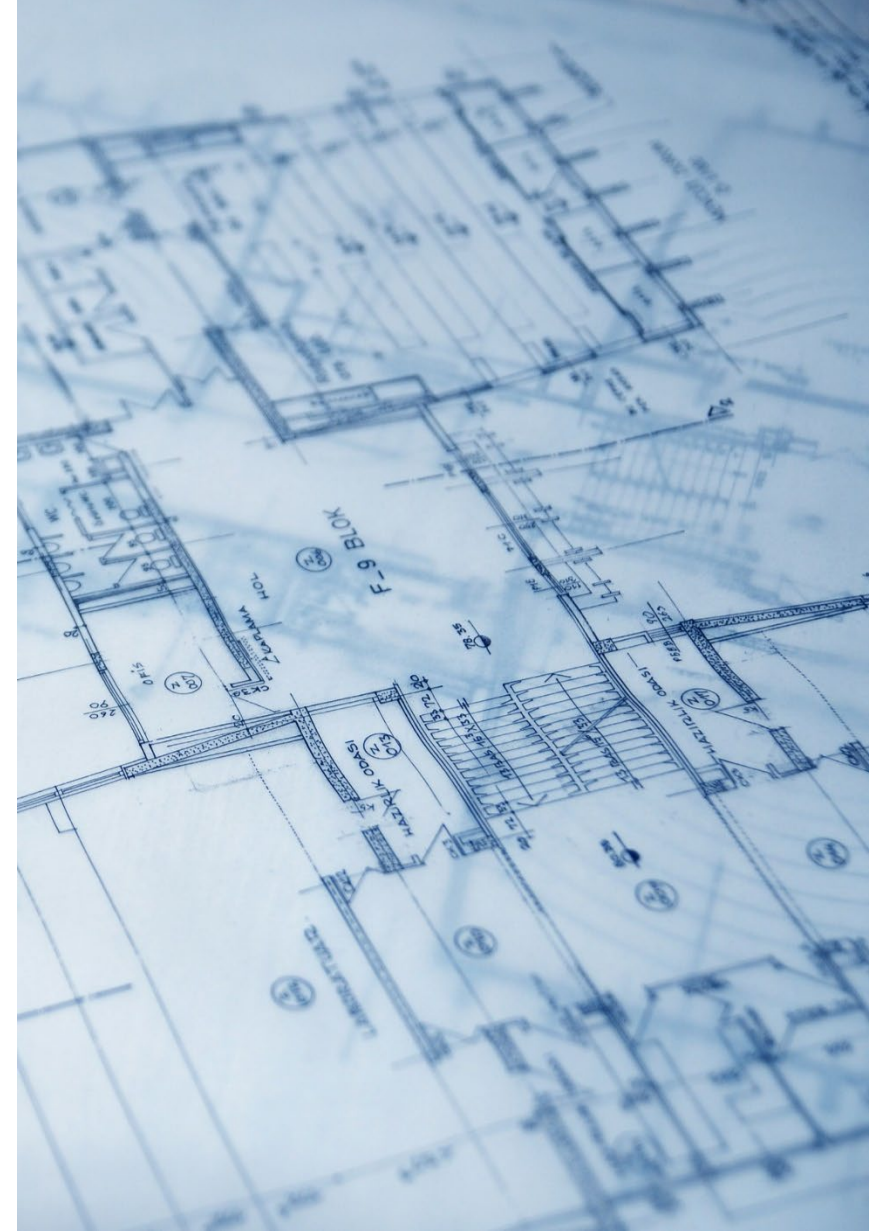
-  Heat and Power Improvements
-  Biosolids Facility Plan (added)

Interceptors

-  NSVI Capacity Improvements – Phase 1
-  West Interceptor on Regent Street (Mills to East Campus Mall) – C 2027

Pumping Stations & Force Mains

-  Pumping Station 10 Force Main Leak
-  Pumping Station 16 Rehabilitation and Force Main Rehab – C 2028



In design

Treatment Plant

- 🚦 Liquid Processing Phase 2
*East Primary Influent Channel Air Piping Replacement; Low Dissolved Oxygen (Full Plant);
West and East Blowers and Switchgear Replacement*

- 🚦 Lagoon Dike Improvements

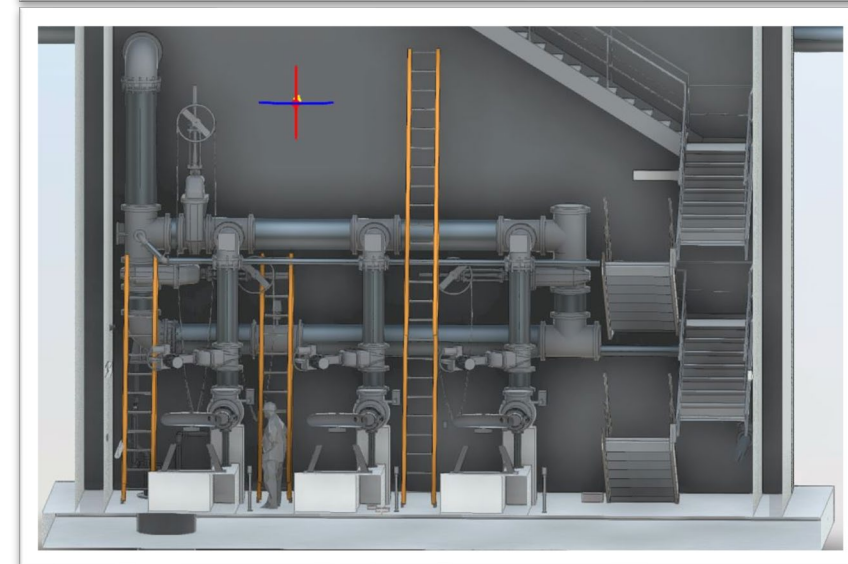
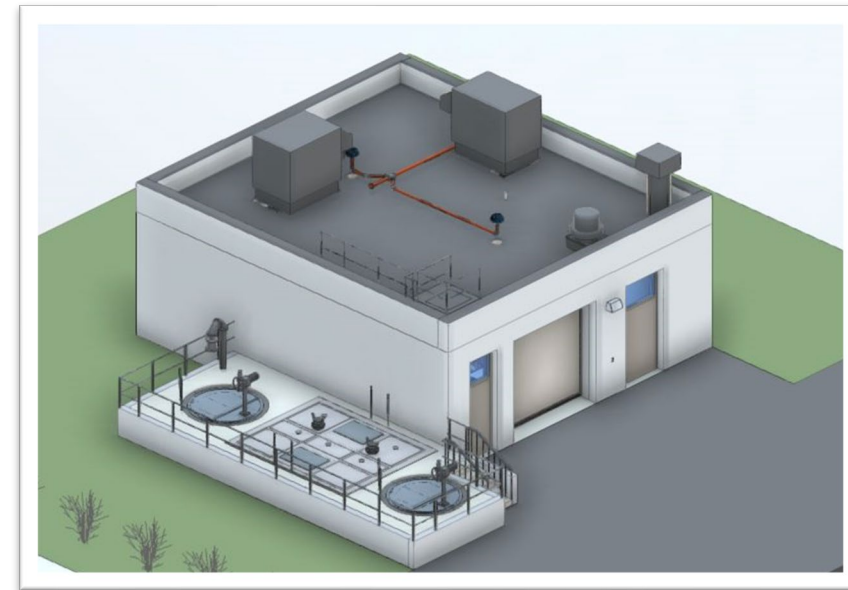
- 🚦 W4 System Improvements

Interceptors

- 🚦 Lower Badger Mill Creek Interceptor – Phase 6
- 🚦 NEI-Truax Extension Rehab – C 2026/2027
- 🚦 Southeast Interceptor Rehabilitation on USH 51 (Phase 1)
- 🚦 Southeast Interceptor Relocation at Yahara River
- 🚦 West Interceptor Rehab - Segoe Road to Shorewood Boulevard

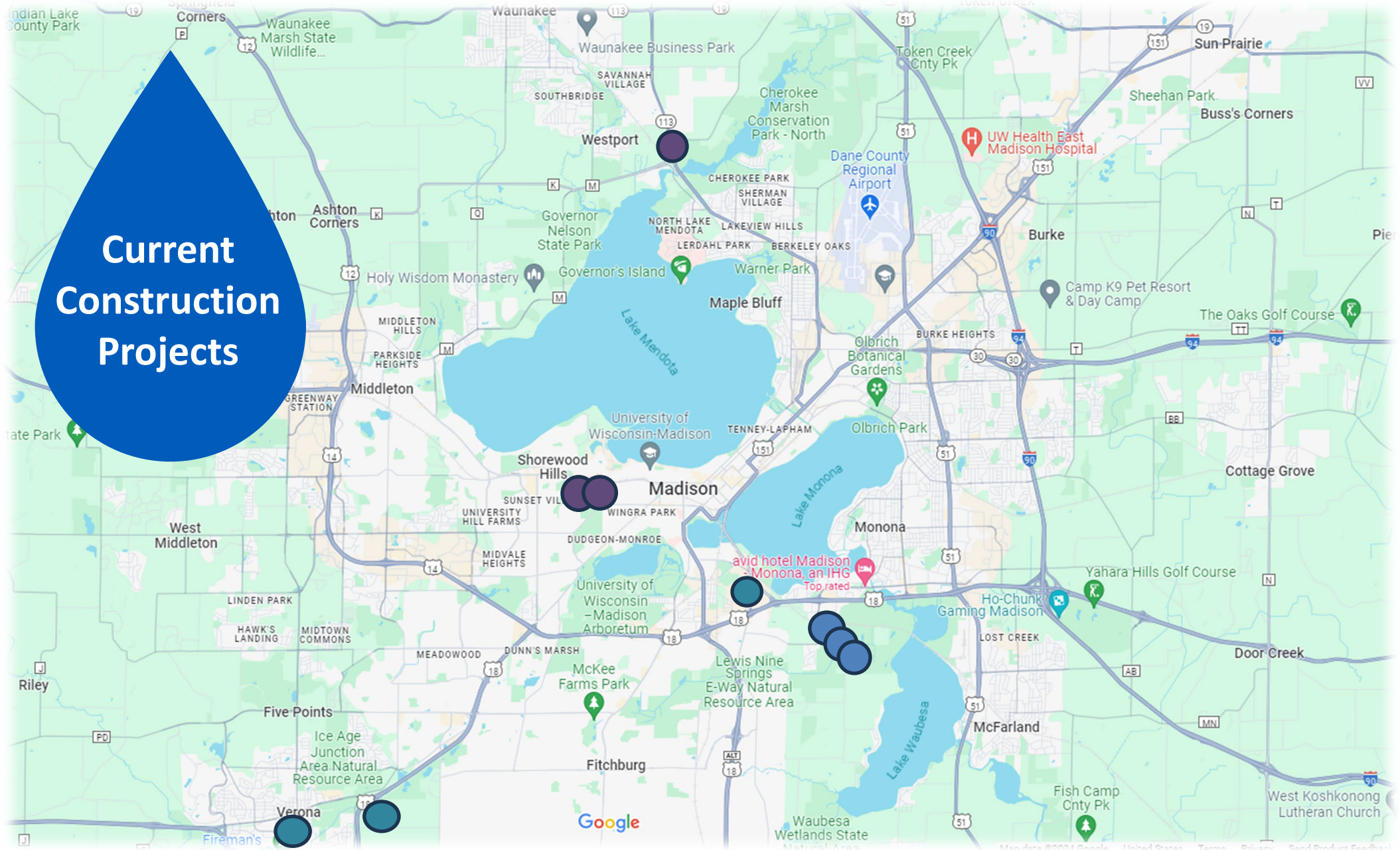
Pumping Stations & Force Mains

- 🚦 Emergency Power Generation at District Pumping Stations – C2030





Current Construction Projects



Under construction

Treatment Plant

- 🚧 Electrical Service Equipment Replacement – *awarded*
- 🚧 Flow Splitter Improvements – *awarded*
- 🚧 2021 Treatment Plant HVAC Improvement Project – *nearing completion*

Interceptors

- 🚧 West Interceptor Shorewood Relief Ph 2 – *substantially complete – DOT contract*
- 🚧 West Interceptor Shorewood Relief Ph 3 – *awarded*
- 🚧 NEI – Waunakee Extension Capacity Improvements (Phase 1) – *awarded*

Pumping Stations and Force Mains

- 🚧 Pumping Station 4 Rehabilitation - *completion projected in 2025*
- 🚧 Pumping Station 17 Firm Capacity Improvements – *awarded*
- 🚧 Pumping Station 17 Force Main Relief Ph 2 - *~70% complete*



Projects completed this year

Treatment Plant

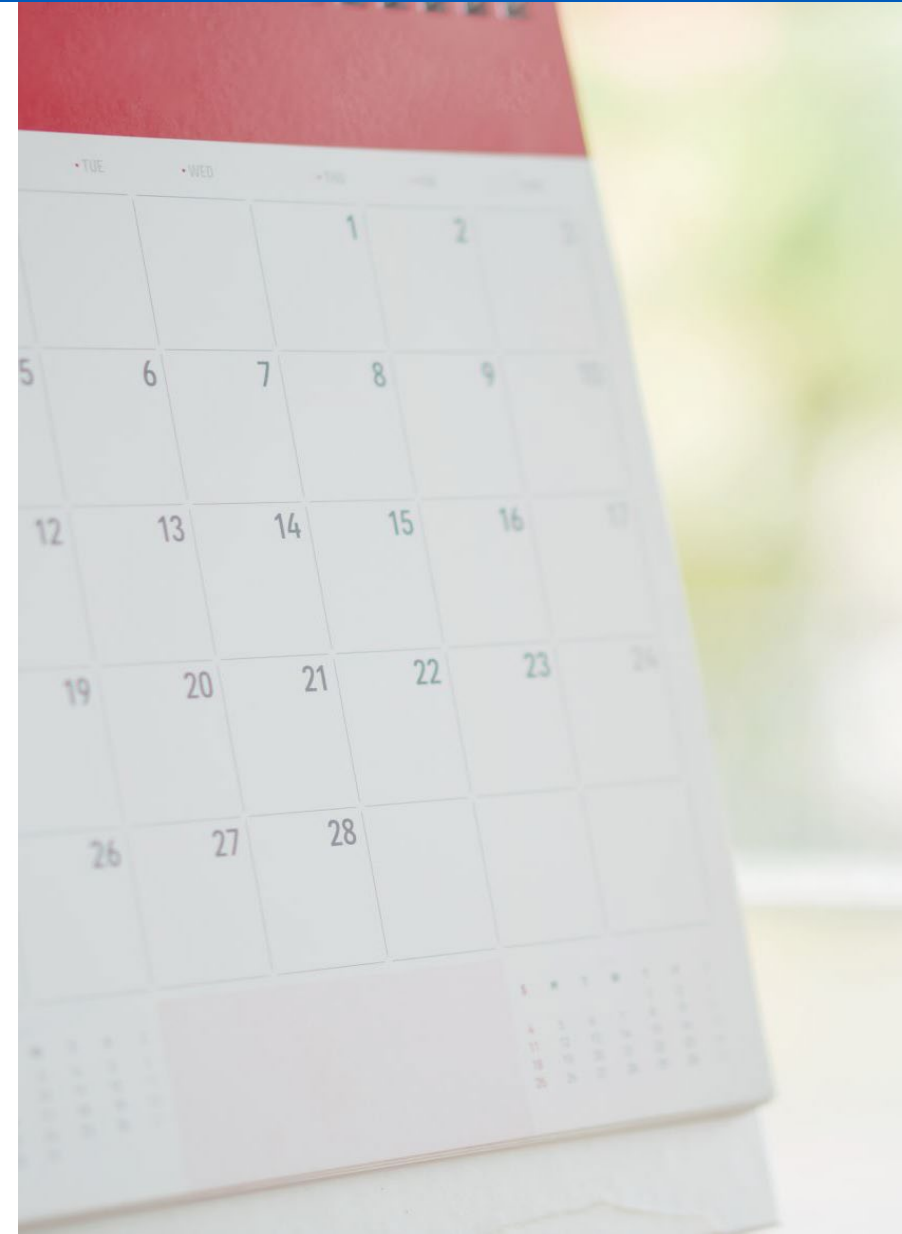
- Maintenance Facility Rooftop Solar Panels

Interceptors

- Lower Badger Mill Creek Interceptor – Phase 5
- West Interceptor Rehab- Segoe Road to Shorewood Blvd (emergency 2023 sub-project)
- West Interceptor Shorewood Relief Phase 1 (*coming soon*)

Pumping Stations and Force Mains

- Pumping Stations 13 and 14 Rehabilitation



Project cost update - 2024 bids

Pumping Station 17 Firm Capacity Improvements

- 2024 CIP TPC \$8,100,000
- Bid Cost \$4,137,825

NSWWTP Electrical Service Equipment Replacement

- 2024 CIP TPC \$13,700,000
- Bid Cost \$9,235,730

Flow Splitter Improvements

- 2024 CIP TPC \$5,000,000
- Bid Cost \$6,435,000 – requested increase in TPC to \$7,600,000

West Interceptor Shorewood Relief Ph 3

- 2024 CIP TPC \$7,625,000
- Bid Cost \$6,835,503 – requested increase in TPC to \$8,500,000

NEI Waunakee Extension Capacity Improvements (Phase 1)

- 2024 CIP TPC \$12,000,000
- Bid Cost \$8,712,981.50





Project Highlights

Madison Metropolitan Sewerage District



Liquid Processing Improvements Phase 2

Update on BNR process choice:

Hybrid approach selected – can run at low DO or high DO. No new primary clarifier required. Con: ~+\$6M. Pros:

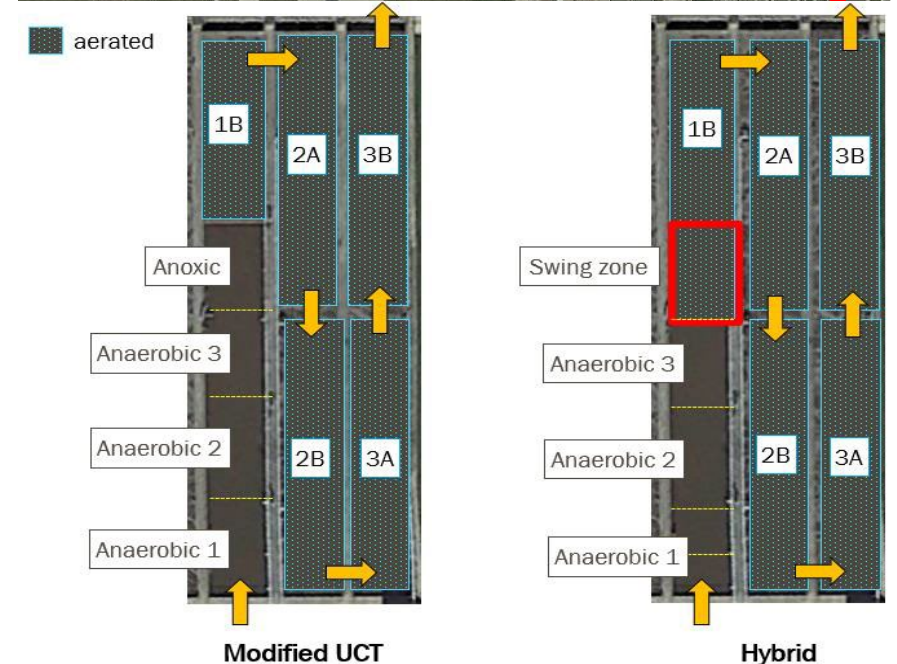
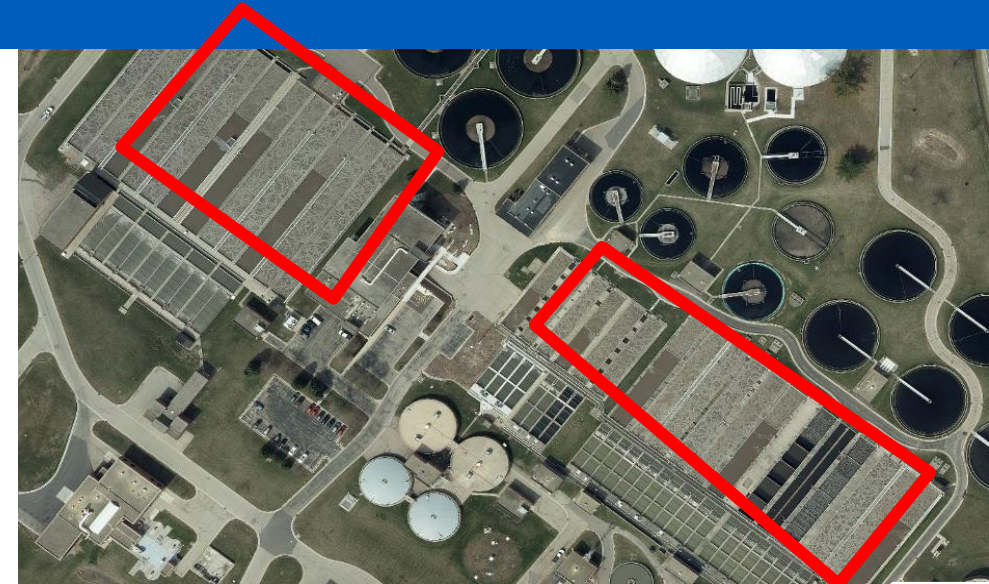
- Reduce energy demands (~15%) when low DO is possible
- Greater potential to meet possible future effluent Nitrogen limits
- Operational flexibility to adjust to treatment demands over time
- Learning – new technology + learn for future plant
- Maintenance – decreased process pumping demands

Schedule and Status

- In Preliminary design. Preliminary Design report due this month
- Scoping Final Design with Strand – will come to Commission for contract amendment this fall
- Design 2025 (into 2026?) Construction 2026

Budget

- Total Project Cost: \$76M (2025 CIP)
- Working on related asset list, what is in/out LP2 or other projects – significant cost implication



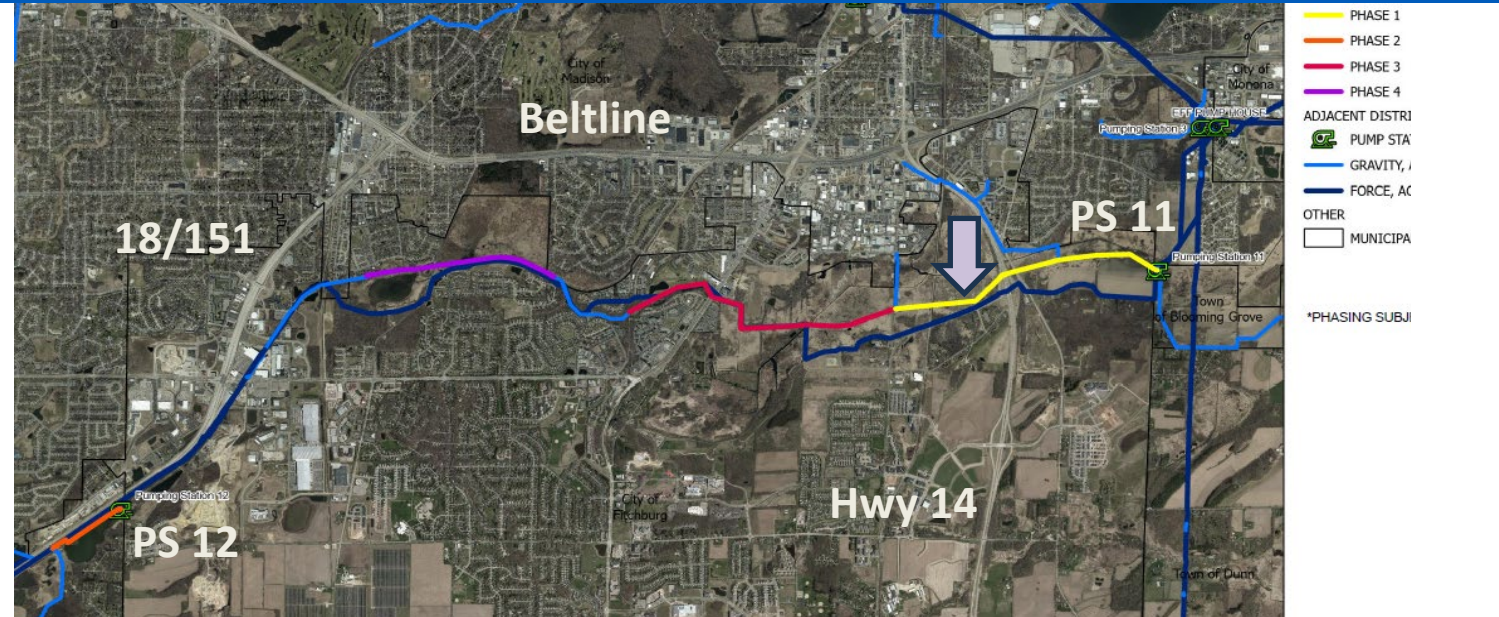
NSVI Capacity Improvements Ph 1 (and 2)

Existing Ph 1 project already in CIP:

- Reaching capacity upstream of PS 11 by ~2027
- Need for holistic look at whole corridor to design ph 1
 - Replace, relief, route?
 - Challenging corridor, wetlands, land owners
- Cost in project includes construction Ph 1 but not later phases

Add a new project Ph 2:

- In light of recent emergency repair + new condition info, needs to be expedited
- Separate project makes sense – limited corridor options, different landowners, geographically separate, different pace
- Shorten Ph 1, delay some rehab projects to move this forward in the budget



Questions?

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