



Shutdown Planning at Metropolitan

Engineering and Operations Committee

Item 6b

June 7, 2021

The Need for Shutdowns

- Inspect and address aging infrastructure
- Upgrade facilities and add improvements
- Respond to emergencies

Valve/Meter Maintenance



Pipeline Repair/Rehabilitation



Emergency Repair



Shutdowns in the Past

Large “off-line” projects with short shutdown tie-in periods

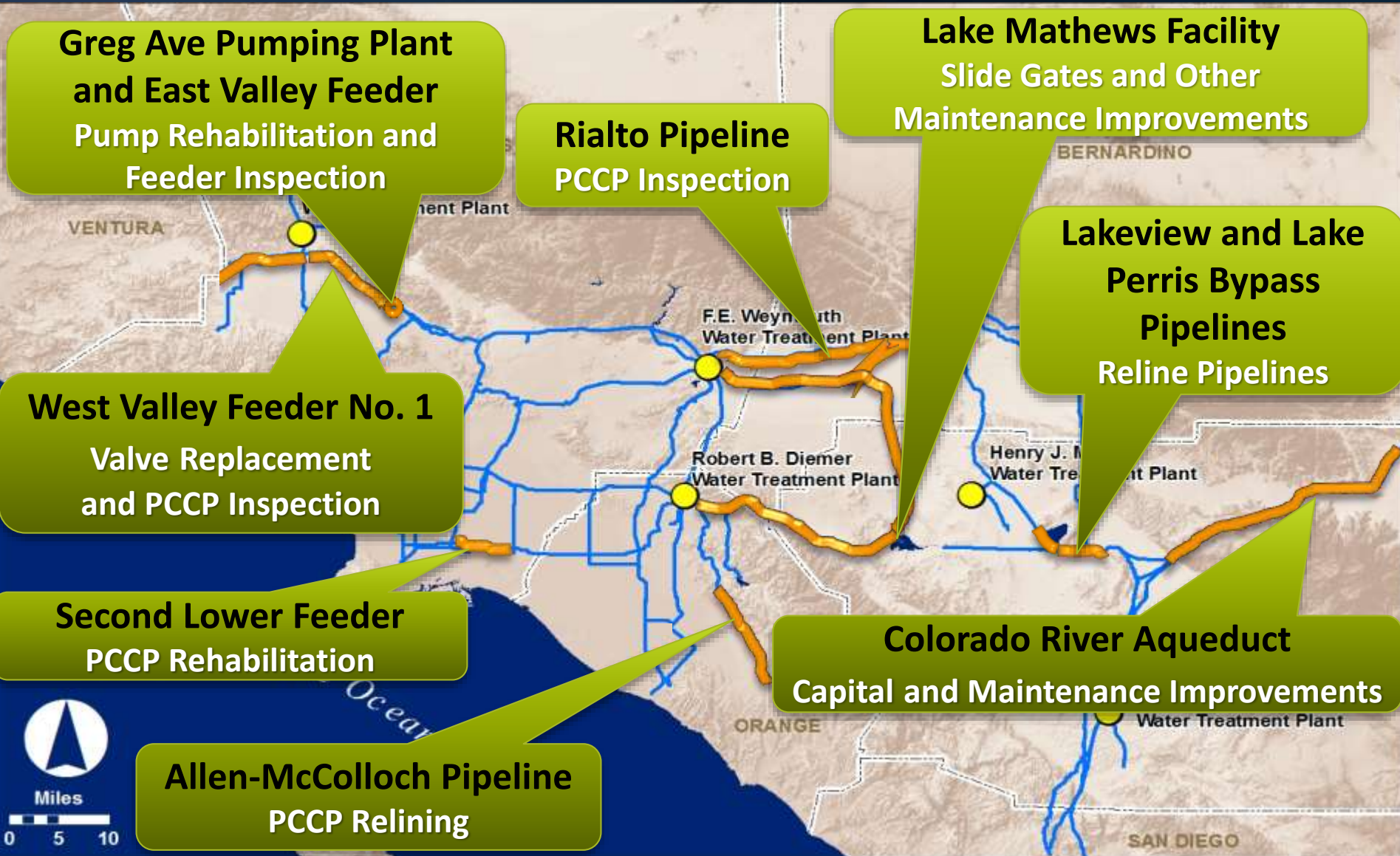
Weymouth Ozone Contactors



Diamond Valley Lake



Shutdowns are Increasing in Complexity



Present Day

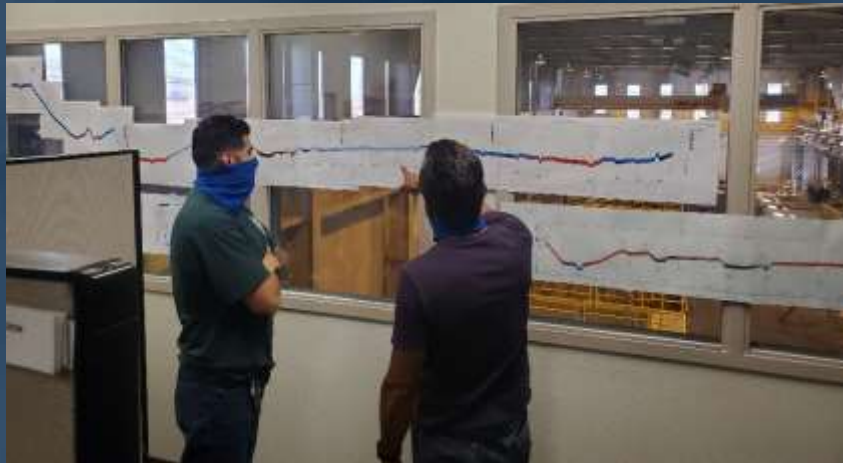
- 40 shutdowns
- Longest Duration
 - Second Lower Feeder: 230 days
- Average Length
 - 11-12 days

Meeting Goals Through a Collaborative Shutdown Planning Process

- Maintain reliability to our member agencies
- Ensure safety
- Return to service on or before schedule



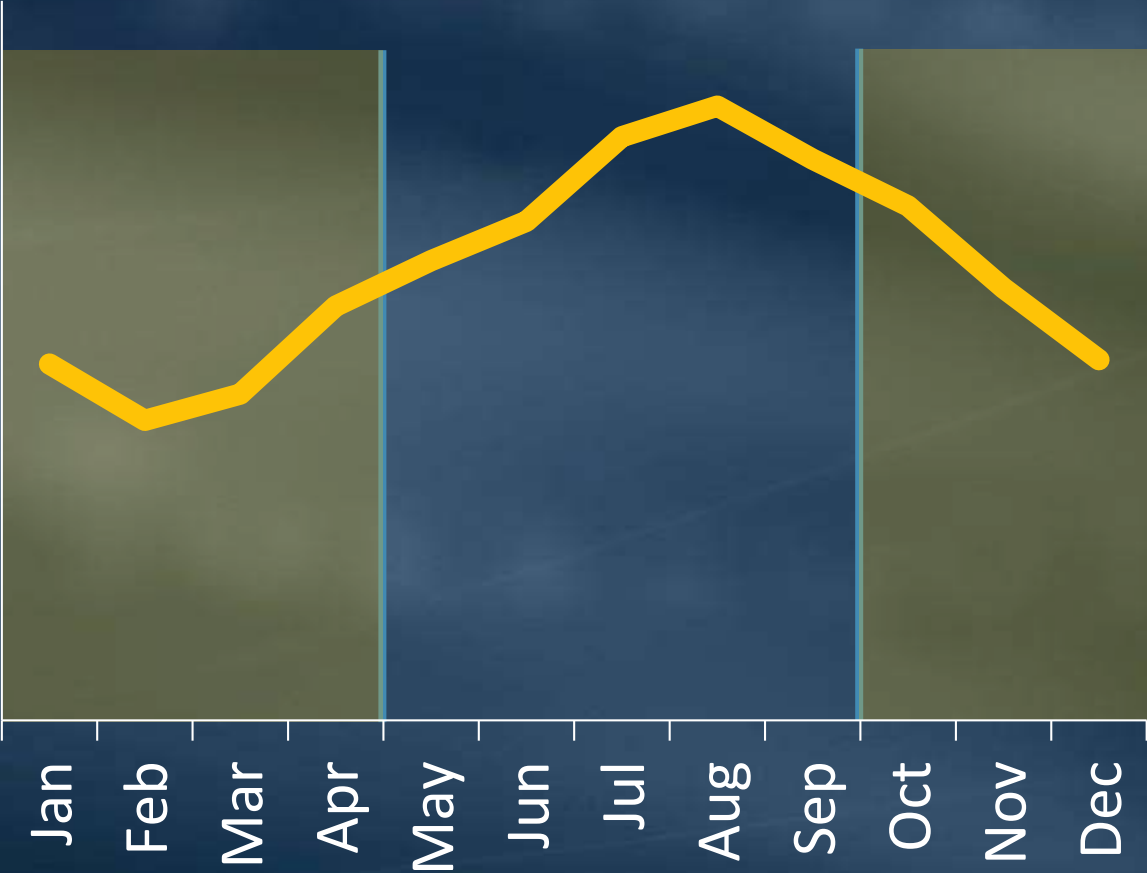
Safety Briefing (*Pre-Pandemic*)



Reviewing a Dewatering Plan

Minimize Impacts to Member Agencies

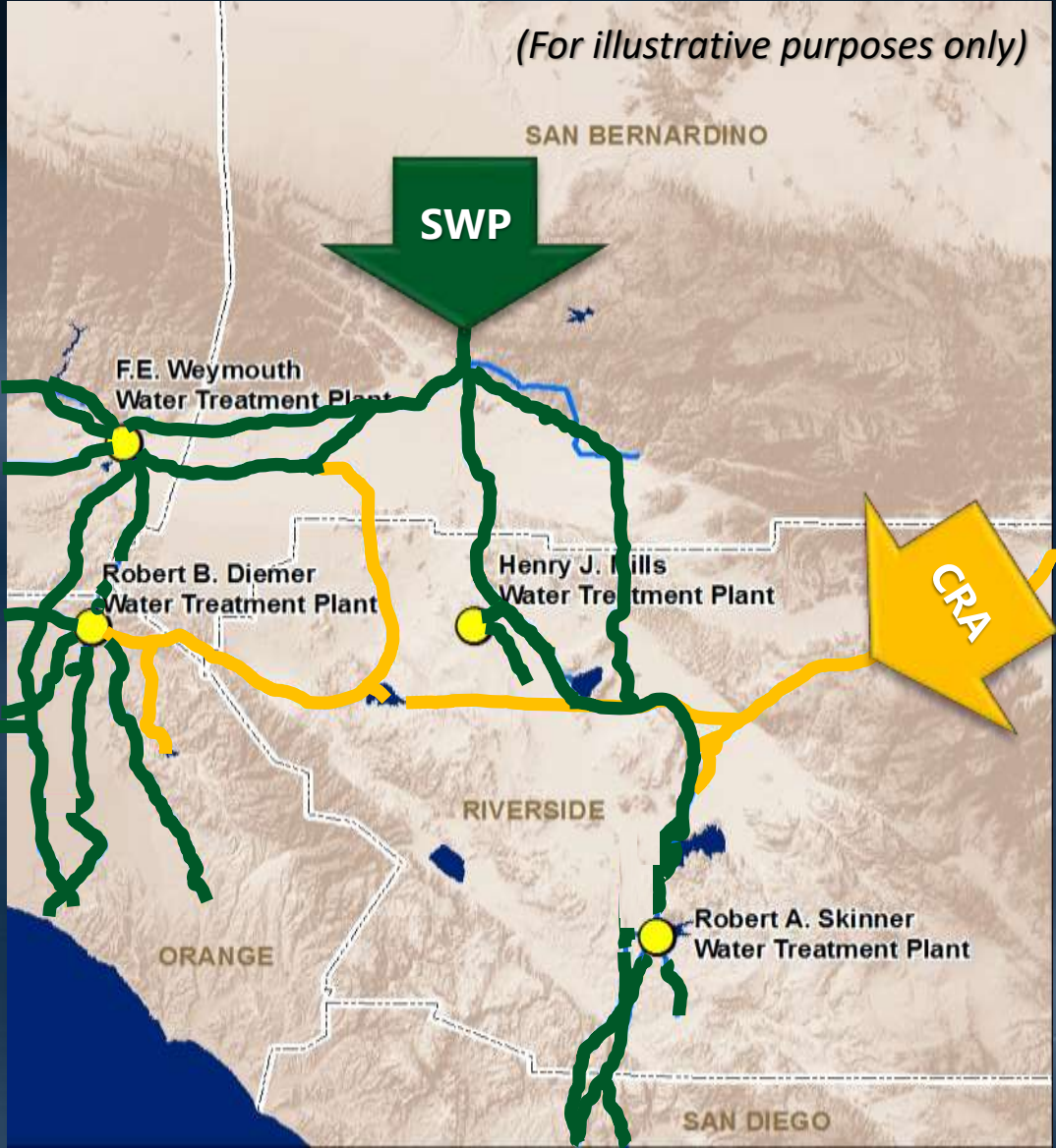
Average Monthly Deliveries to Member Agencies



Changing Conditions May Affect Shutdown Timing



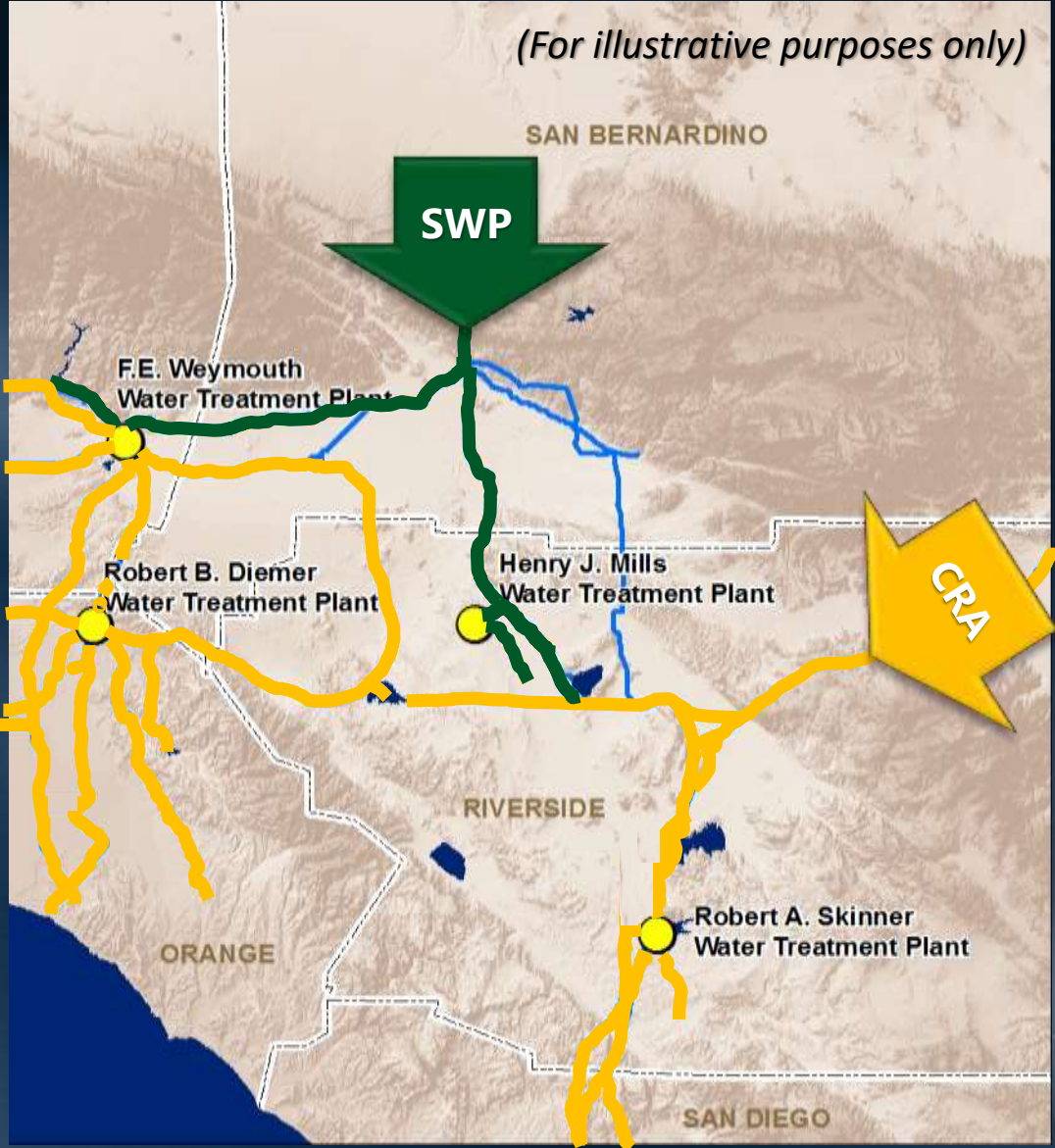
Water Supply Conditions
High State Water Project Allocation



Changing Conditions May Affect Shutdown Timing



Water Supply Conditions
Low State Water Project Allocation



Shutdown Challenges: More than Meets the Eye

Finite Resources and Complex Logistics

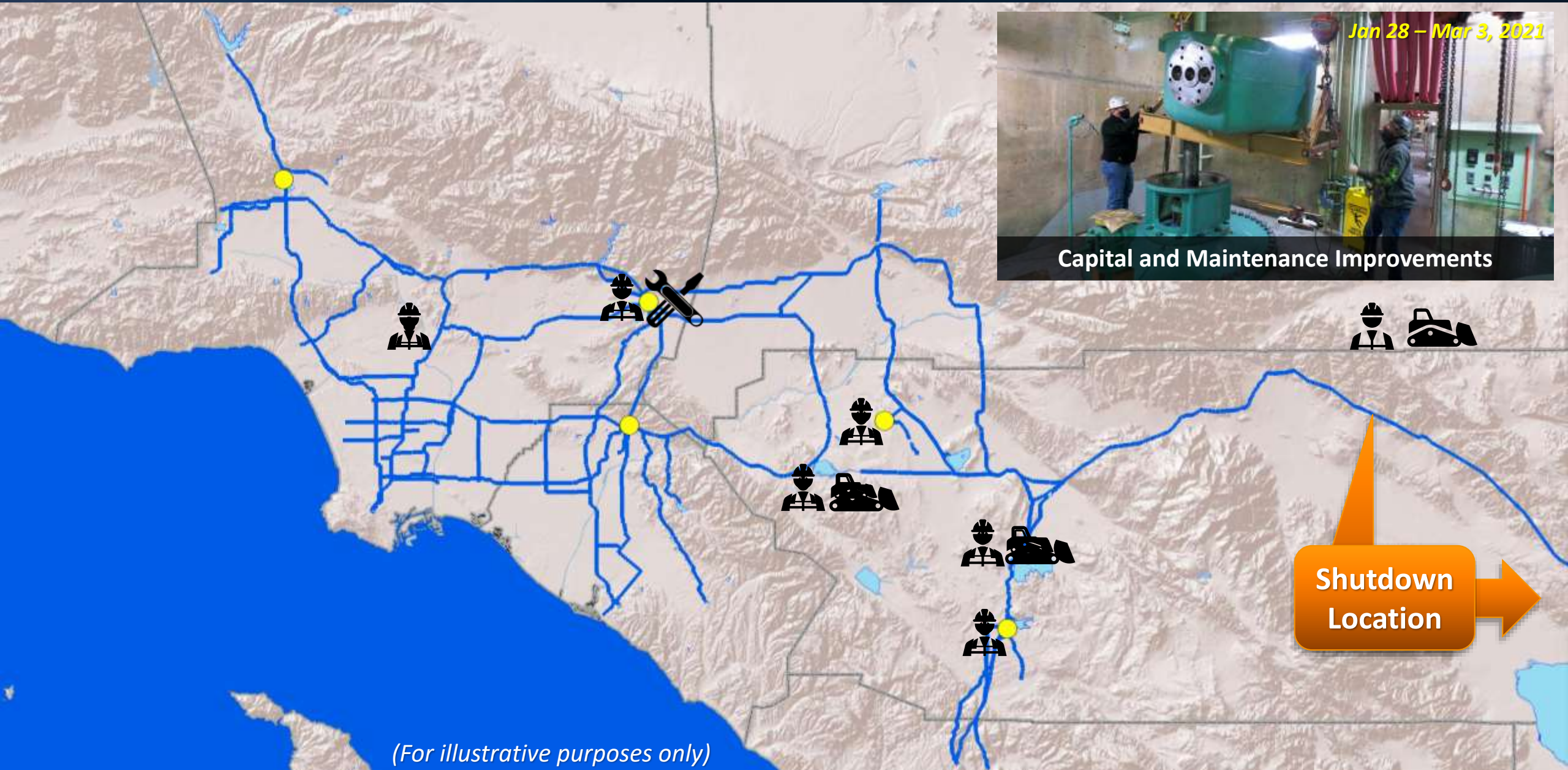


Installing Butterfly Valve in the Foothill Feeder



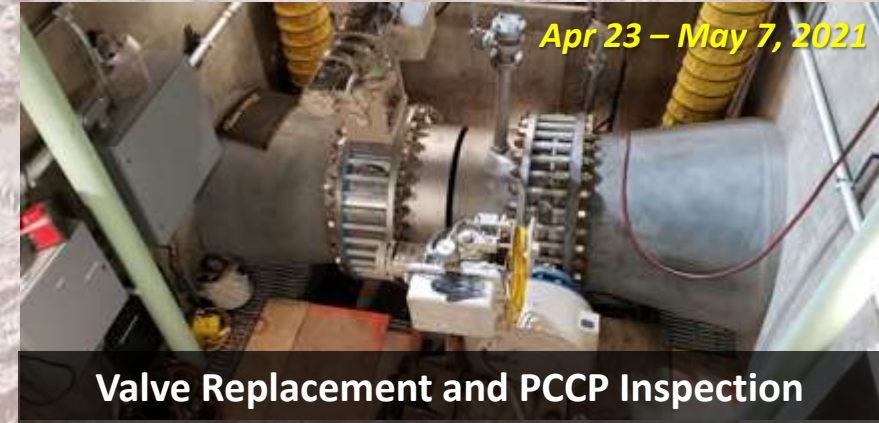
Installing an Air Release/Vacuum Valve at Live Oak Reservoir

Colorado River Aqueduct Shutdown Logistics



(For illustrative purposes only)

West Valley Feeder No. 1 Shutdown Logistics



(For illustrative purposes only)

Shutdown Challenges: More than Meets the Eye

Dewatering and Water Quality Testing



Quagga Mussel Filtration during Dewatering



Water Quality Sampling

Collaborative Planning: Long-Term

Long Duration Shutdowns are Planned Years in Advance

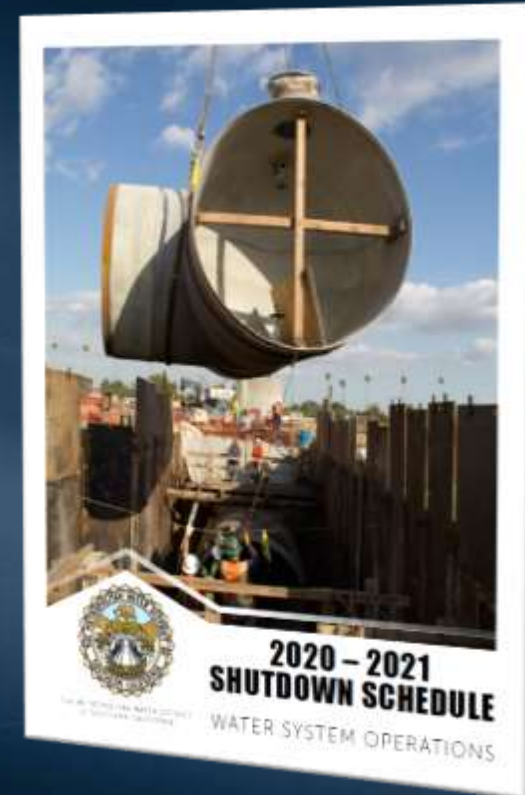
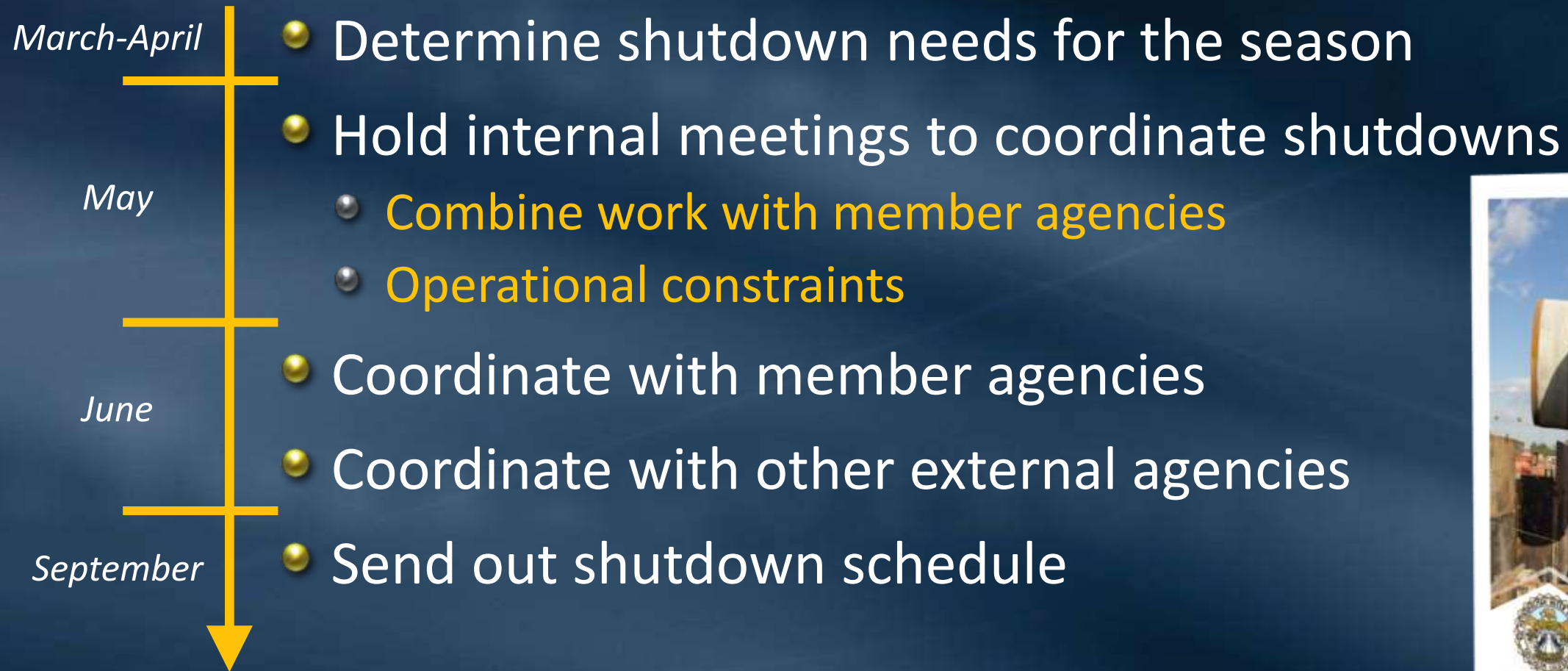
- Prestressed Concrete Cylinder Pipe shutdowns are major endeavors
- Shutting down an entire feeder for multiple years is not feasible
- Break up work into manageable segments that consider:
 - Member agency needs
 - Community impacts
 - Budget and staffing constraints



Allen-McColloch Pipeline PCCP Relining

Collaborative Planning: Short-Term

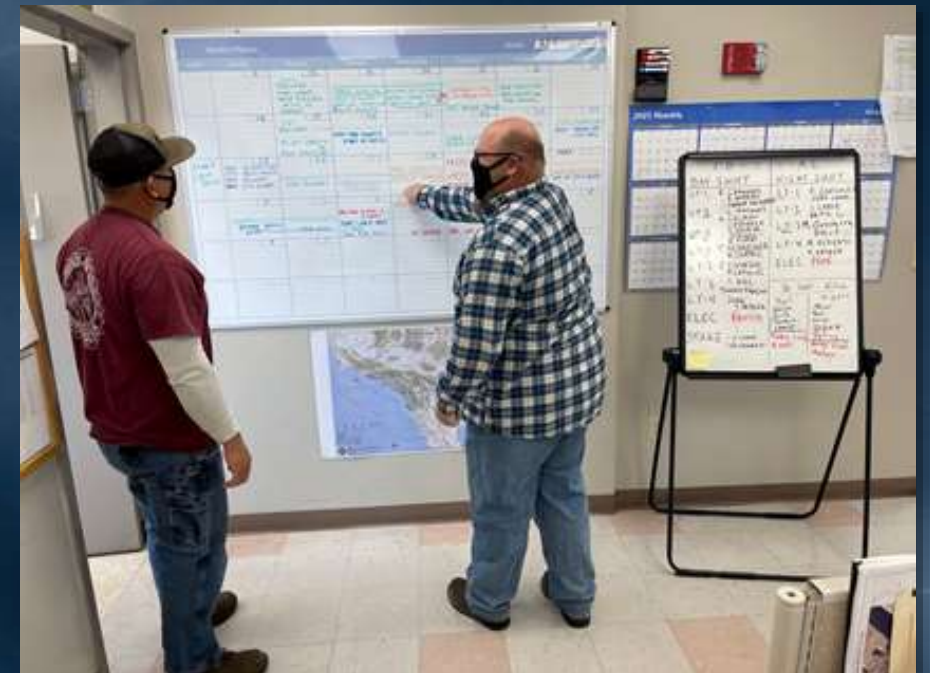
Focusing on the Year Ahead



Collaborative Planning: Short-Term

Focusing on the Months Ahead

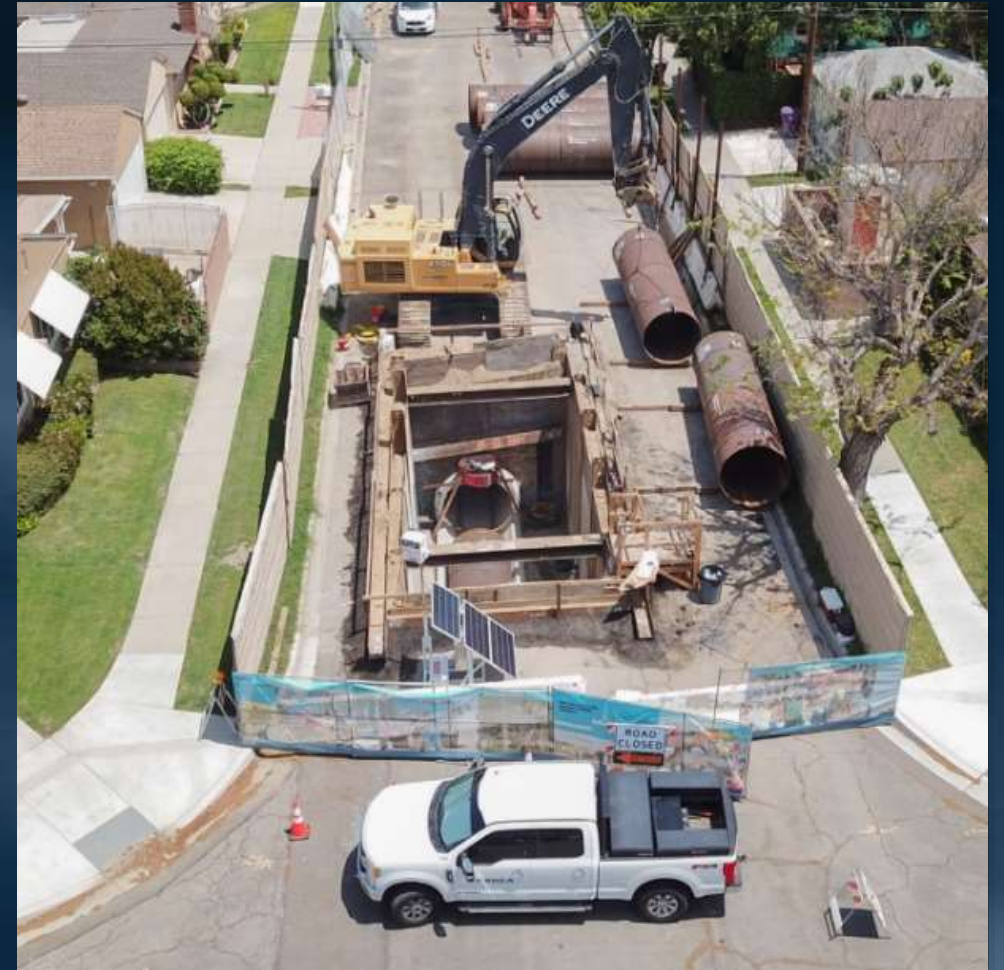
- Member agency shutdown letters – at least 60 days in advance
- Final member agency coordination meeting – 20 to 30 days prior
- Shutdown Plan
 - Detailed description of work performed
 - Dewatering plan
 - Contact info
- Internal shutdown meeting with participating staff



Collaborative Planning: Real-Time

Executing the Shutdown

- Logistics/resource management
- Permits
- Safety plans
- Community relations
- Operational work
- Water quality testing
- Member agency updates



Second Lower Feeder PCCP Relining

Ensuring Continued Infrastructure Reliability



Operations and
Maintenance



Construction Services



Safety



Engineering



Water Quality and
Environmental



Manufacturing



External Affairs



Board and Member
Agencies

