



Engineering & Operations Committee

Upper Feeder Expansion Joint Replacement

Item 7-1

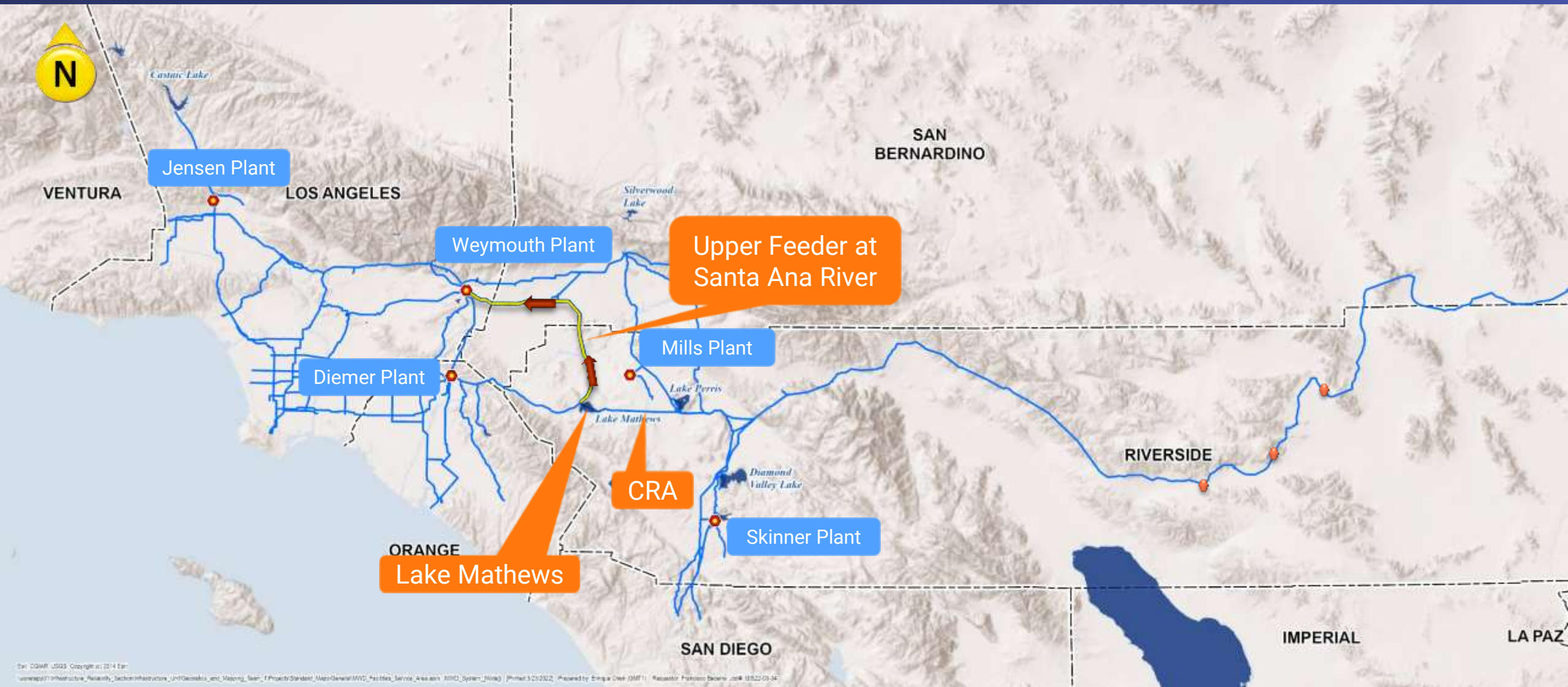
July 12, 2022

Upper Feeder Expansion Joint Replacement

Current Action

- Amend the Capital Investment Plan for fiscal years 2022/2023 and 2023/2024 to include replacement of an expansion joint on the Upper Feeder at the Santa Ana River Bridge
- 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 and concrete piers
- 9'-8" ID steel pipe
- Pipeline design flow: 750 cfs
- Pipeline internal pressure: 200 psi



Upper Feeder – Bellows Installation

- Bellows expansion joint & restraining cage installed January 2018



Bellows Joint



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
- Crack has stabilized; monitoring weekly
- Forensic analysis of bellows failure ongoing
- Stainless steel slip joint to be installed in the future

Expansion Joint Replacement Urgency

- Current flow limited to 525 cfs
- Unplanned shutdown and catastrophic failure risk
- Upper Feeder needed to support new drought actions & operational shifts to save SPW

Upper Feeder Expansion Joint Replacement

Alternatives Considered

- Board awards competitively bid contract
 - Delays start of construction
 - Increased risk of catastrophic failure
- Selected option
 - GM executed emergency contract
 - Metropolitan initiated fabrication of replacement slip-type expansion joint, installation design, and minor construction preparation activities
 - Contractor starts mobilizing, acquiring key equipment, & preparing contract submittals
 - Estimated start of on-site construction – August 2022

Upper Feeder Expansion Joint Replacement

Emergency Contract

- Executed per Admin Code section 8122(b)
 - Waived competitive bid requirements
 - Emergency means a sudden, unexpected occurrence that requires immediate action to prevent or mitigate the loss or substantial impairment of life, health, property, or essential public services
 - Emergency declared June 8, 2022
 - GM awarded contract on June 28, 2022
 - Monthly reporting to the Board required and continuation of contract activities determined by four-fifths vote
 - Board to ratify construction contract upon completion of construction activities
- Time and materials contract

Upper Feeder Expansion Joint Replacement



Quagga Filters for
Dewatering

Upper Feeder Shutdown

- Planned start date: 9/6/22; Duration: ± 14 days
- CRW filtered prior to release to Santa Ana River
- Weymouth Treatment Plant to use 100% SPW during the shutdown
 - Approximately 1,000 AF/day (varies by demand)
- Member Agencies receiving water from Weymouth & Diemer will be asked to go to no outdoor watering during shutdown
- Metropolitan will be coordinating with Member Agencies on outreach and messaging
 - Social media, earned media, & press releases

Upper Feeder Expansion Joint Replacement

PCL Construction, Inc.

- Installed bellows joint in 2018
- Familiar with project and site conditions

Contractor Scope of Work

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

Upper Feeder Expansion Joint Replacement

Metropolitan Scope

- Complete fabrication & installation design packages
- Fabricate new slip-type expansion joint
- Procure hardware & accessories
- Clear & grub area adjacent to the bridge for crane pad & access in advance of contractor's arrival
- Install 4-inch tap near expansion joint to facilitate construction
- Install new 36-inch accessway

New Slip Joint
Fabrication
@ La Verne Shops



Allocation of Funds

Upper Feeder Expansion Joint Replacement

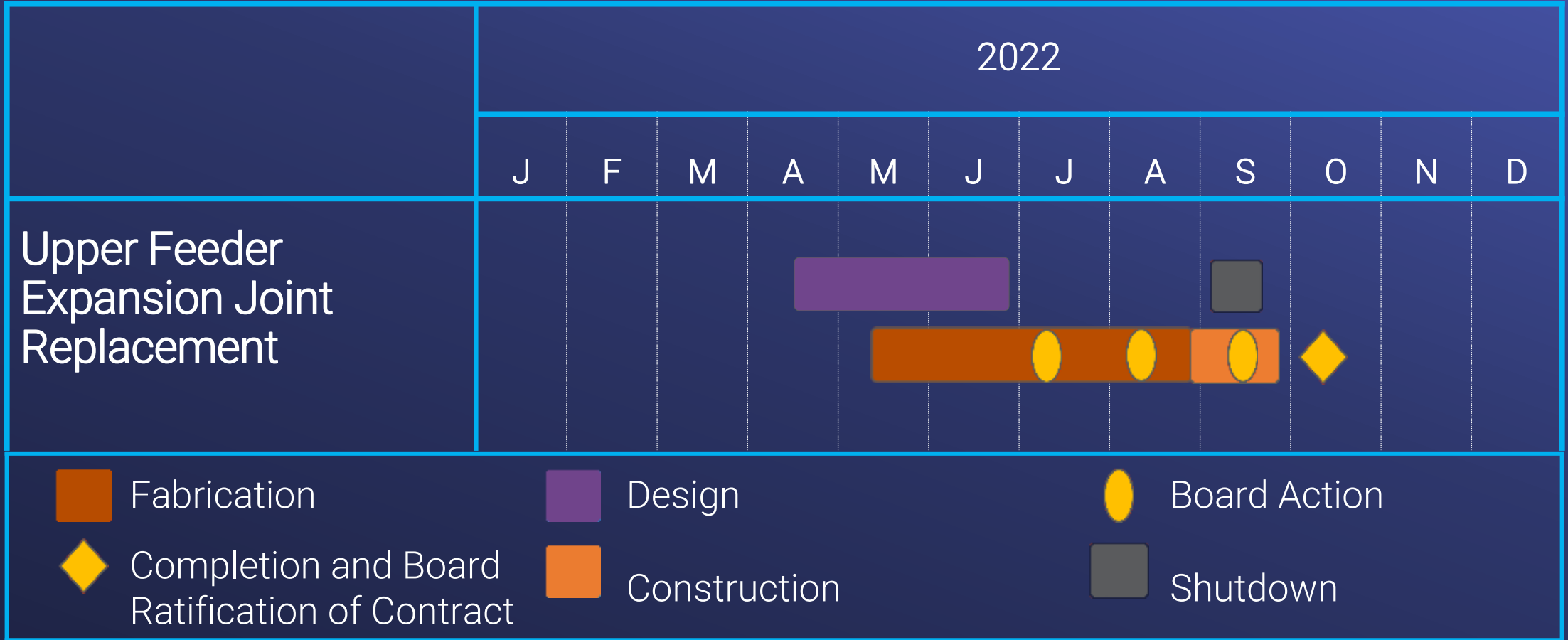
Metropolitan Labor

Program mgmt. environmental support, & contract admin.	\$120,000
Preliminary design & investigations	60,000
Final design	190,000
Submittal review & record drawings	20,000
Force construction	150,000

Materials	360,000
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Total	\$900,000

**Anticipated total project costs including construction contract is \$3M - \$4M; final costs, including the construction contract, will be reported to the Board upon completion of construction.

Project Schedule



Board Options

- Option #1
 - a. Amend the current CIP to include planning and implementation of infrastructure projects to replace an expansion joint on the Upper Feeder; and
 - b. Determine that there is a need to continue the emergency action of executing a no-bid contract for installation of a new expansion joint 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

