



Digester and Thickener Facilities Upgrade Project Third Construction Contingency Increase

City Council

April 20, 2021

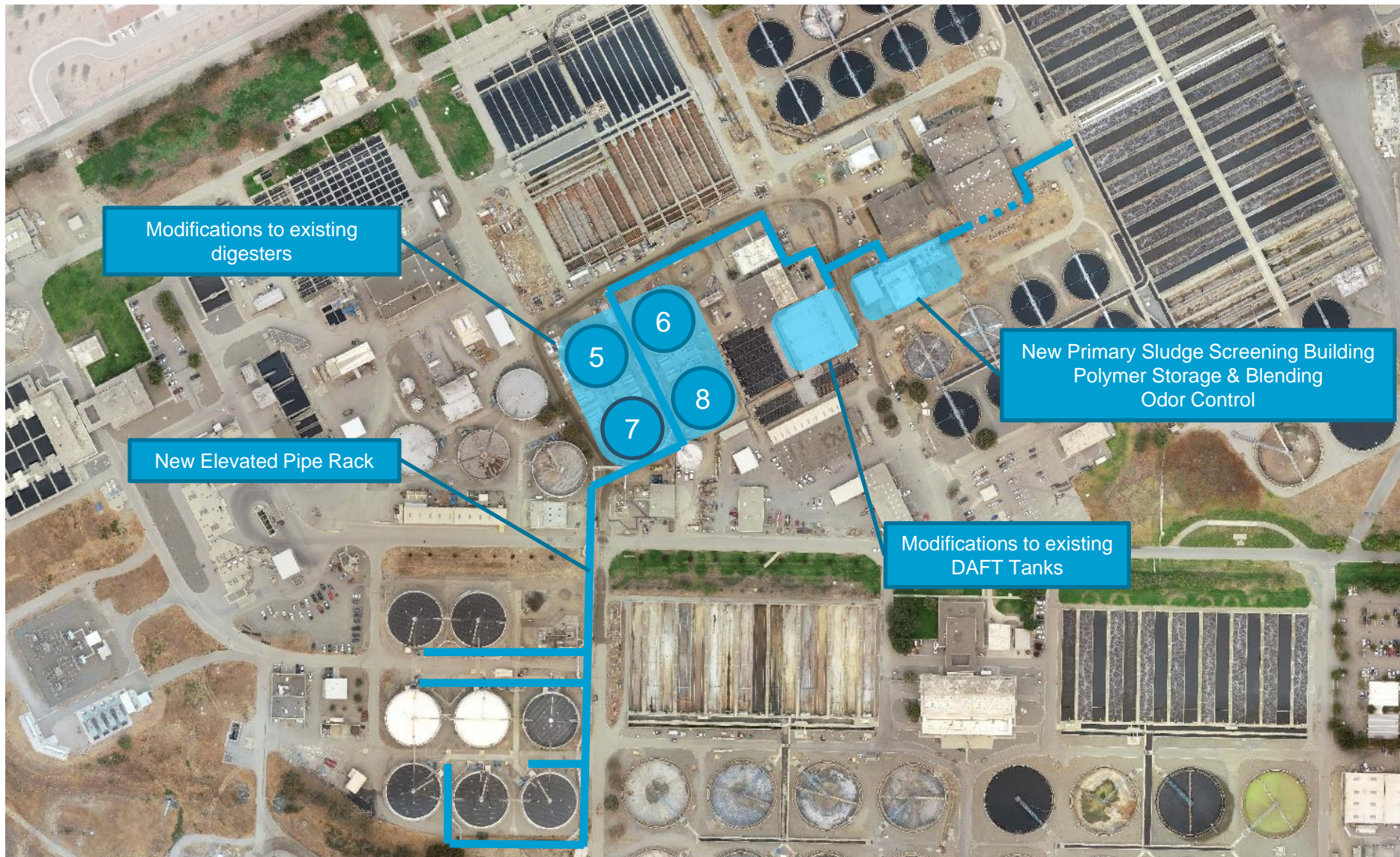
Item 6.1

**Matt Cano, Director, Department of Public Works
Napp Fukuda, Assistant Director, Environmental Services Department
Mariana Chavez-Vazquez, Deputy Director, CIP, Environmental Services**



**San José-
Santa Clara
Regional
Wastewater
Facility**

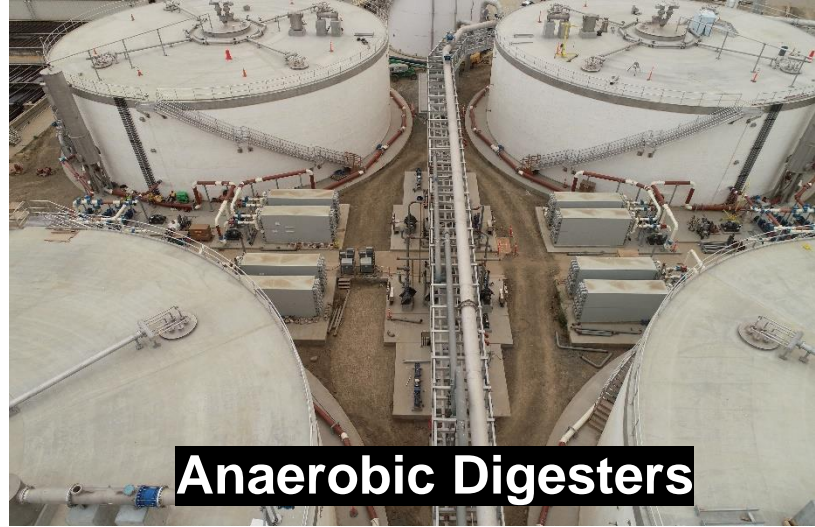
Project Site and Scope



Construction Progress – 94% Construction Complete



Elevated Pipe Rack



Anaerobic Digesters



**Sludge Screen Building
Polymer Storage & Blending
Odor Control**



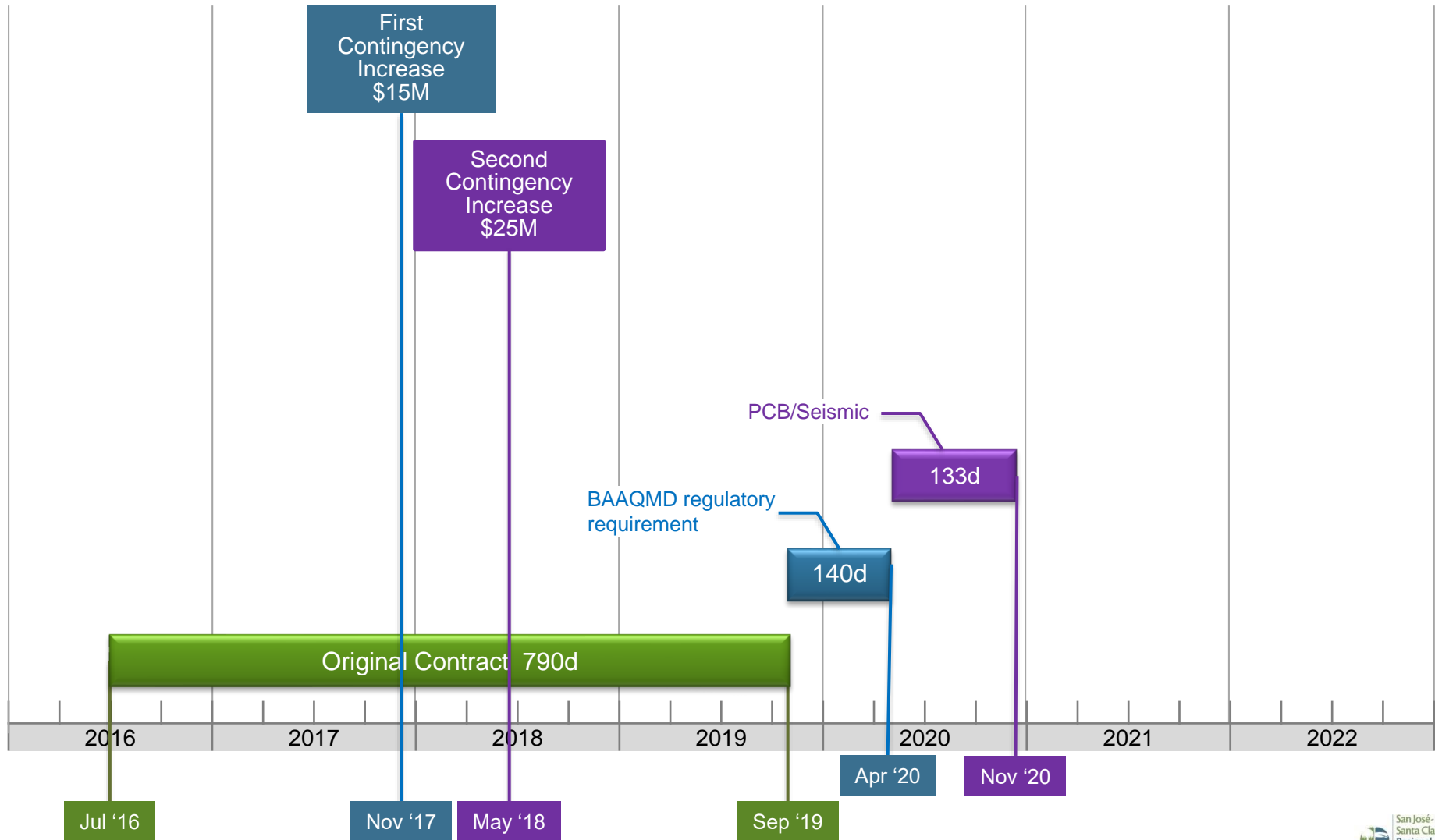
DAFT Tanks

Project History

- 2013: Design Initiated (Designer: Brown & Caldwell)
- July 2016: Construction Award - \$107.9M (Contractor: Walsh Construction Company)
- November 2017: First Contingency Increase: \$15M/140d Delay
 - SES Pipeline and WYE structure
 - Unexpected regulatory requirements
- May 2018: Second Contingency Increase: \$25M/133d Delay
 - PCB Remediation & Other Changes
 - Seismic Upgrade (settlement with consultant \$2.75M)
 - Delay Cost (TRO)
- Sept 2019: Original Completion Date
- November 2021: Estimated Construction Completion Date
- November 2022: Complete Testing, Startup & Commissioning

Digester Project Timeline

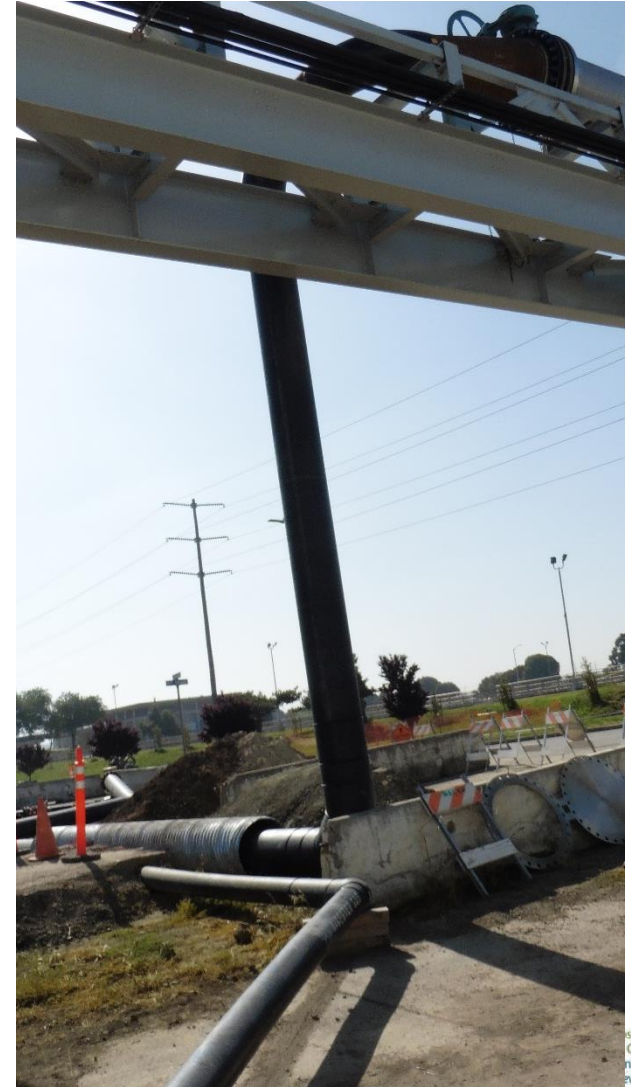
- First and Second Contingency Increases



First Contingency Increase

- Unanticipated Regulatory Requirements

Digester Gas Re-route



First Contingency Increase

- SES Pipeline and WYE structure

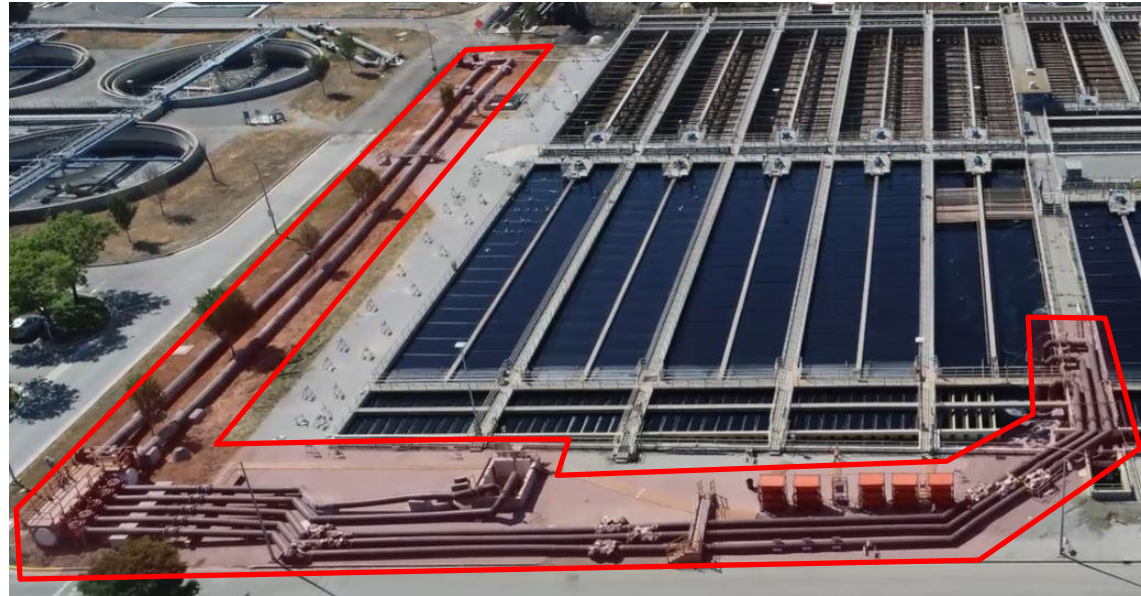
SES Pipeline Replacement



New Wye Structure



SES Re-route System

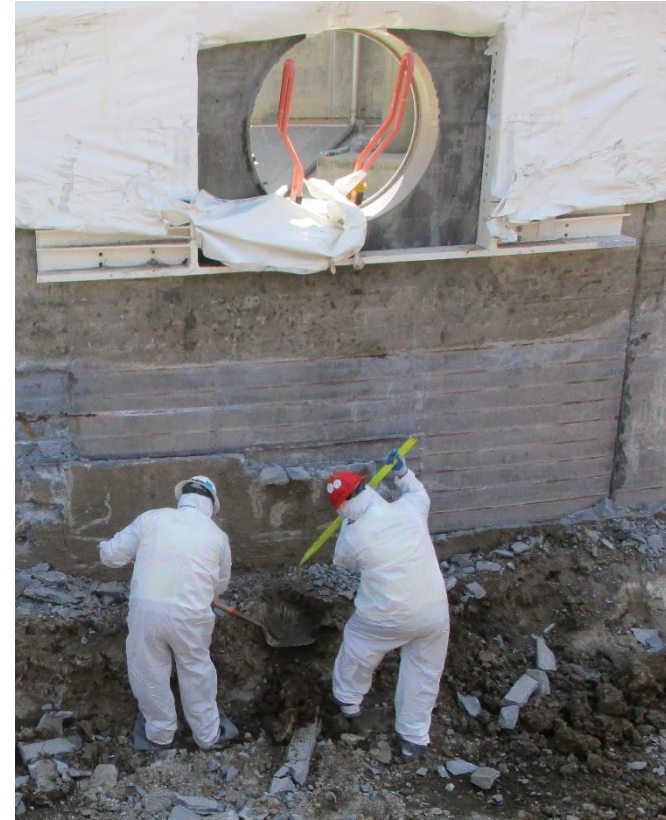
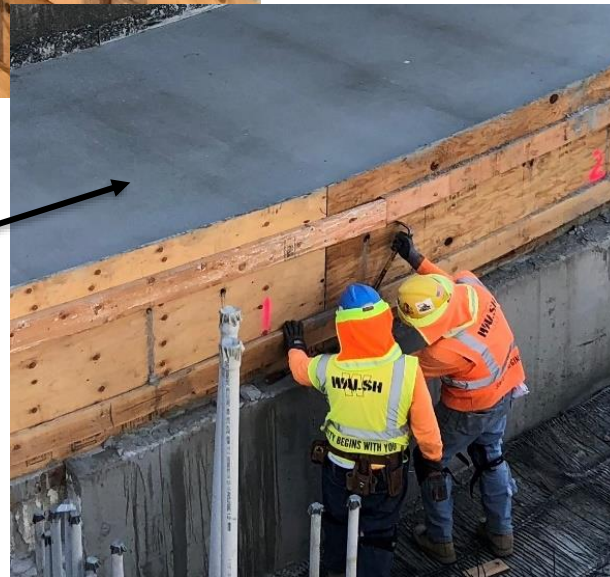


Second Contingency Increase

- Seismic Ring Beam & PCB Mitigation



**Seismic
Ring
Beam**



PCB Mitigation

Construction Issues 2018-2021

1. Unanticipated impacts due to aging infrastructure
 - a. Digester Leakage
 - b. Additional Civil Work
 - c. Coordination with other projects
 - d. Underground conflicts
 - e. Updates due to changes in electrical and fire codes
 - f. Integration with legacy control system
2. Complex Testing, Startup & Commissioning
3. Additional Impacts due to design changes
4. Associated delays

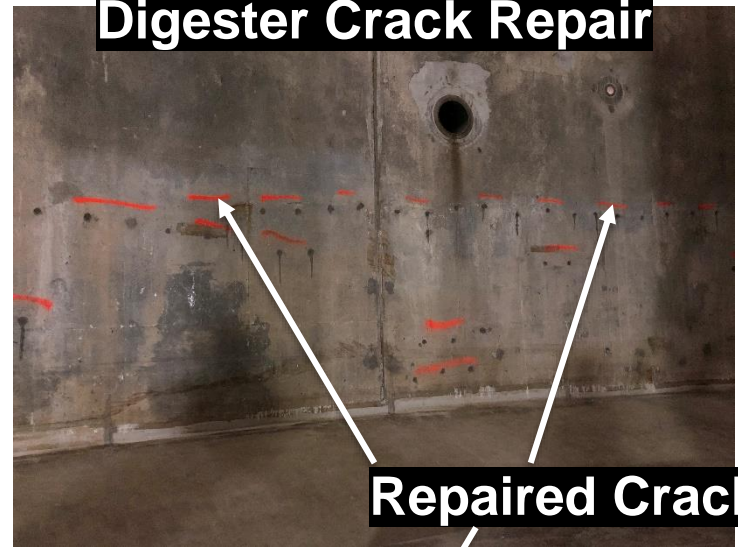
Unanticipated Impacts Due to Aging Infrastructure

- Digester Leakage

Diver Inspection of Digesters



Digester Crack Repair



Unanticipated Impacts Due to Aging Infrastructure

- Underground Conflicts



**Between Top of Tunnel
and Final Grade**



**Tunnel
Conflicts**



**Between Ring Beam
and Existing Utilities**

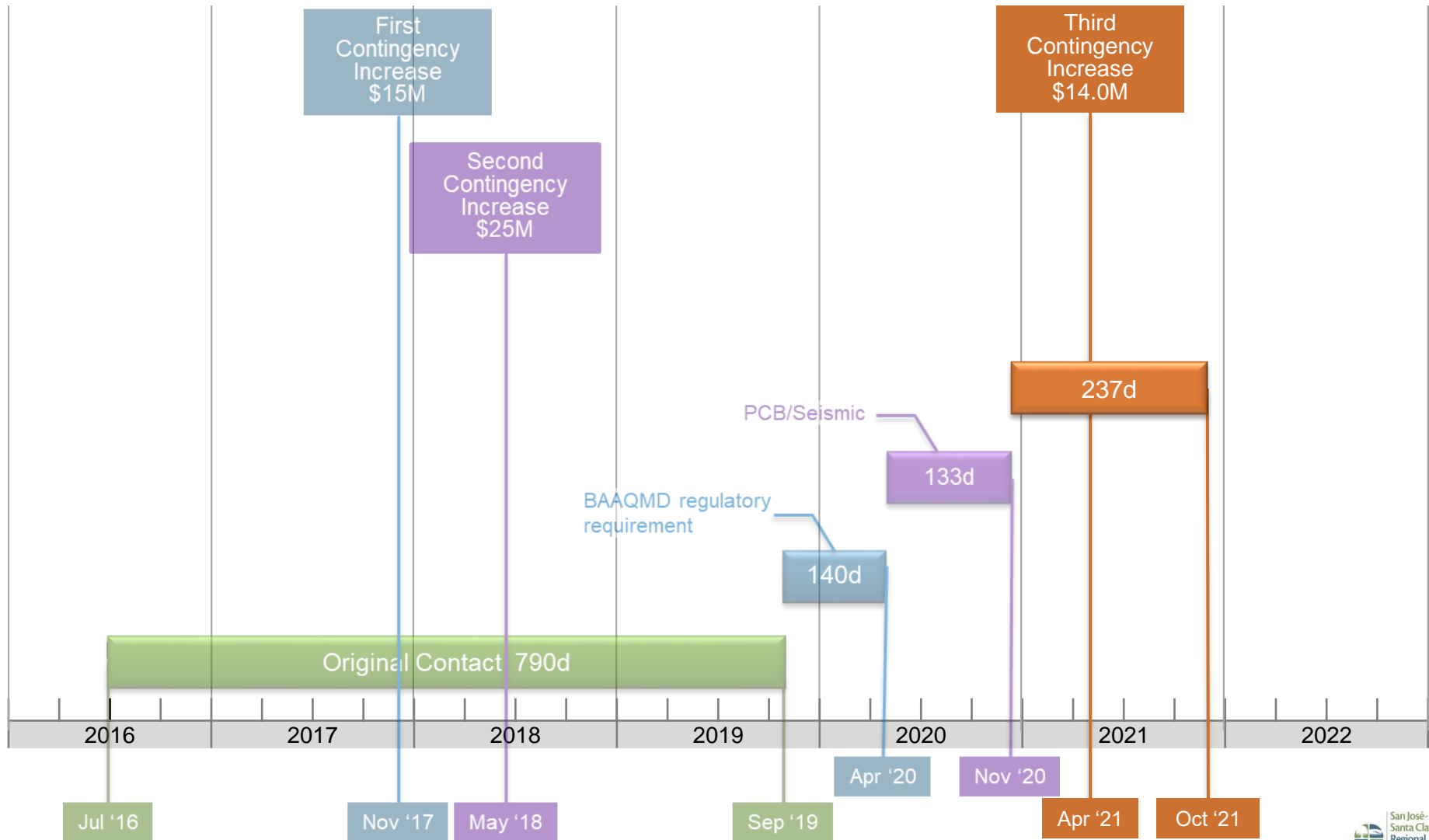
Third Contingency Increase

- **Third Contingency Increase (up to 237 Day Delay)**
 - \$14M; Council review April 2021
 - » *Aging infrastructure (\$3.2M), TSC (\$1.4M), redesign (\$0.3M)*
 - » *Delay cost (TRO) (\$9.1M)*

- **Future Potential Issues:**
 - » *Extended Contractor support during start-up*
 - » *COVID-19 impacts*
 - » *Startup programming and integration into legacy DCS system*
 - » *Delay Cost (TRO)*

Digester Project Timeline

- Third Contingency Increase



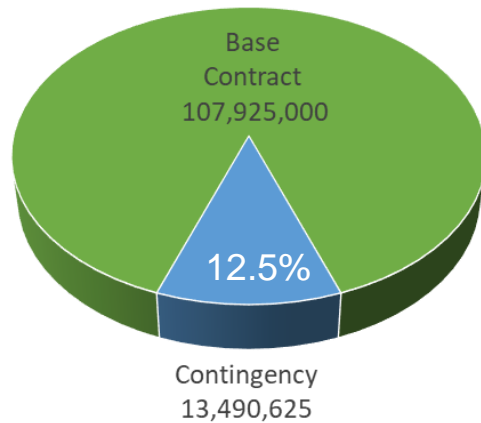
Mitigation Measures To Be Evaluated Prior to Future Contingency Increase

Mitigation Measures to Potentially Reduce Future Contingency Amount:

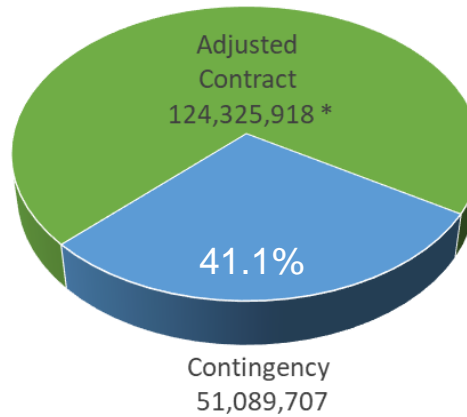
- Review TRO claim and analyze for concurrent delay
- Review TPAD start-up strategy to minimize Contractor involvement during Operational Testing
- Identify opportunities to reduce contractor overhead
- Negotiate COVID claim based on City precedent/position
- Work with Contractor to optimize remaining schedule

Contract Cost and Contingency Summary

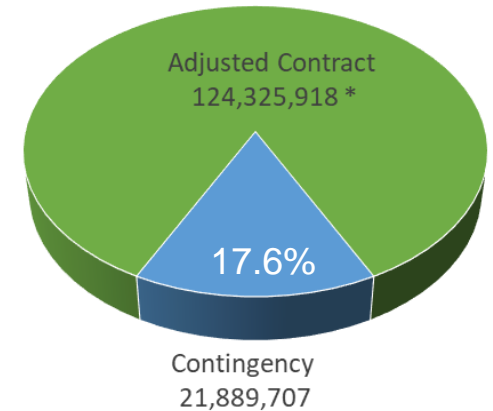
Original Contract Amount



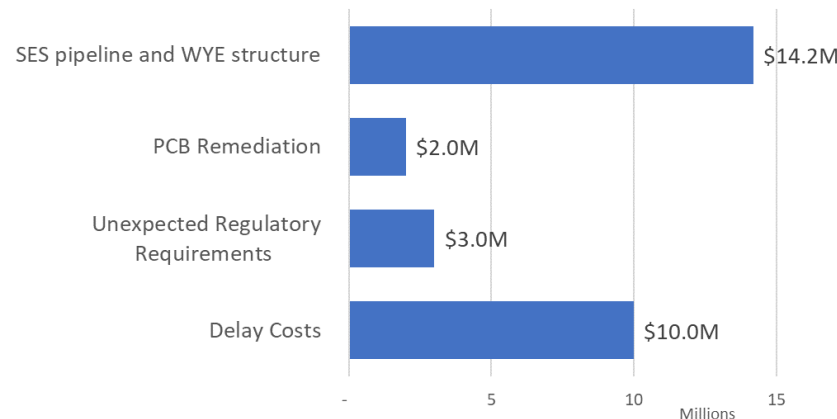
Increased Contingency - All Scope



Increased Contingency
Excluding Unanticipated (Out of Scope) Issues



Unanticipated Issues = \$29.2M (23.5%)
(Outside of Original Scope)



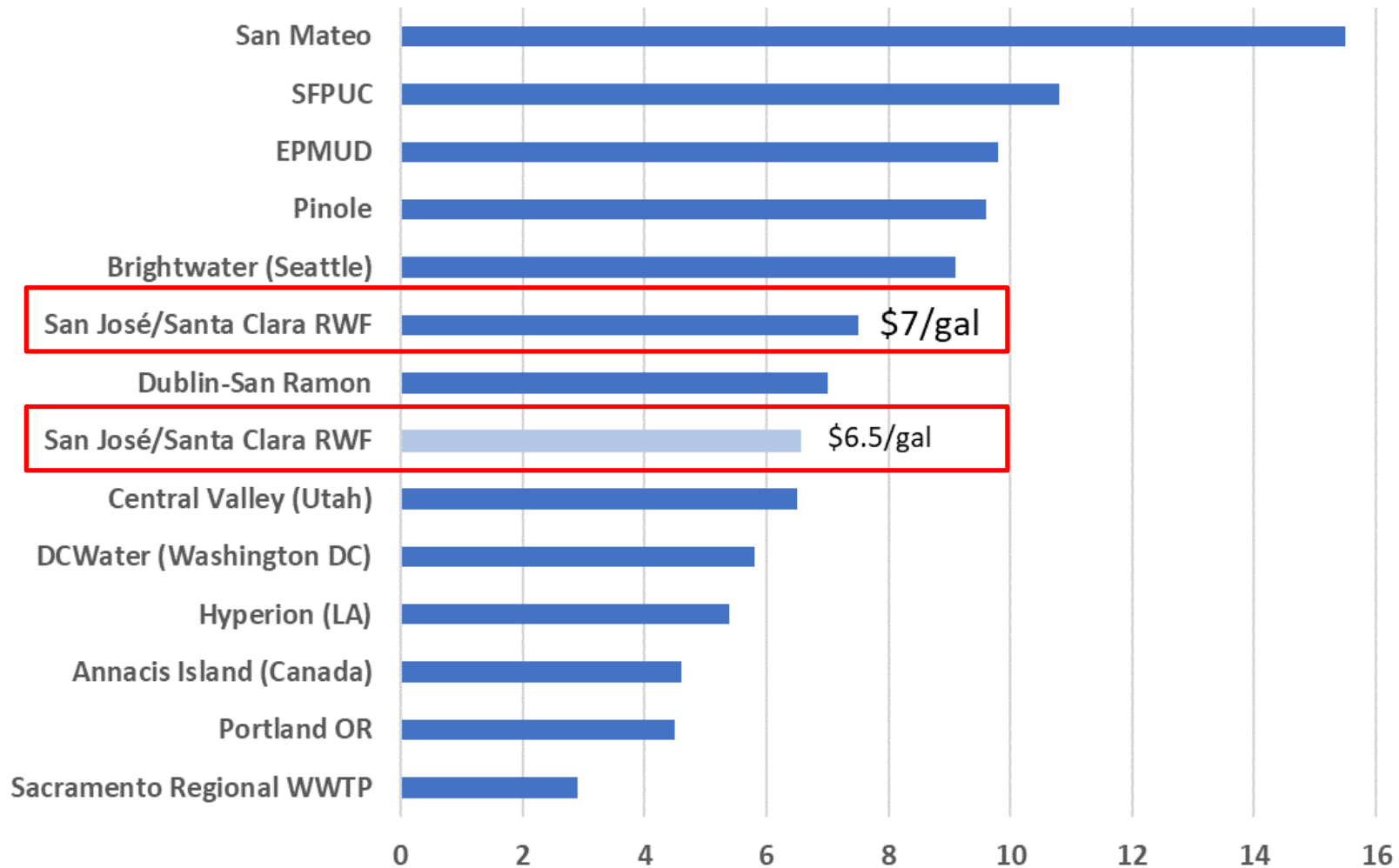
Future Potential Costs:

- Extended Contractor support during start-up
- COVID-19 impacts
- Legacy DCS system integration
- Delay Cost (TRO)

* Includes seismic upgrade costs

Digester Capacity Benchmarking

Digester Project Benchmarking*



* Costs related to Digester construction

Lessons Learned for Future Projects

- More extensive condition assessments of existing structures, equipment and underground conditions
- In-depth hazardous material surveys prior to construction
- Higher construction contingency at time of award
- Programmatic design standards followed on all projects
- Use of alternative delivery methods for higher risk projects

Recommendation

- Approve a \$14,000,000 increase to the construction contingency amount of \$53,490,625 for a revised total contingency amount of \$67,490,625, increasing the not-to-exceed amount from \$161,415,625 to a total revised contract amount not-to-exceed \$175,415,625 for the 7382 – Digester and Thickener Facilities Upgrade Project
- Adopt the following 2020-2021 Appropriation Ordinance Amendments in the San José-Santa Clara Treatment Plant Capital Fund:
 - Decrease the Nitrification Clarifier Rehabilitation appropriation to the Environmental Services Department by \$14,000,000
 - Increase the Digester and Thickener Facilities Upgrade appropriation to the Environmental Services Department by \$14,000,000