



Engineering & Operations Committee

# Upper Feeder Expansion Joint Replacement

Item 7-1

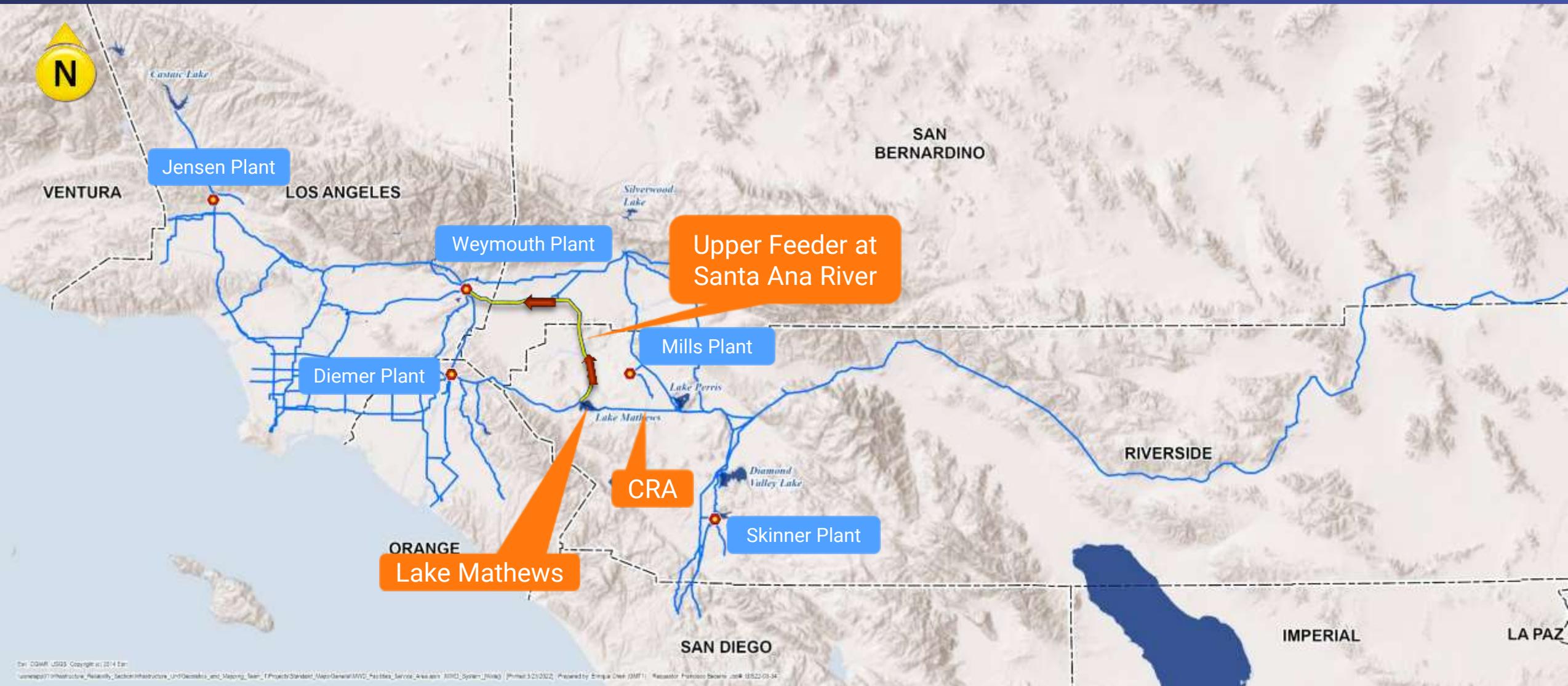
September 12, 2022

# Upper Feeder Expansion Joint Replacement

## Current Action

- Authorize the continuation of an emergency contract executed by the General Manager  
**(Requires four-fifths vote of the Board)**

# Distribution System



# Upper Feeder – Santa Ana River Crossing

- Multi-span bridge with steel trusses & concrete piers
- 9'-8" ID steel pipe
- Pipeline design flow: 750 cfs
- Pipeline internal pressure: 200 psi
- Bellows expansion joint installed in 2018



# Upper Feeder Expansion Joint Replacement

## Bellows Expansion Joint Leak

- Discovered April 13, 2022
- Flow reduced
- Leak temporarily repaired April 21, 2022



## Upper Feeder Expansion Joint Replacement



## Bellows Expansion Joint Inspection

- Bellows joint compromised; to be replaced with slip-type expansion joint
- Monitored crack growth weekly since mid-May

## Expansion Joint Replacement Urgency

- Flow limited to 525 cfs prior to shutdown
- Upper Feeder supports drought actions & operational shifts to save SPW
- Bellows joint is being replaced by Metropolitan-fabricated slip joint

## Upper Feeder Expansion Joint Replacement

### Emergency Contract

- PCL Construction is currently under an emergency time and materials contract to perform the work
  - Board authorized continuation of the emergency action to execute a no-bid contract for the expansion joint replacement on July 12, 2022, & August 15, 2022
- Executed per Admin Code section 8122(b)
  - Monthly reporting to the Board required & continuation of contract activities determined by four-fifths vote
  - Board to ratify construction contract upon completion of construction activities

# Upper Feeder Expansion Joint Replacement

## Contractor Scope of Work

- Removal of bridge structural members & restraining cage for pipe access
- Removal of bellows joint
- Installation of new slip-type joint
- Reinstallation of bridge structural members & restraining cage



September 12, 2022



Engineering & Operations Committee



Item # 7-1 Slide 8

# Upper Feeder Expansion Joint Replacement

## Metropolitan Completed Activities

- ✓ Completed slip joint fabrication & installation design packages
- ✓ Installed 4-inch tap near expansion joint to facilitate construction
- ✓ Installed 6-inch dewatering valve
- ✓ Graded and cleared for crane pad
- ✓ Fabrication, coating, & assembly of new slip-type expansion joint
- ✓ Installed new 36-inch accessway

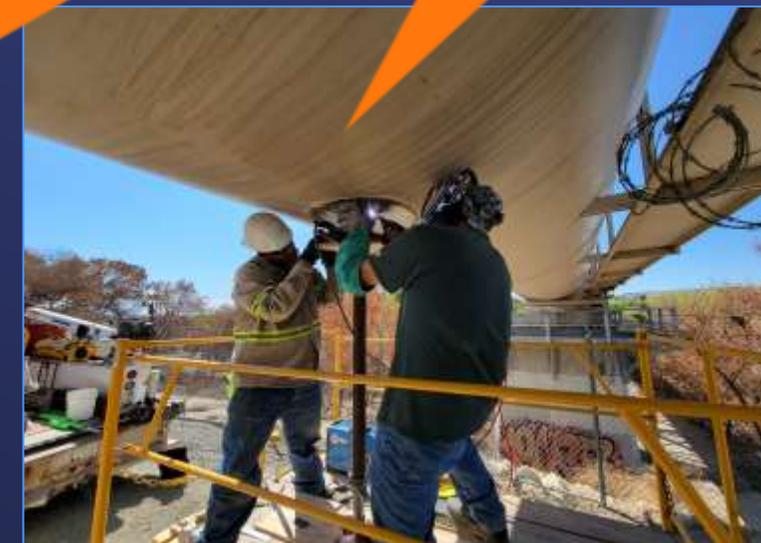
New Slip Joint Completed  
@ La Verne Shops



Clearing & Grading for  
Crane Pad



6-inch Valve  
Installation



## Upper Feeder Expansion Joint Replacement



Quagga Filters for  
Dewatering

## Upper Feeder Shutdown

- Started: 9/6/22; Planned duration: 15 days
- Preparation
  - Call to action to eliminate all outdoor watering in the affected areas during shutdown
  - Got the message out to conserve through numerous media outlets
  - Builds upon local conservation actions taken by Member Agencies
- Status
  - Dewatering completed
  - PCL has removed bellows joint & is installing slip joint
  - Weymouth using 100% SPW during the shutdown
    - Approximately 1,000 AF/day (varies by demand)

<https://www.mwdh2o.com/projects-in-your-community/>

## Upper Feeder Expansion Joint Replacement

### Alternatives Considered

- Board terminates emergency contract & Metropolitan forces complete installation of new slip joint
  - Delays end of shutdown
  - Costs already incurred
- Selected option
  - Continue emergency contract with PCL Construction



# Board Options

- Option #1

Determine that there is a need to continue the emergency action of executing a no-bid contract for construction of pipe joint repairs on the Upper Feeder. **(Requires four-fifths vote of the Board.)**

- Option #2

Do not determine that there is a need to continue the emergency action.

# Staff Recommendation

- Option #1

