

May 2, 2025

# Central San's Nutrient Management Program

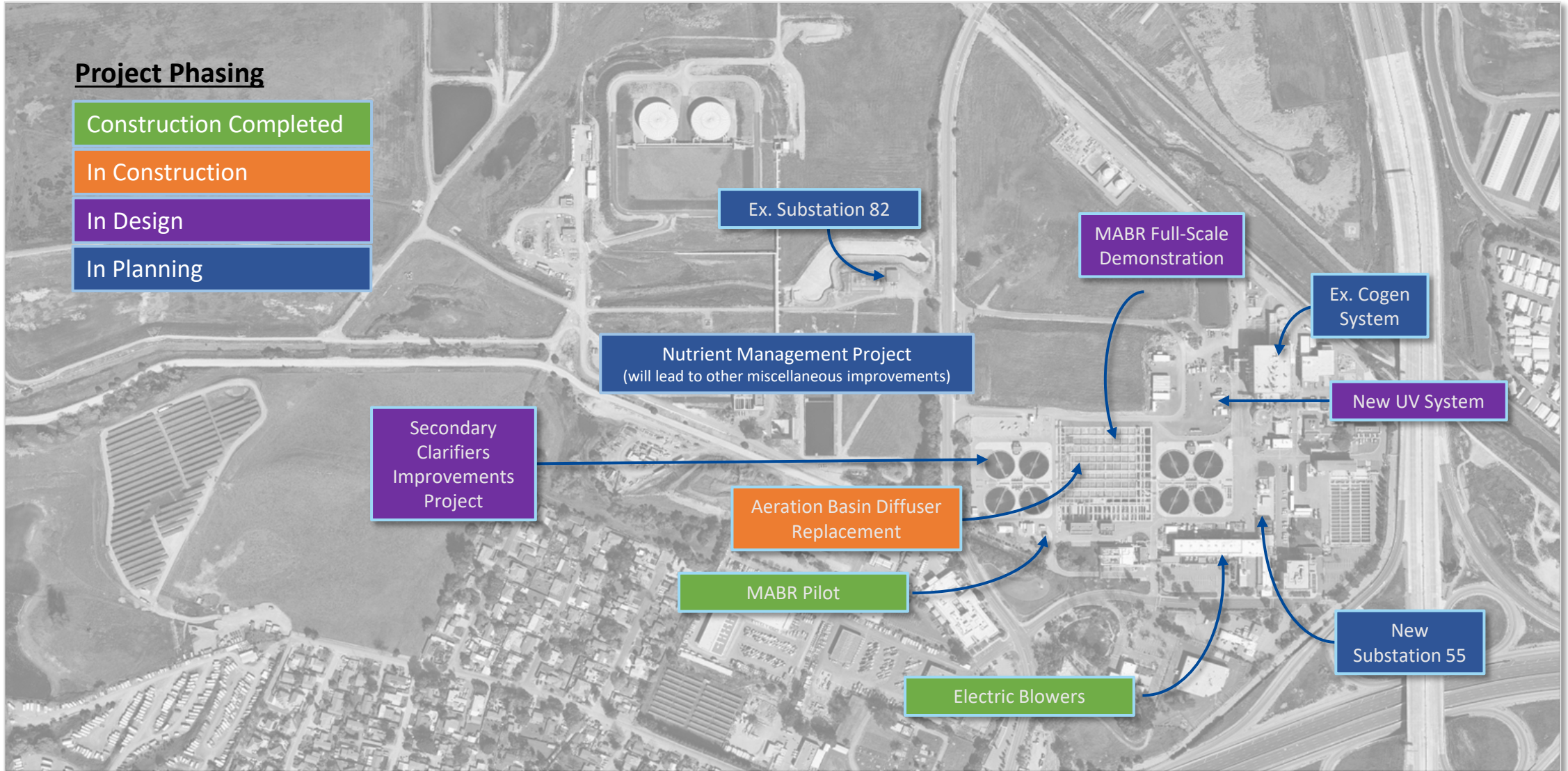
BACWA Annual Meeting

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Optimization Division Manager



# Core Projects Supporting Nutrient Management Objectives



# Pilot and Full-Scale Demonstration Testing

- Results will be crucial in determining the optimal nutrient alternative



Successful Completion of MABR Pilot in 2024



Full-Scale Demonstration of MABR in Existing Aeration Tanks in 2026 (as Part of the Nutrient Management, DP 100078)

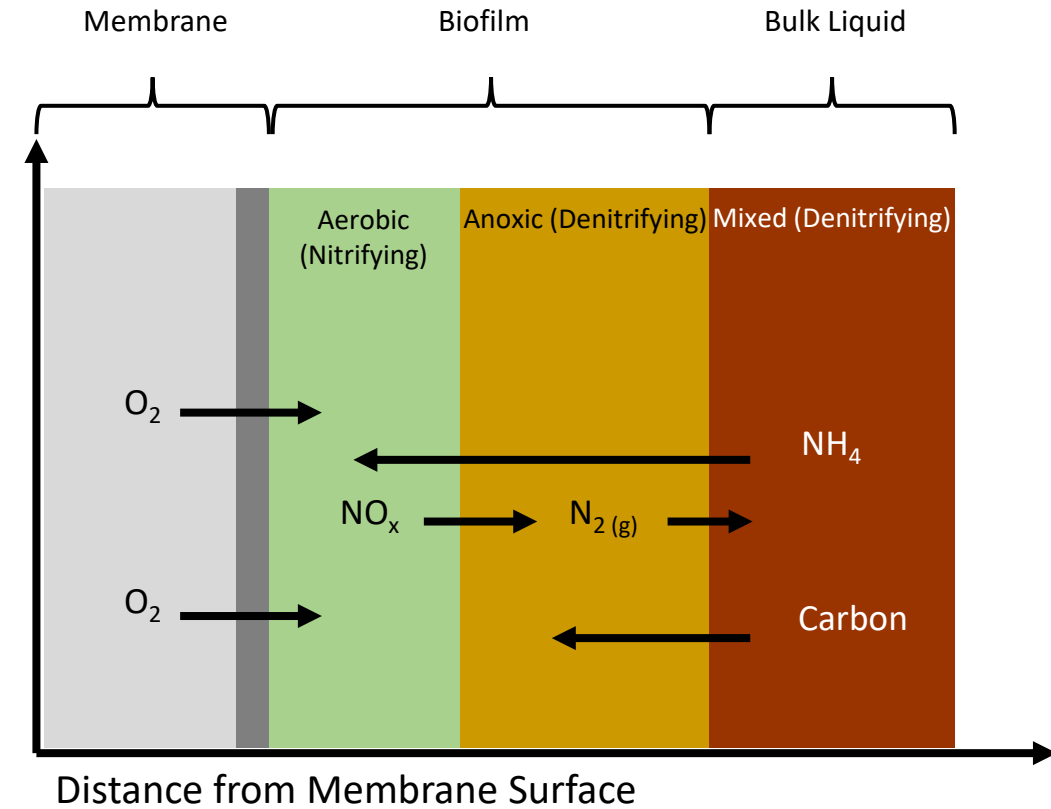
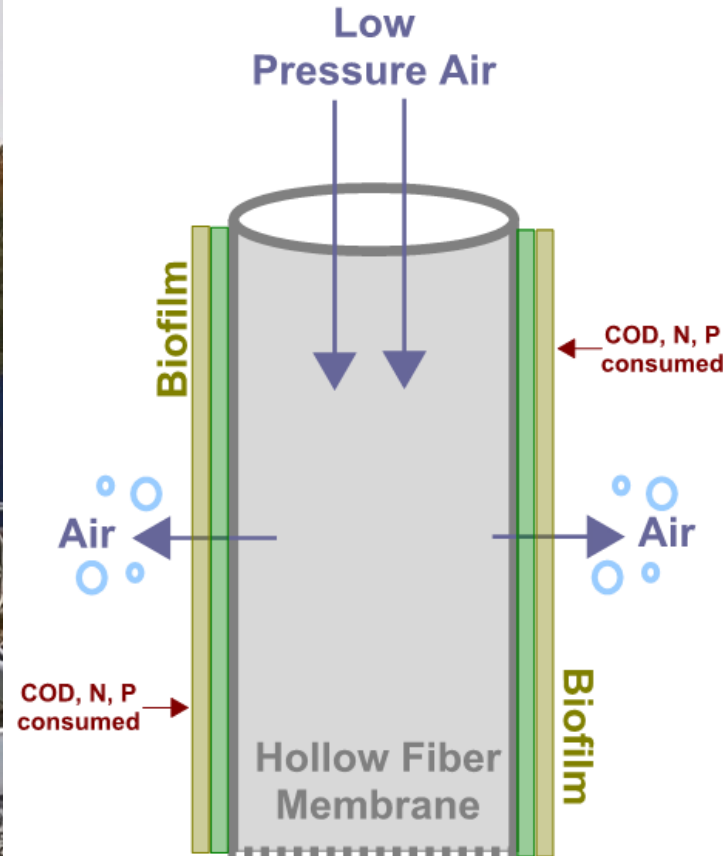


MABR & Process Intensification



Conventional Biological Nutrient Removal

# MABR Process Intensification Technology Overview



# MABR Pilot Results are Promising for Central San

## Pilot Answered Many Questions:

- ✓ **Nitrogen Removing Bacteria Growth** - Can nitrogen removing bacteria live on MABR when fed with Central San bacteria that do not remove nitrogen?
- ✓ **Cyanide Impacts** - Can nitrogen removing bacteria grow in presence of cyanide from incinerator air pollution control equipment?
- ✓ **Biofilm Management** - Can biofilm thickness control equipment mitigate high-carbon demand?
- ✓ **Typical Nitrogen Removal Rate** - Will nitrogen removal rate be similar at Central San to treatment plants that already remove nitrogen?

## Addressing Key Questions via Full-Scale Demonstration:

- ⊕ Will the pilot results translate at full-scale? This is a cutting-edge, unproven application of this technology.
- ⊕ What is the full-scale installation cost?
- ⊕ What are other considerations?





Thank You - Please Contact Nitin Goel [ngoel@centralsan.org](mailto:ngoel@centralsan.org) for Questions



Nutrient Management Program Kickoff Meeting Held On April 25, 2025

