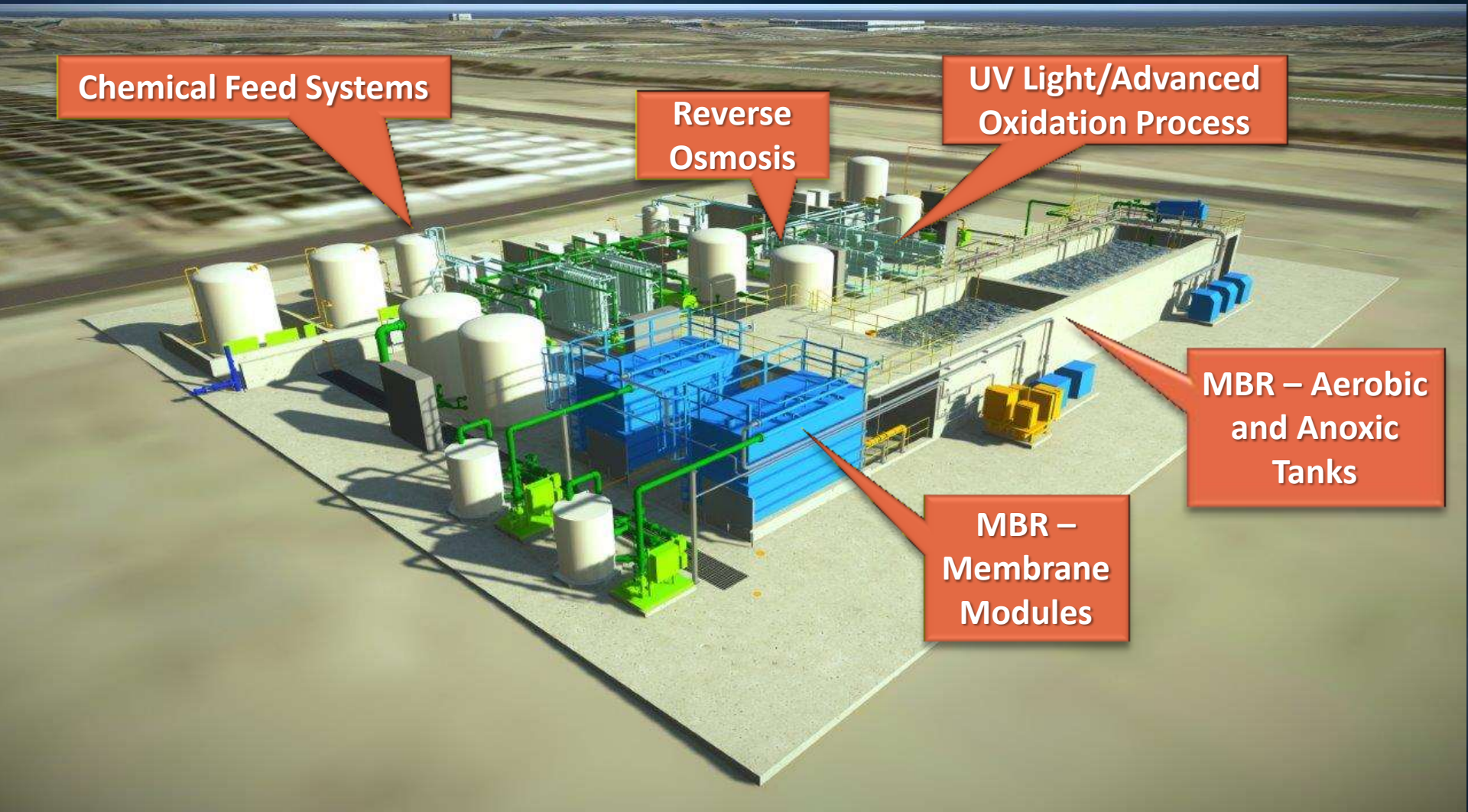
Regional Recycled Water Update

Engineering and Operations Committee
Item 6a
December 10, 2018

Outline

- Demonstration project
  - Status of construction
  - Near-term regulatory testing
  - Potential future testing for process optimization & development of design criteria
- Full-scale program planning

Regional Recycled Water
Advanced Purification Center



Demonstration Plant Construction

- Contract amount: $13,856,000
- Capital budget: $17M
- 2-yr O&M budget: $9.8M
- Construction contract approximately 85% complete
- Construction complete: December 2018
- Start-up and commissioning: Jan/Feb 2019

Construction Site Overview

Construction Site Overview

MBR System


Membrane Modules
Anoxic Basin
Aeration Basin
Drum Screen
Membrane Scour Blower
Aeration Blowers

MBR Membrane Modules

MBR-1
(GE/Suez)

MBR-2
(Evoqua)

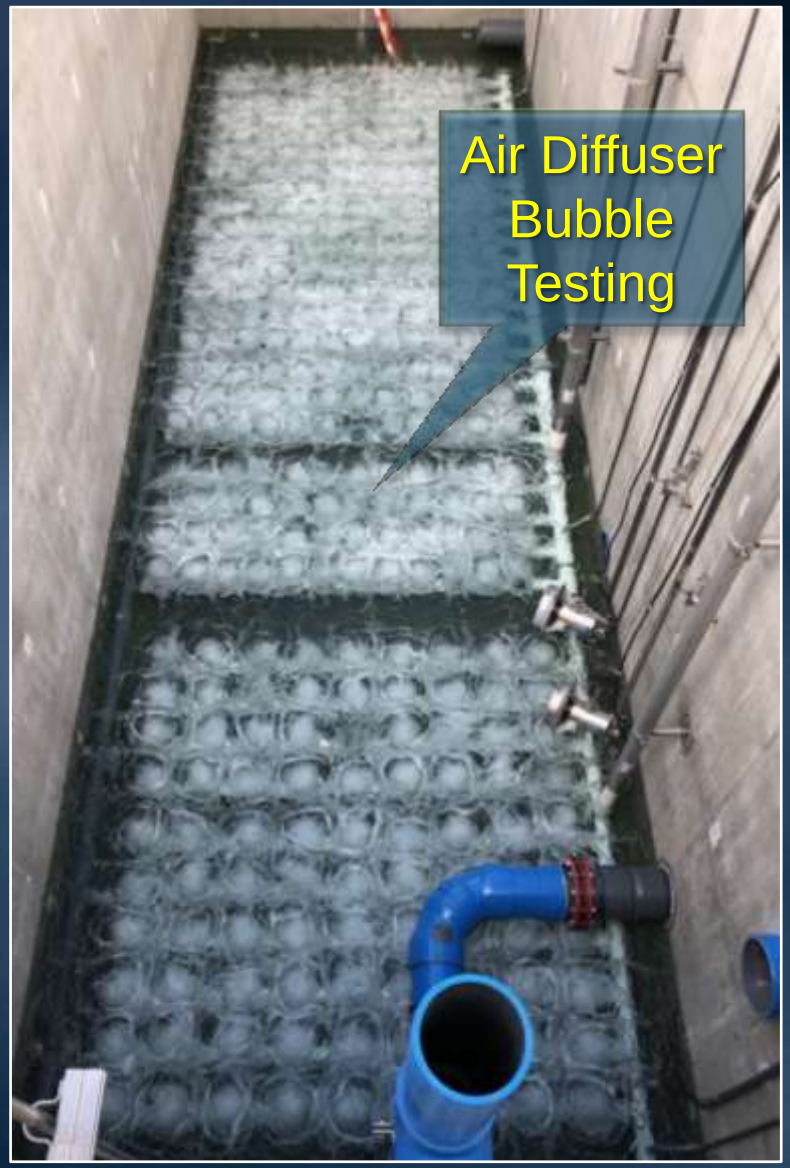
Process Equipment


RO Skid


Chemical Feed Skids


Motor Control Center

Functional Testing



Demonstration Plant Objectives

INITIAL TESTING PERIOD

FUTURE TESTING PERIOD

- Optimize full-scale treatment process design
- Establish cost clarity for treatment

ONGOING

- Confirm operational dependencies/ interfaces with LACSD
- Provide vehicle for public outreach and acceptance

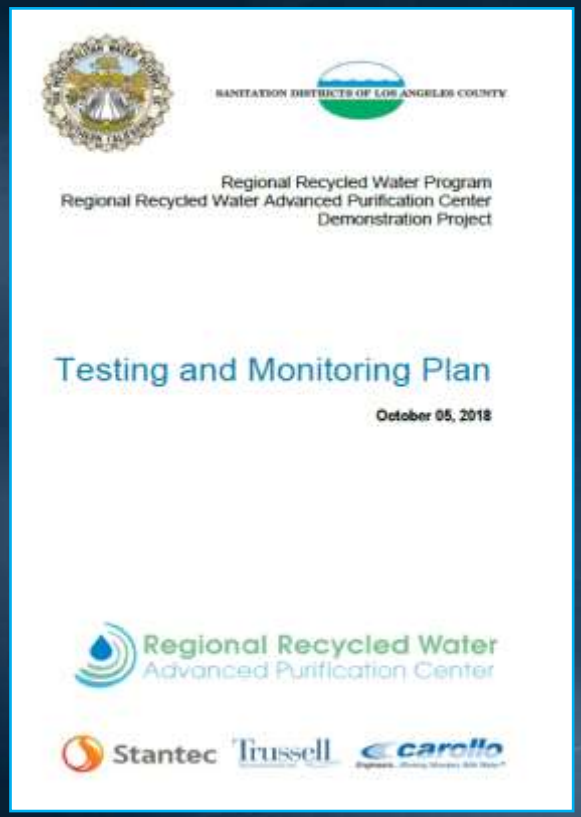
Initial Testing

MBR Regulatory Acceptance

- Primary focus
  - Demonstrate pathogen removal
  - Achieve regulatory acceptance of MBR
- Water quality from all unit processes will be monitored to ensure treatment goals are met
- LACSD will characterize JWPCP source water & brine/waste streams from the AWT process

Testing and Monitoring Plan

- Draft plan submitted in early October
- Plan incorporated input from Independent Scientific Advisory Panel
- Regulatory approval of final plan anticipated in early 2019
  - January 2019 meeting scheduled to review final plan
- Testing to begin in March 2019 for 15-month duration

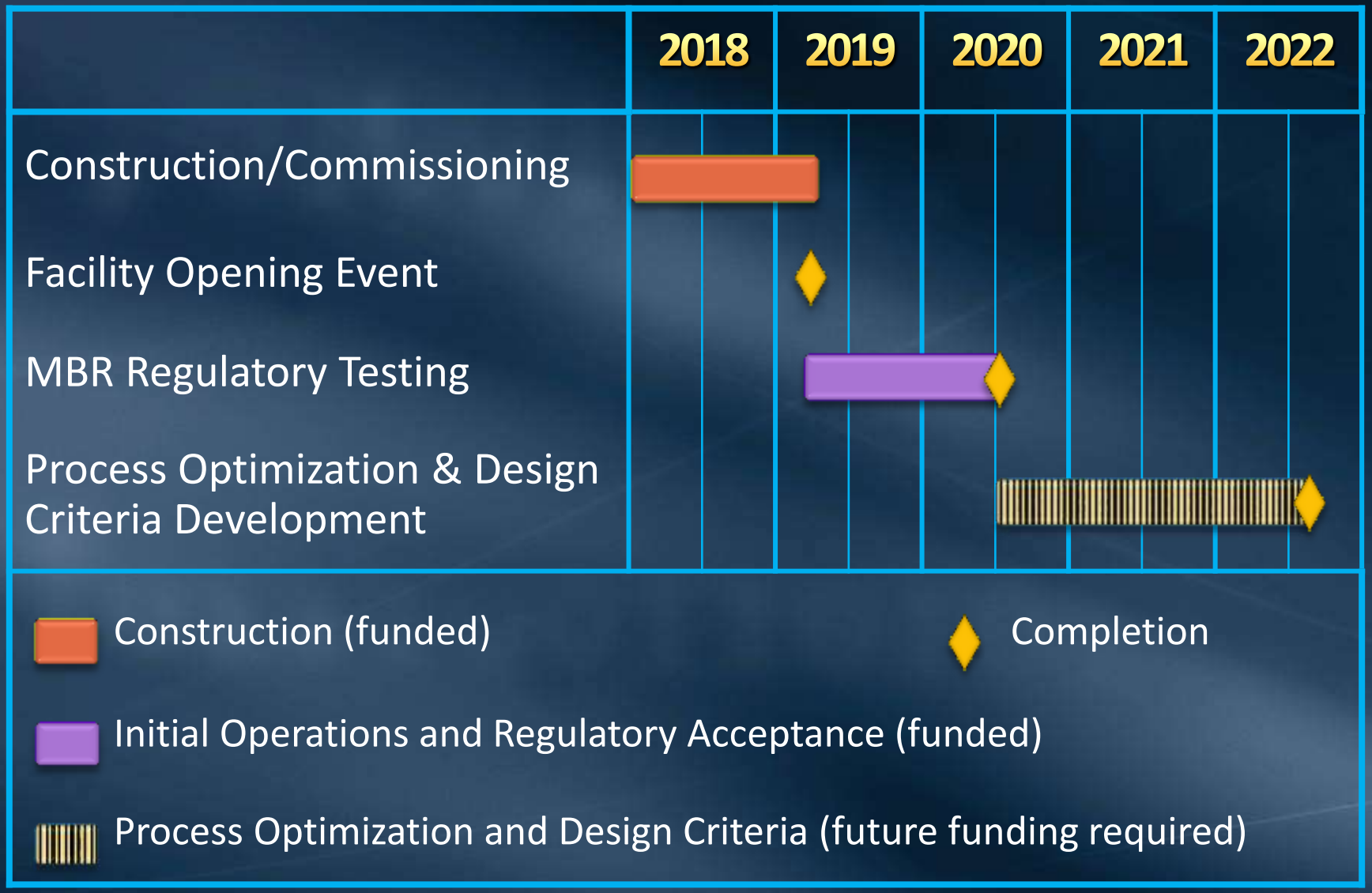


Future Testing

Process Optimization/Design Criteria Development

- Follows initial MBR regulatory testing
  - Future Board funding request
  - Similar to use of ODP for Oxidation Retrofit Program
- Key areas of investigation
  - Nitrogen management
  - Source control
  - Product water stabilization
  - Brine and residuals management

Demonstration Plant Schedule



Full-Scale Program Planning

- Feasibility Report (completed Nov. 2016)
  - Determined that 150 MGD program "could" be implemented
  - Did not answer questions: "how or should" program be implemented
- Conceptual Report (scheduled Feb. 2019)
  - Examines and refines approaches as to "how" program could be implemented
  - Update to Board in March 2019

Conceptual Report Scope

- Refines approach to overall program configuration
- Examines potential options for phasing program
- Presents cost estimate in 2018 dollars, and cost comparison between alternatives
- Provides early assessment of potential future opportunities for DPR

Full-Scale Program: Initial Activities

Outreach Efforts

- Outreach trailer for visitors
- Exhibits & displays
- Facility opening event on March 21, 2019
- Tours for public & stakeholders


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928