

# Town of Westerly Nitrogen Reduction Upgrades Westerly, RI

## Project Orientation and Update

February 10, 2025

**Jacobs**

TOWN OF WESTERLY, RI  
OFFICE OF TOWN CLERK

Feb 06 2025

RECEIVED  
Mary L. LeBlanc, MMC  
Town Clerk



# Agenda

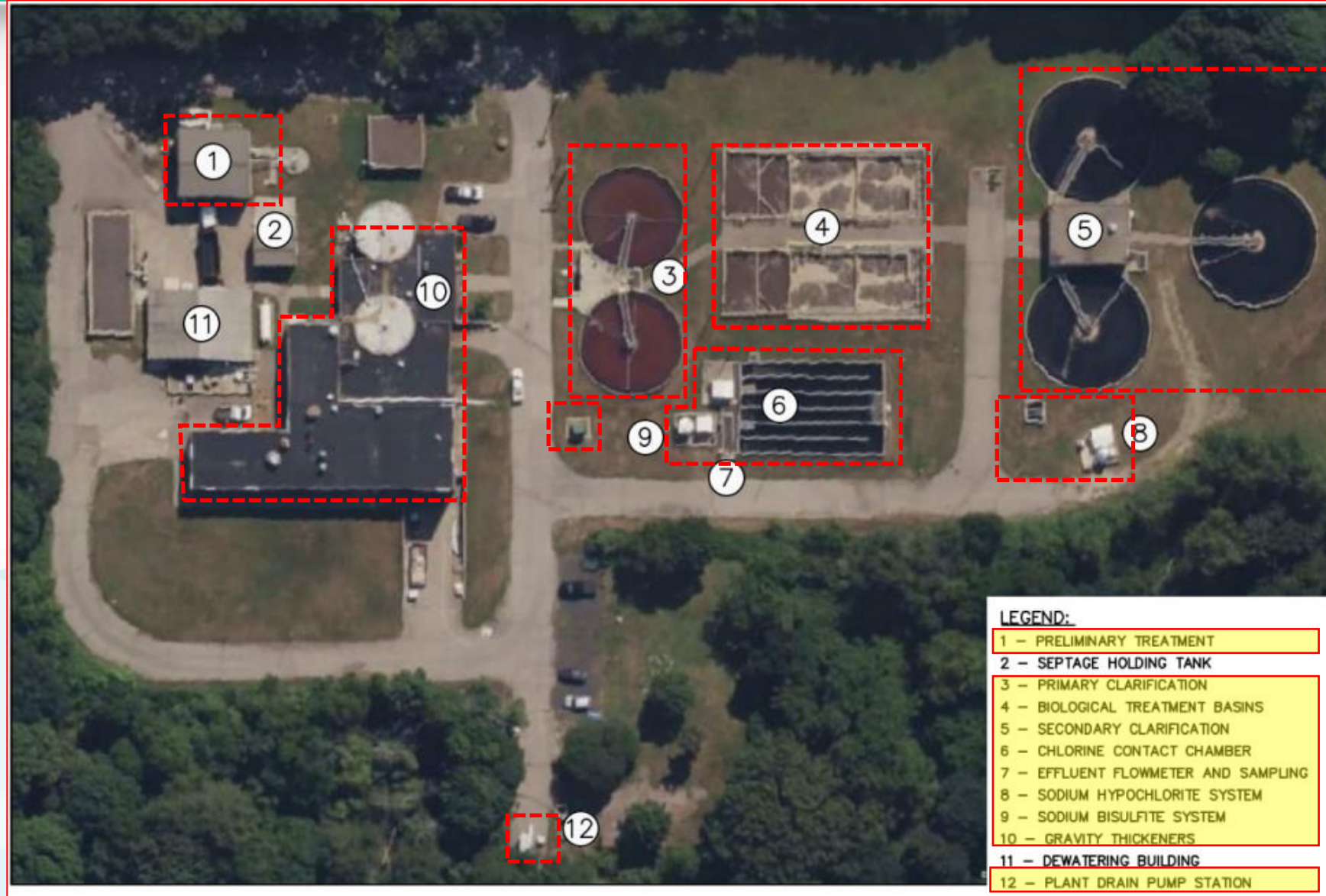
1. Project Background
2. WWTF Project Scope of Improvements
3. WWTF Capacity
4. Flood Resiliency
5. Status and Look Ahead

# Project Background

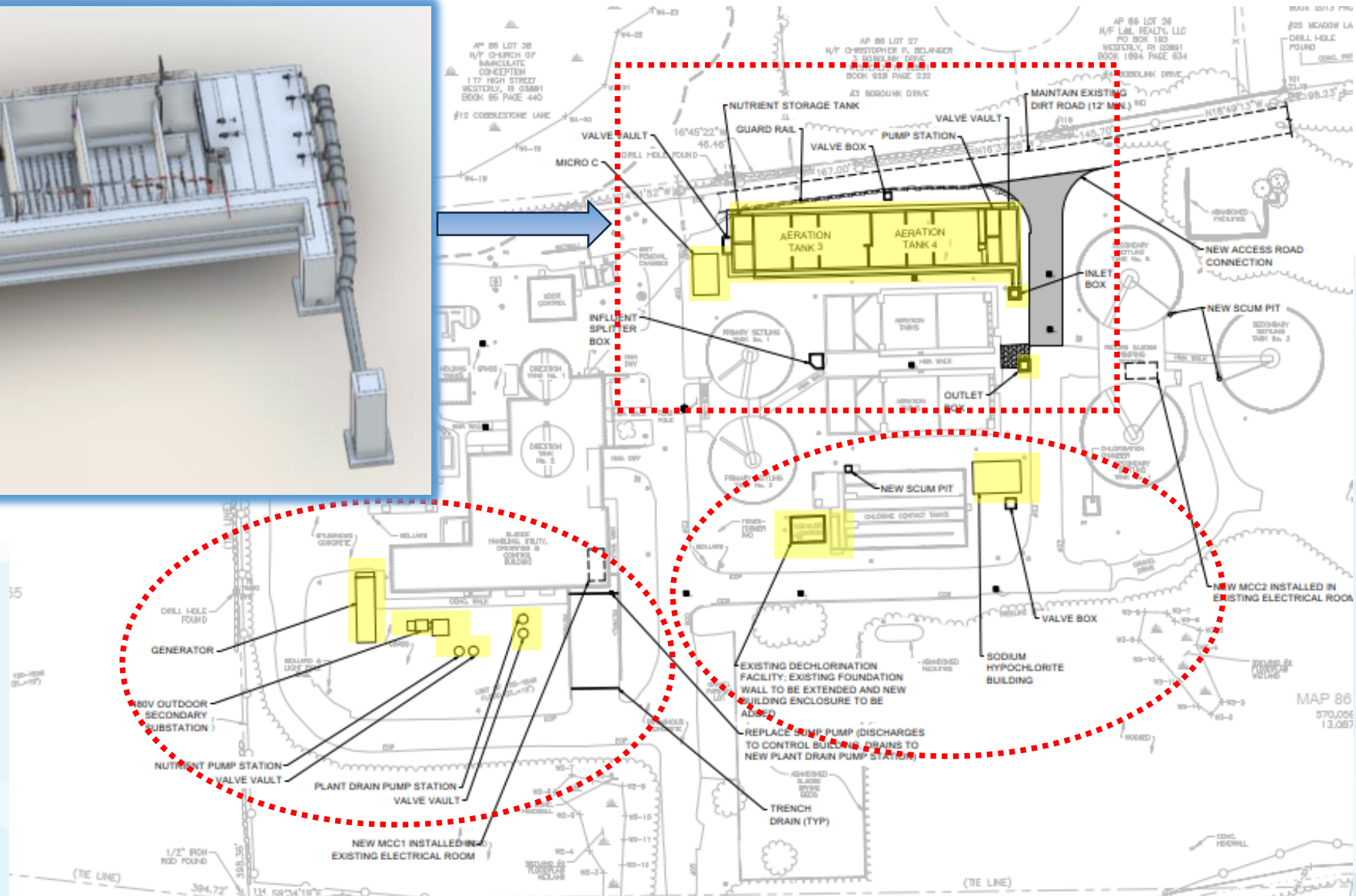
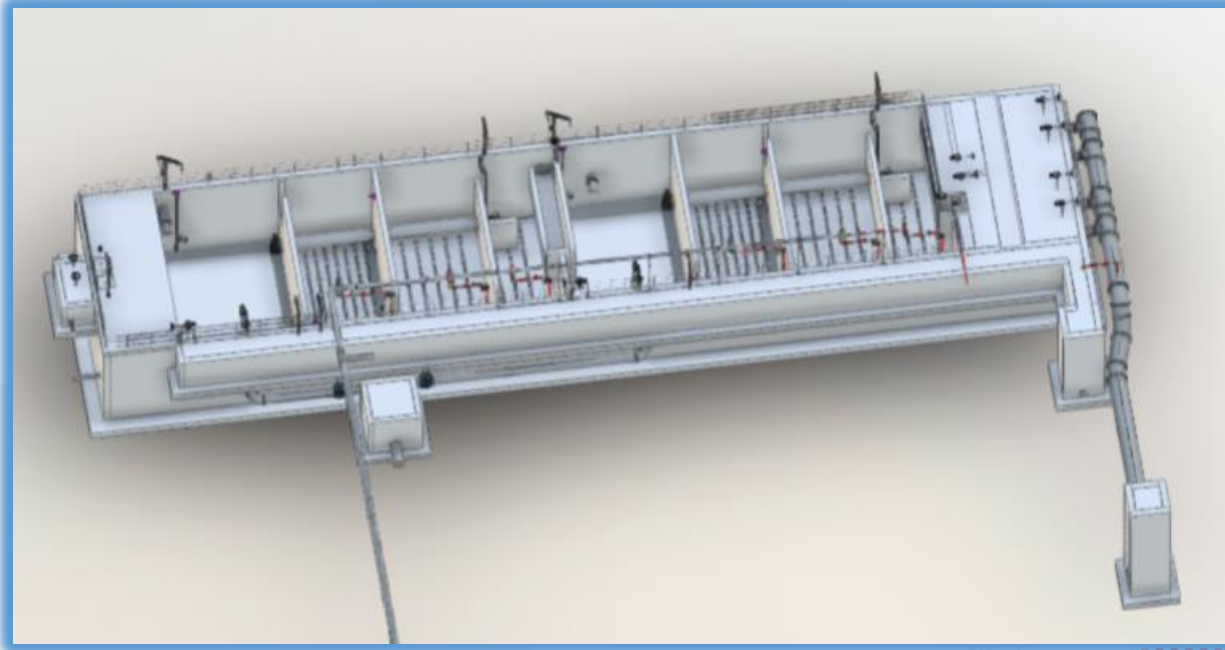
- **WWTF Permit Compliance**
  - New (Lower Limits): Nitrogen (5 mg/l) and Ammonia (1.7 mg/l)
  - Current WWTF – Nitrogen (15 mg/l) and Ammonia ( 5.5 mg/l)
- **Consent Agreement (Town & RIDEM – December 2021)**
  - Facility Plan Update (FPU)
  - FPU Approved – March 11, 2024
  - Design of Improvements – 1 year from FPU approval
  - Construction of Improvements – 2 years from design approval
- **Facility Plan Amendment (FPA)**
  - Higher winter wet weather flows
  - Flood resiliency design approach
  - In progress

# WWTF Project Scope of Improvements

- Comprehensive
- Nearly all plant areas impacted
- New electrical system
- State of good repair improvements
- Flood resiliency improvements
- Major improvements to meet lower nitrogen effluent limits
- \$72M construction budget



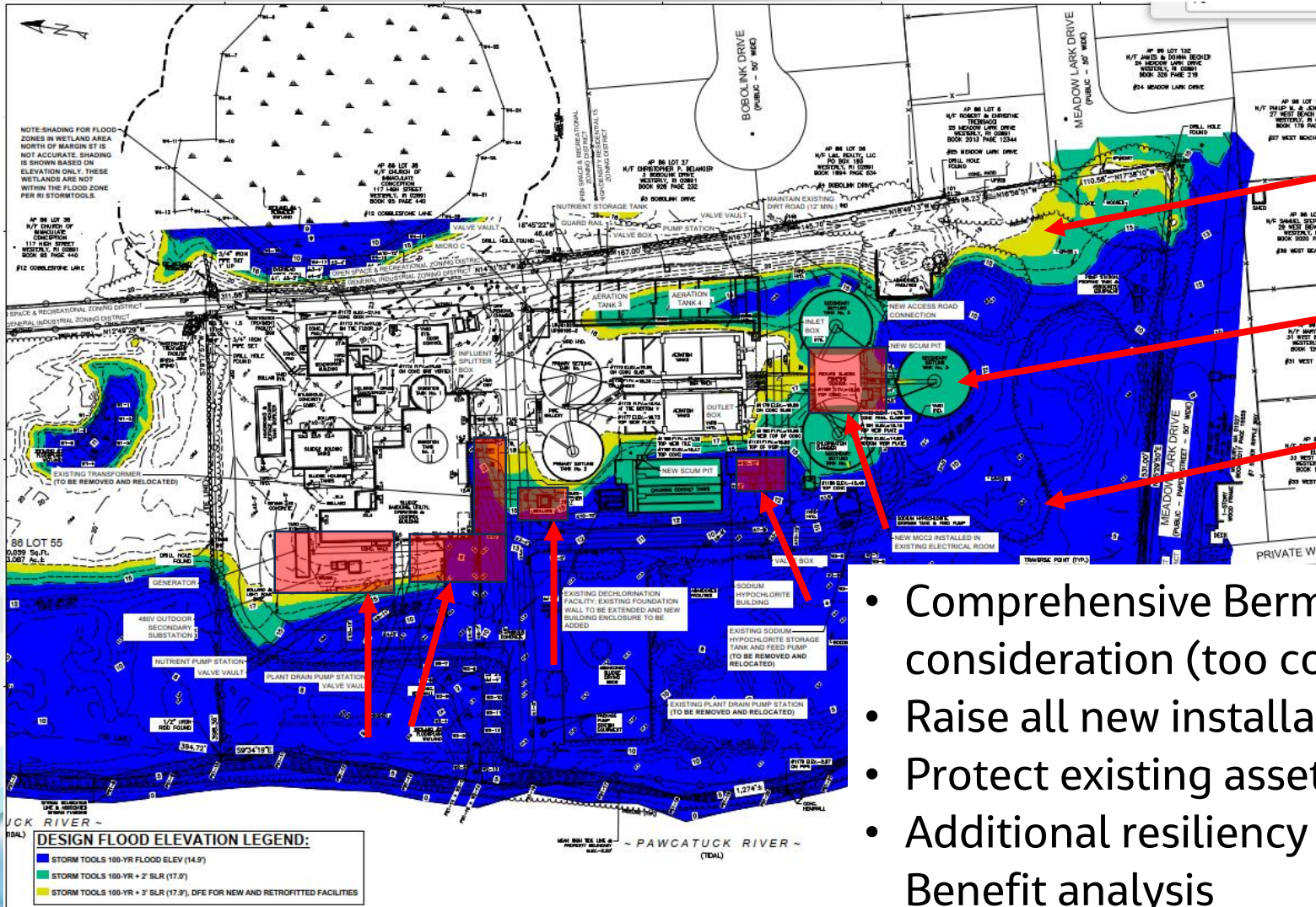
# WWTF Project Scope of Improvements



# WWTF Capacity

- Present Conditions:
  - ❑ Permitted Flow/Design Flow = 3.3 MGD (Average Monthly)
  - ❑ ~16,000 people served, nearly 45% of the Town's properties
  - ❑ ~ 6,900 units
- WWTF Design Conditions for Consent Agreement:
  - ❑ Permitted Flow/Design Flow = 3.3 MGD (Average Monthly)\*
  - \* After upgrades are complete, WWTF permitted capacity does not increase
  - ❑ Meet Lower Nitrogen and Ammonia Effluent Limits
  - ❑ Post-Construction: ~ 522 units / ~ 1,200 People
- Potential Future System Service:
  - ❑ Future Potential: ~ 15% increase in treatment capacity
  - \*\* Requires: Permit Modification, Regulatory Approvals, minor WWTF Capital Improvements
  - \*\* Anticipate: Nitrogen discharge limits will be <5 mg/l

# Flood Resiliency



El. 17.9  
(100 yr + 3' SLR)

El. 17.0  
(100 yr + 2' SLR)

El. 14.9 (100 yr)

- Comprehensive Berm and Pump Stations – removed from consideration (too costly)
- Raise all new installations (electrical, process)
- Protect existing assets (buildings, chemical storage)
- Additional resiliency analysis underway, followed by Cost-Benefit analysis
- Submit to RIDEM for review and comment or approval

# Status and Look-Ahead

- Complete 90% Design – submit to RIDEM with Order of Approval application
  - March 2025
  - \* Prepare and submit environmental permits following March application
- RIDEM reviews/provides comments
  - est. 3 months ~June 2025
- Address comments and submit 100% Design to RIDEM
  - est. 2 months ~Aug 2025
- RIDEM reviews and approves design
  - est. 1 month ~Sept 2025
- Construction delivery model: Progressive Design-Build
- Construction Duration:
  - Construction Duration = 28 to 31 months
  - Consent Agreement (2 years)
  - \* Must discuss 90% construction schedule with RIDEM

# Thank you

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