

# The Metropolitan Water District of Southern California

# Agenda

The mission of the Metropolitan Water District of Southern California is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

## EOT Committee

D. Erdman, Chair  
M. Camacho, Vice Chair  
D. Alvarez  
G. Bryant  
A. Chacon  
B. Dennstedt  
S. Faessel  
L. Fong-Sakai  
R. Lefevre  
J. McMillan  
C. Miller  
J. Morris  
M. Petersen  
G. Peterson  
K. Seckel  
T. Smith

## **Engineering, Operations, and Technology Committee - Final - Revised**

**1**

Meeting with Board of Directors \*

**November 13, 2023**

**9:00 a.m.**

Agendas, live streaming, meeting schedules, and other board materials are available here: <https://mwdh2o.legistar.com/Calendar.aspx>. A listen-only phone line is available at 1-877-853-5257; enter meeting ID: 862 4397 5848. Members of the public may present their comments to the Board on matters within their jurisdiction as listed on the agenda via in-person or teleconference. To participate via teleconference 1-833-548-0276 and enter meeting ID: 815 2066 4276 or click <https://us06web.zoom.us/j/81520664276pwd=a1RTQWh6V3h3ckFhNmdsUWpKR1c2Zz09>

**Monday, November 13, 2023  
Meeting Schedule**

**09:00 a.m. EOT  
11:00 a.m. EOP  
12:00 p.m. EIA  
02:00 p.m. Break  
02:30 p.m. OWS**

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MWD Headquarters Building • 700 N. Alameda Street • Los Angeles, CA 90012

Teleconference Locations:

525 Via La Selva • Redondo Beach, CA 90277

Cedars Sinai Medical Center • 8700 Beverly Blvd • Los Angeles, CA 90048

3008 W. 82nd Place • Inglewood, CA 90305

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\* The Metropolitan Water District's meeting of this Committee is noticed as a joint committee meeting with the Board of Directors for the purpose of compliance with the Brown Act. Members of the Board who are not assigned to this Committee may participate as members of the Board, whether or not a quorum of the Board is present. In order to preserve the function of the committee as advisory to the Board, members of the Board who are not assigned to this Committee will not vote on matters before this Committee.

- 1. Opportunity for members of the public to address the committee on matters within the committee's jurisdiction (As required by Gov. Code Section 54954.3(a))**

**\*\* CONSENT CALENDAR ITEMS -- ACTION \*\***

- 2. CONSENT CALENDAR OTHER ITEMS - ACTION**

- A. Approval of the Minutes of the Engineering, Operations, and Technology Committee for October 9, 2023 (Copies have been submitted to each Director, any additions, corrections, or omissions) [21-2755](#)

**Attachments:** [11142023 EOT 2A \(10092023\) Minutes](#)

### 3. CONSENT CALENDAR ITEMS - ACTION

- 7-1 Authorize professional services agreements with: AECOM Technical Services Inc. in a total amount not to exceed \$660,000; and (2) CDM Smith Inc. in an amount not to exceed \$475,000, to perform water desalination studies in Metropolitan's service area; for desalination technologies for potential water supply augmentation; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. [SUBJECT REVISED 11/1/23] [21-2763](#)

**Attachments:** [11142023 EOT 7-1 B-L](#)  
[11142023 EOT 7-1 Presentation](#)

- 7-2 Authorize an agreement with General Networks Corporation in an amount not to exceed \$6,609,900 for the implementation of a cloud-based Enterprise Content Management System; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA [21-2732](#)

**Attachments:** [11142023 EOT 7-2 B-L](#)  
[11142023 EOT 7-2 Presentation](#)

- 7-3 Authorize an increase of \$3,100,000 in change order authority for the contract to replace the overhead bridge cranes at the five Colorado River Aqueduct pumping plants; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA [21-2764](#)

**Attachments:** [11142023 EOT 7-3 B-L](#)  
[11142023 EOT 7-3 Presentation](#)

- 7-4** Award a \$1,244,935 contract to HP Communications Inc. to construct a new fiber optic cable line from Parker Dam to the Gene Pumping Plant; and authorize an increase of \$176,000 to an existing agreement with HDR Engineering Inc. for a new not-to-exceed amount of \$451,000 for technical support during construction; the General Manager has determined that the proposed actions are exempt or otherwise not subject to CEQA [21-2765](#)

**Attachments:** [11142023 EOT 7-4 B-L](#)  
[11142023 EOT 7-4 Presentation](#)

**\*\* END OF CONSENT CALENDAR ITEMS \*\***

#### **4. OTHER BOARD ITEMS - ACTION**

- 8-1** Award an \$18,840,000 contract to Steve P. Rados Inc. to construct a surge protection facility on the Inland Feeder as part of the water supply reliability improvements in the Rialto Pipeline service area; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA (This action is part of a series of projects that are being undertaken to improve the supply reliability for State Water Project dependent member agencies.) [21-2766](#)

**Attachments:** [11142023 EOT 8-1 B-L](#)  
[11142023 EOT 8-1 Presentation](#)

- 8-2** Adopt the CEQA determination that the proposed action was previously addressed in the Mitigated Negative Declaration and award a \$16,055,500 procurement contract to Northwest Pipe Company for steel pipe to rehabilitate a portion of the Lakeview Pipeline [21-2767](#)

**Attachments:** [11142023 EOT 8-2 B-L](#)  
[11142023 EOT 8-2 Presentation](#)

#### **5. BOARD INFORMATION ITEMS**

NONE

#### **6. COMMITTEE ITEMS**

- a.** Project Labor Agreement Annual Report [21-2780](#)

**Attachments:** [11132023 EOT 6a Report](#)  
[11132023 EOT 6a Presentation](#)

- b. Nitrification Management [21-2782](#)

**Attachments:** [11132023 EOT 6b Presentation](#)

## 7. MANAGEMENT ANNOUNCEMENTS AND HIGHLIGHTS

- a. Engineering Services, Information Technology, and Water System Operations activities [21-2778](#)

**Attachments:** [11132023 EOT 7a Presentation](#)

## 8. SUBCOMMITTEE REPORTS AND DISCUSSION

- a. Discuss and provide direction to Subcommittee on Pure Water Southern California and Regional Conveyance [21-2779](#)

## 9. FOLLOW-UP ITEMS

NONE

## 10. FUTURE AGENDA ITEMS

## 11. ADJOURNMENT

**NOTE:** This committee reviews items and makes a recommendation for final action to the full Board of Directors. Final action will be taken by the Board of Directors. Committee agendas may be obtained on Metropolitan's Web site <https://mwdh2o.legistar.com/Calendar.aspx>. This committee will not take any final action that is binding on the Board, even when a quorum of the Board is present.

Writings relating to open session agenda items distributed to Directors less than 72 hours prior to a regular meeting are available for public inspection at Metropolitan's Headquarters Building and on Metropolitan's Web site <https://mwdh2o.legistar.com/Calendar.aspx>.

Requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting should be made to the Board Executive Secretary in advance of the meeting to ensure availability of the requested service or accommodation.



**THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA**

**MINUTES**

**ENGINEERING, OPERATIONS & TECHNOLOGY COMMITTEE**

**October 9, 2023**

Chair Erdman called the meeting to order at 9:30 a.m.

Members present: Directors Alvarez, Bryant, Camacho (entered after roll call), Dennstedt (entered after roll call), Fong-Sakai (AB 2449), Lefevre (teleconference posted location), McMillan, Miller, Morris, Petersen (entered after roll call), Peterson (entered after roll call), Seckel, and Smith.

Members absent: Directors Chacon, Faessel, and Quinn.

Other Board members present: Chair Ortega, Directors Ackerman, De Jesus (teleconference posted location), Dick, Garza, Gray (teleconference posted location), Kurtz (AB 2449), McCoy, and Sutley.

Director Fong-Sakai indicated she is participating under AB2449 “just cause” regarding testing positive for COVID-19. Director Fong-Sakai appeared by audio and on camera.

Director Kurtz indicated she is participating under AB2449 “just cause” regarding an illness. Director Kurtz appeared by audio and on camera.

Committee staff present: Bednarski, Chapman, Chaudhuri, Eckstrom, Hagekhalil, Martinez, Parsons, and Upadhyay

**1. OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE COMMITTEE ON MATTERS WITHIN THE COMMITTEE'S JURISDICTION**

Darcy Burke – Director, Lake Elsinore Valley Water District – In support of item 9-3  
Katie Wagner – Sierra Club – In opposition of item 9-3

Directors Dennstedt, Petersen and Peterson entered the meeting.

**CONSENT CALENDAR ITEMS – ACTION**

**2. CONSENT CALENDAR OTHER ITEMS – ACTION**

- A.** Approval of the Minutes of the Engineering, Operations, and Technology Committee for September 11, 2023 (Copies have been submitted to each Director, any additions, corrections, or omissions)

Director Camacho entered the meeting.

Director Smith recused himself on item 7-2 as he owns stock in Black & Veatch Corporation

### 3. CONSENT CALENDAR OTHER ITEMS – ACTION

**7-1** Subject: Amend the Capital Investment Plan for fiscal years 2022/23 and 2023/24 to include development of a multi-benefit landscape project on Webb Tract and authorize professional service agreements with: (1) GEI Consultants Inc. in an amount not to exceed \$1.5 million; and (2) Environmental Science Associates in an amount not to exceed \$980,000; the General Manager has determined that the proposed actions are exempt or otherwise not subject to CEQA

Presented by: Malinda Stalvey, Sr Environmental Specialist

Motion: Amend the Capital Investment Plan for fiscal years 2022/23 and 2023/24 to include development of a multi-benefit landscape project on Webb Tract and authorize professional service agreements with: (1) GEI Consultants Inc. in an amount not to exceed \$1.5 million; and (2) Environmental Science Associates in an amount not to exceed \$980,000

**7-2** Subject: Authorize an agreement with Black & Veatch Corporation in an amount not to exceed \$750,000 for design of new access platforms to facilitate maintenance activities on the main pumps at the five Colorado River Aqueduct pumping plants; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Presented by: None; no presentation requested

Motion: Authorize an agreement with Black & Veatch in an amount not to exceed \$750,000 for design services for access platform improvements to facilitate maintenance activities on the main pumps at the five CRA pumping plants.

**7-3** Subject: Award a \$4,400,000 construction contract to Bosco Constructors Inc. for San Diego Canal Concrete Liner Rehabilitation; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Presented by: None; no presentation requested

Motion: Award a \$4,400,000 contract to Bosco Constructors Inc. to rehabilitate the San Diego Canal at three locations.

After completion of the presentation, Director Morris made a motion, seconded by Director Peterson, to approve the consent calendar consisting of items 2A, 7-1, 7-2, and 7-3.

Director Fong-Sakai announced during roll call that no one was in the room with her 18 years of age or older.

The vote was:

Ayes: Directors Alvarez, Bryant, Camacho, Dennstedt, Erdman, Fong-Sakai, Lefevre, McMillan, Miller, Morris, Petersen, Peterson, Seckel, and Smith.  
Noes: None  
Abstentions: None  
Not voting: Director Smith (item 7-2)  
Absent: Directors Chacon, Faessel, and Quinn

The motion for Items 2A, 7-1, and 7-3 passed by a vote of 14 ayes, 0 noes, 0 abstention, and 3 absent.

The motion for Item 7-2 passed by a vote of 13 ayes, 0 noes, 0 abstention, 1 not voting, and 3 absent.

The following Directors provided comments or asked questions.

1. Miller
2. Peterson
3. Sutley
4. Erdman
5. Camacho
6. Ortega
7. Dennstedt
8. Kurtz
9. Garza
10. Seckel
11. Alvarez

Staff responded to Directors' questions and comments.

**\*\* END OF CONSENT CALENDAR ITEMS \*\***

#### **4. OTHER BOARD ITEMS – ACTION**

NONE

## 5. BOARD INFORMATION ITEMS

- 9-3            Subject:            Update on Review of Desalination Technologies for Potential Water Supply Augmentation  
Presented by:    Warren Teitz, Team Manager, Water Resource Management Group

Mr. Teitz reported on the following:

- Climate adaptation master plan for water (CAMP4W) determined that region needs climate resilient resources for the future
- Objectives for desalination studies include: brackish groundwater, seawater, project implementation, and technology scan
- Draft siting criteria will be in accordance with the Governor’s 2022 Water Supply Strategy
- Research ways to streamline the permitting for projects
- Presented potential qualifying sites within Metropolitan’s service area
- Include offshore desalination in potential sites
- Incorporate feedback, refine scope, and costs

The following Directors provided comments or asked questions

1. Miller
2. Ortega
3. Petersen
4. Alvarez
5. Peterson

Staff responded to the Directors’ questions and comments.

Chair Erdman announced there would be a reordering of the agenda and item 6a would be heard last.

## 6. COMMITTEE ITEMS

- b.            Subject:            Update on Asset Management Program  
Presented by:    Sergio Escalante, Section Manager, Water System Operations Group

Mr. Escalante reported on the following:

- Metropolitan’s comprehensive reliability approach
- Asset management key objectives: improve long-term forecast of capital costs, refine risk evaluation used to prioritize CIP projects, coordinate & integrate condition assessment, standardize asset data, and facilitate access to data
- Enhanced infrastructure reliability through maintenance and rehabilitation
- Metropolitan’s labor and maintenance trends, challenges in meeting maintenance goals, and efforts to optimize maintenance management to meet industry best practices
- Upcoming asset management program improvements in O&M and capital project planning and implementation

The following Directors provided comments or asked questions

1. Erdman
2. Garza

Staff responded to the Directors' questions and comments

## **7. MANAGEMENT ANNOUNCEMENTS AND HIGHLIGHTS**

- a.           Subject:           Engineering Services, Information Technology, and Water System Operations Activities  
Presented by:       Deven Upadhyay, Executive Officer/Assistant General Manager-Water Resources & Shane Chapman, Assistant General Manager Operations

Mr. Upadhyay and Mr. Chapman reported on the following:

- Upcoming EOT Committee Inspection Trip on November 16, 2023, which sets up discussion around capital program needs
- Significantly improved conditions for recent nitrification event in distribution system
- Support to Coachella Valley Water District to repair groundwater replenishment facility conveyances damaged from Tropical Storm Hilary

No Directors provided comments or asked questions.

## **8. SUBCOMMITTEE REPORTS AND DISCUSSION**

- a.           Report from Subcommittee on Subcommittee on Pure Water Southern California and Regional Conveyance

Nothing to report.

## **6. COMMITTEE ITEMS (Continued)**

- a.           Subject:           Quarterly Cybersecurity Oral Update  
Presented by:       Jacob Margolis, Director of Info Tech Services, Information Technology Group

In open session Mr. Margolis reported on the following:

- Metropolitan now has a functional cybersecurity center.
- Receiving active cyber security sensors from own centers.
- Annual brief and townhall held in October.
- Webinar overview of what our cybersecurity center is and how to properly report cyber threat incidents.
- Launch awareness training campaign this month.
- After campaign simulated phishing will begin.

**8. SUBCOMMITTEE REPORTS AND DISCUSSION (Continued)**

- b. Discuss and provide direction to Subcommittee on Pure Water Southern California and Regional Conveyance

The following Director’s provided comments or asked questions

- 1. Miller

Chair Erdman responded to the Director’s questions and comments.

**6. COMMITTEE ITEMS (Continued)**

- a. Subject: Quarterly Cybersecurity Oral Update  
Presented by: Jacob Margolis, Director of Info Tech Services, Information Technology Group

In closed session, the committee heard the item. No action was taken.

**9. FOLLOW-UP ITEMS**

NONE

**10. FUTURE AGENDA ITEMS**

NONE

**11. ADJOURNMENT**

The next meeting will be on November 13, 2023.

Meeting adjourned at 11:54 a.m.

Dennis Erdman  
Chair



● **Board of Directors**  
***Engineering, Operations, and Technology Committee***

11/13/2023 Board Meeting

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7-1

**Subject**

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Authorize professional services agreements with: (1) AECOM Technical Services Inc. in an amount not to exceed \$660,000; and (2) CDM Smith Inc. in an amount not to exceed \$475,000, to perform water desalination studies in Metropolitan’s service area; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

**Executive Summary**

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The proposed desalination studies represent one of several efforts to help inform Metropolitan’s Climate Adaptation Master Plan for Water (CAMP4W). The selected studies would inventory potential project sites in Metropolitan’s service area, identify partnership opportunities, evaluate new technologies including offshore desalination, and develop estimates of supply potential for both resources. In July 2023, the California Seawater Interagency Group released a Draft Seawater Desalination Siting and Streamlining Report (Draft Siting Report) with recommendations for siting seawater desalination projects. Staff developed revised scopes for the desalination studies to better align with the Draft Siting Report and the CAMP4W process, and to respond to comments received from the Board.

Staff proposes to enter into the following two agreements: (1) AECOM Technical Services Inc., not to exceed \$660,000, for a brackish groundwater siting study, and (2) CDM Smith Inc., not to exceed \$475,000, for a seawater desalination study.

**Timing and Urgency**

The two desalination studies are needed to inform the CAMP4W process by providing supply potential and cost information in the development of climate-resilient resource portfolios.

**Details**

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**Background**

The CAMP4W process has established that Metropolitan may need up to 300 TAF of new conservation and core supplies by 2032. These projections have been reinforced by the Board’s recent adoption of the Intergovernmental Panel on Climate Change’s Representative Concentration Pathway (RCP) 8.5 as a basis for planning purposes in CAMP4W. To address long-term reliability concerns and water supply resiliency within the region, staff have initiated efforts to assess the supply potential of brackish groundwater desalination and seawater desalination.

Request for Proposals (RFP) No. 1327 solicited proposals for services to implement desalination studies in Metropolitan’s service area. Findings from the proposed studies will contribute to Metropolitan’s current overall assessment of potential water supplies for the region and will help inform the CAMP4W planning process.

In June 2023, an action item requesting funding for a brackish desalination study and a seawater desalination study was deferred and placed on hold to allow for the release of the Draft Siting Report. Deferring the studies provided an opportunity to incorporate recommendations from the Draft Siting Report in the studies’ scopes of work. In October 2023, staff received additional Board input on the proposed studies.

**Draft Seawater Desalination Siting and Streamlining Report to Expedite Permitting**

The Governor's 2022 Water Supply Strategy: Adapting to a Hotter, Drier Future mandated the state to help streamline permitting to provide better clarity and certainty to further desalination projects. On July 12, 2023, the California Seawater Interagency Group released the Draft Siting Report in response to the Governor’s mandate. The California Seawater Interagency Group was formed in 2020 by the signing of a Memorandum of Agreement (MOA) of the State agencies responsible for permitting seawater desalination projects. The MOA’s goal is to facilitate timely and effective coordination during the permitting process for proposed seawater desalination projects.

The Draft Siting Report provides an overview of each agency’s role in permitting seawater desalination projects. It also creates a new streamlined permitting path for projects meeting the following requirements:

- Concurrent application reviews
- Subsurface intakes
- Comingled discharge
- No impact on coastal protected areas
- Coastal hazard prevention
- Mitigation by project completion
- Identified need
- Environmental justice

In addition to the Draft Siting Report, the State Water Resources Control Board (SWRCB) established a science advisory panel to develop a methodology for assessing the feasibility of subsurface intakes for proposed seawater desalination projects. Recommendations on methodology are expected to be released in January 2024. The SWRCB also plans to release recommendations on mitigation siting for seawater desalination projects in June 2024.

**Water Desalination Opportunities & Technology Assessment: Scope Adjustments**

The proposed scope in RFP-1327 included four elements: (1) brackish groundwater desalination opportunities, (2) seawater desalination opportunities, (3) project implementation, and (4) a technology scan. The studies would provide an inventory of potential sites, identify regulatory requirements, estimate conceptual development costs, explore partnership opportunities, and evaluate new technologies. In response to the Draft Siting Report, Board input, and stakeholder comments, staff have made the following scope adjustments shown in Table 1.

**Table 1. Changes to study scopes**

Brackish Groundwater Desalination	Seawater Desalination
<ul style="list-style-type: none"> <li>• Review existing groundwater studies.</li> <li>• Ensure consistency with RPC 8.5 where applicable.</li> <li>• Emphasize potential partnerships.</li> <li>• Develop conceptual cost estimates.</li> <li>• Expand technology scan to include brine harvesting technologies.</li> </ul>	<ul style="list-style-type: none"> <li>• Review existing site and subsurface intake studies.</li> <li>• Prioritize sites conforming to the State’s streamlined permitting track (subsurface intakes).</li> <li>• Include offshore desalination in the site inventory and technology scan.</li> <li>• Evaluate locations with climate change resilience.</li> <li>• Emphasize potential partnerships.</li> <li>• Develop conceptual cost estimates.</li> </ul>

The seawater desalination study scope will be adjusted to prioritize the Draft Siting Report’s streamlined track requirements. Coastal hazards such as sea level rise will also be evaluated and considered for the siting study using RCP 8.5. This standard will ensure consistency with the CAMP4W planning processes.

**Existing Studies**

Metropolitan staff collected previously conducted desalination studies to be reviewed by the consultants. This effort will ensure the proposed studies build upon previous site investigations and related analyses. Staff collected member agency project reports, government agency studies, offshore desalination technical information, journal articles, and internal Metropolitan reports. **Attachment 1** contains a list of the collected studies.



## **Budget Impact**

In accordance with provisions of the Governmental Accounting Standards Board, Metropolitan's work on feasibility studies not associated with a specific asset must be conducted with Operations and Maintenance (O&M) funds instead of a capital appropriation. The studies are expected to launch in early 2024 and take nine to twelve months to complete. Funding for the studies will come from the unspent Future Supply Actions Funding Program (FSA) budget in FY 2024 and \$400,000 requested in the FSA budget for FY 2025.

## **Engineering Services (AECOM Technical Services Inc. and CDM Smith Inc.) – New Agreements**

AECOM Technical Services Inc. (AECOM) and CDM Smith Inc. (CDM) are recommended to provide engineering services for the water desalination studies. Both AECOM and CDM were selected through a competitive process via RFP No. 1327. Staff received proposals from seven firms and evaluated each firm based on qualifications and experience, expertise of each firm's staff, technical approach and proposed methodology, and capability to deliver the planned work. For these agreements, Metropolitan established a Small Business Enterprise participation level of 25 percent. Both AECOM and CDM have agreed to meet this level of participation. Each firm's scope of work highlighting the changes made in response to stakeholder feedback can be found in **Attachment 2**.

## **Summary**

This action authorizes professional services agreements with AECOM and CDM to provide engineering services for water desalination studies in Metropolitan's service area.

## **Deliverables**

Study deliverables include GIS data and maps, final reports, and presentations to Metropolitan's management.

## **Policy**

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Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 52946, dated August 16, 2022, the Board adopted a resolution affirming a call to action and committing to regional reliability for all member agencies.

By Minute Item 53381, dated October 10, 2023, Board adoption of RCP 8.5 as Metropolitan's planning standard for Climate Change impacts.

## **California Environmental Quality Act (CEQA)**

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### **CEQA determination for Option #1:**

The proposed action is exempt from CEQA because it involves only feasibility or planning studies for possible future actions which the Board has not approved, adopted, or funded. (Public Resources Code Section 21080.21; State CEQA Guidelines Section 15262.) Furthermore, the overall activity involves carrying out studies that consist of basic data collection, which do not result in a serious or major disturbance to an environmental resource. This may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed action also qualifies for exemption under Class 6 (Section 15306) of the State CEQA Guidelines.

### **CEQA determination for Option #2:**

None required

## Board Options

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### Option #1

Authorize professional services agreements with (1) AECOM Technical Services Inc. in an amount not to exceed \$660,000 and (2) CDM Smith Inc. in an amount not to exceed \$475,000 to perform water desalination studies in Metropolitan's service area.

**Fiscal Impact:** Expenditure of up to \$1,135,000 million in O&M funds. Unspent funds from the Future Supply Actions Funding Program (FSA) budget will be used for FY 2023/24 expenditures, with the remainder added to the proposed FY 2024/25 FSA budget.

**Business Analysis:** This option will enhance Metropolitan's knowledge of potential brackish and seawater supply options and will help inform the CAMP4W process.

### Option #2

Authorize a professional services agreement with AECOM Technical Services Inc. only, in an amount not to exceed \$660,000, to perform a brackish water desalination study in Metropolitan's service area.

**Fiscal Impact:** Expenditure of up to \$660,000 in O&M funds. Unspent funds from the FSA budget will be used for FY 2023/24 expenditures, with the remainder added to the proposed FY 2024/25 FSA budget.

**Business Analysis:** This option will enhance Metropolitan's knowledge of potential brackish desalination supply options and will help inform the CAMP4W process. Metropolitan would miss an opportunity to evaluate seawater desalination opportunities and investigate new environmentally sustainable technologies.

### Option #3

Authorize a professional services agreement with CDM Smith Inc. only, in an amount not to exceed \$475,000, to perform a seawater desalination study in Metropolitan's service area.

**Fiscal Impact:** Expenditure of up to \$475,000 in O&M funds. Unspent funds from the FSA budget will be used for FY 2023/24 expenditures, with the remainder added to the proposed FY 2024/25 FSA budget.

**Business Analysis:** This option will enhance Metropolitan's knowledge of potential seawater desalination supply options and will help inform the CAMP4W process. Metropolitan would miss an opportunity to evaluate brackish desalination opportunities and investigate new environmentally sustainable technologies.

### Option #4

Do not proceed with the project at this time.

**Fiscal Impact:** None

**Business Analysis:** This option may forego or delay the opportunity to enhance Metropolitan's knowledge of brackish and seawater supply options in its service area, potentially limiting the breadth of the CAMP4W process.

**Staff Recommendation**

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Option #1

  
\_\_\_\_\_  
*Brad Coffey*  
Manager  
Water Resource Management

11/1/2023  
*Date*

  
\_\_\_\_\_  
*Adel Hagekhalil*  
General Manager

11/3/2023  
*Date*

**Attachment 1 – Existing Reports on Desalination Siting and Technology**

**Attachment 2 – Updated Study Scopes with Bulleted Adjustments**

Ref# wrm12699245

### Existing Reports on Desalination Siting and Technology

Metropolitan, the member agencies, and other stakeholders have performed siting studies and related investigations to advance brackish groundwater desalination and seawater desalination projects in Southern California. Table 1 contains a list of studies collected by staff related to the siting of brackish groundwater resources. Table 2 contains a similar list for seawater desalination. AECOM and CDM will leverage these studies to inform the desalination studies.

**Table 1. Brackish Groundwater Reports**

Report	Source	Year	Relevance
Regional Brackish Water Reclamation Program Feasibility Study	Jacobs	2021	<ul style="list-style-type: none"> <li>Water Replenishment District of Southern California Service Area</li> </ul>
Brackish Groundwater and its Potential as a Resource in the Southwestern United States	USGS	2018	<ul style="list-style-type: none"> <li>Broad survey of brackish groundwater supplies</li> </ul>
Desalination	DWR	2016	<ul style="list-style-type: none"> <li>Resource management strategy</li> </ul>
Brine Management Study	USBR	2012	<ul style="list-style-type: none"> <li>Brine disposal</li> <li>Technology scan</li> </ul>
Groundwater Assessment Study	Metropolitan	2008	<ul style="list-style-type: none"> <li>Water quality</li> </ul>

**Table 2. Seawater Desalination Reports**

Report	Source	Year	Relevance
Draft Siting Criteria	Coastal Commission	2023	- Site analysis
Offshore Siting Guidelines: <i>Requested</i>	Offshore technology companies	2023	- Offshore desalination
Seabed infiltration gallery Construction and life-cycle Costs	West Basin MWD	2017	<ul style="list-style-type: none"> <li>- Site analysis</li> <li>- Subsurface intakes</li> </ul>
Seawater Desalination Technical Memorandum	Calleguas MWD	2016	<ul style="list-style-type: none"> <li>- Site analysis</li> <li>- Subsurface intakes</li> </ul>
Subsurface Feasibility Screening Framework	West Basin MWD	2015	- Subsurface intakes
Technical Feasibility of Subsurface Intake Designs: Huntington Beach, California	Coastal Commission	2014	<ul style="list-style-type: none"> <li>- Subsurface intakes</li> <li>- Site analysis</li> </ul>
Final Pilot Study Report: <i>Requested</i>	Long Beach	201X	- Subsurface intakes
Subsurface intakes for seawater reverse osmosis facilities	Desalination Journal	2013	- Subsurface intakes
Final Summary Report Doheny Ocean Desalination Project Phase 3 investigation	MWDOC	2013	<ul style="list-style-type: none"> <li>- Slant well development</li> <li>- Site analysis</li> </ul>
Camp Pendleton Seawater Desalination Project Feasibility Study	SDCWA	2013	<ul style="list-style-type: none"> <li>- Site analysis</li> <li>- Subsurface intakes</li> </ul>
Desalination System Integration Study	Metropolitan	1993	- Integration

**Updated Study Scopes with Bulleted Adjustments**

AECOM		CDM Smith
<b>Task 1</b>	Opportunities in Brackish Groundwater Desalination <ul style="list-style-type: none"> <li>• Review of previous studies</li> <li>• Supply potential and conceptual costs for CAMP4W</li> <li>• Use of RCP 8.5</li> </ul>	Opportunities for Seawater Desalination <ul style="list-style-type: none"> <li>• Review of previous studies</li> <li>• Prioritize State siting criteria and sub-surface intakes</li> <li>• Supply potential and conceptual costs for CAMP4W</li> <li>• Include offshore</li> </ul>
<b>Task 2</b>	Project Implementation Options <ul style="list-style-type: none"> <li>• Emphasize partnerships</li> </ul>	Project Implementation Options <ul style="list-style-type: none"> <li>• Emphasize partnerships</li> </ul>
<b>Task 3</b>	Brackish Groundwater Desalination Technology Evolution	Emerging Technologies for Seawater Desalination <ul style="list-style-type: none"> <li>• Include offshore</li> </ul>
<b>Task 4</b>	Project Management and Communications	Project Management and Communication
<b>NTE Totals</b>	<b>\$660,000</b>	<b>\$475,000</b>



Engineering, Operations, and Technology  
Committee

# Authorize Professional Services Agreement(s) for Desalination Technologies for Potential Water Supply Augmentation

Item 7-1

November 13, 2023

# Item # 7-1 Professional Services Agreement(s) for Desalination Technologies for Potential Water Supply Augmentation

## Subject

Authorize professional services agreements with: (1) AECOM Technical Services Inc. in an amount not to exceed \$660,000; and (2) CDM Smith Inc. in an amount not to exceed \$475,000, to perform water desalination studies in Metropolitan's service area.

## Purpose

Increase Metropolitan's knowledge and inform CAMP4W

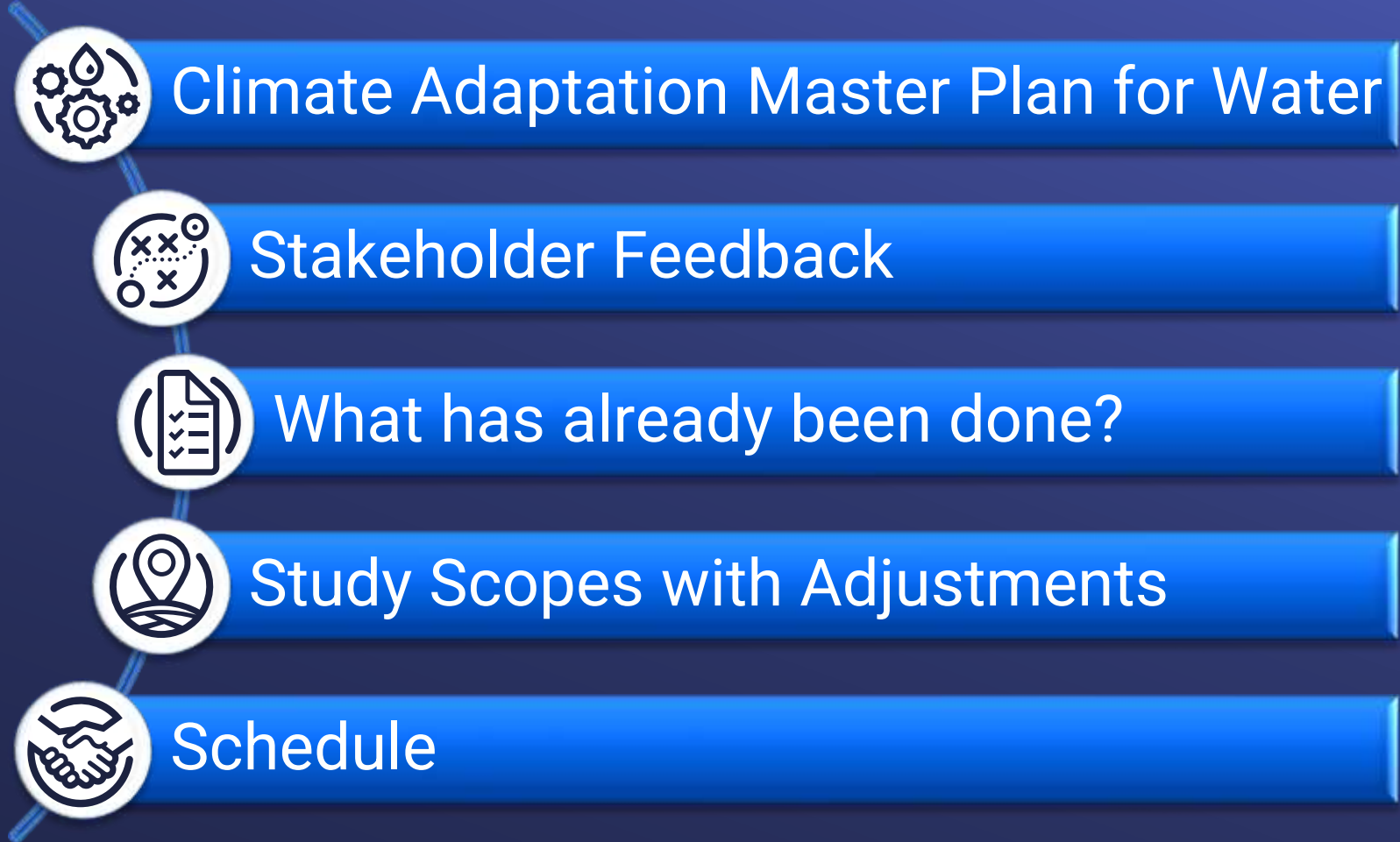
## Recommendation and Fiscal Impact

Recommendation – Authorize professional services agreements with (1) AECOM Technical Services Inc. in an amount not to exceed \$660,000 and (2) CDM Smith Inc. in an amount not to exceed \$475,000, to perform water desalination studies in Metropolitan's service area.

Fiscal Impact – Expenditure of \$1,135,000 in budgeted funds

## Budgeted

# Overview





# The Region Needs More Climate-Resilient Supplies

## Climate Adaptation Master Plan for Water (CAMP4W)

Under rapid climate change scenarios, Southern California would need up to 300 TAF of new core supplies by 2032

Core Supply Needs in 2032 (TAF)			
IRP Scenario	No Storage	182 TAF Storage	364 TAF Storage
A	0	0	0
B	50	30	30
C	15	15	15
D	300	200	200

Source: CAMP4W Working Memorandum #4

### Example Core Supplies

Conservation

Stormwater

Recycling

Desalination

Groundwater

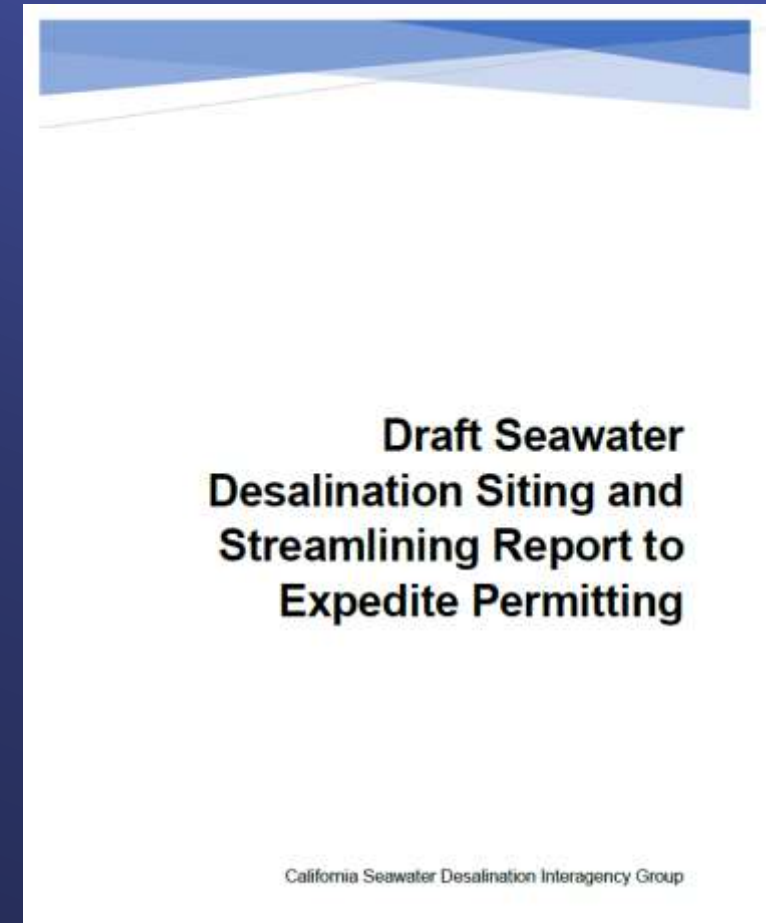
IID-MWD Agreement

# Stakeholder Feedback

## Background

Competitively  
selected proposals  
through RFP 1327

- June EOT Action Item Deferred
  - SWRCB Draft Siting Criteria Report
  - Environmental NGO input
- October EOT Information Item
  - Collect previous studies



# Draft Siting Criteria

## Timing:

- Released July 2023
- Final expected 2023 Q4



Slant Well Construction

# Streamlined Track



Doheny Ocean Desalination Project

Concurrent review

Subsurface intakes

Comingled discharge

No impact on MPAs or SWQPAs

Coastal hazard prevention

Mitigation by project completion

Loading order

Environmental justice



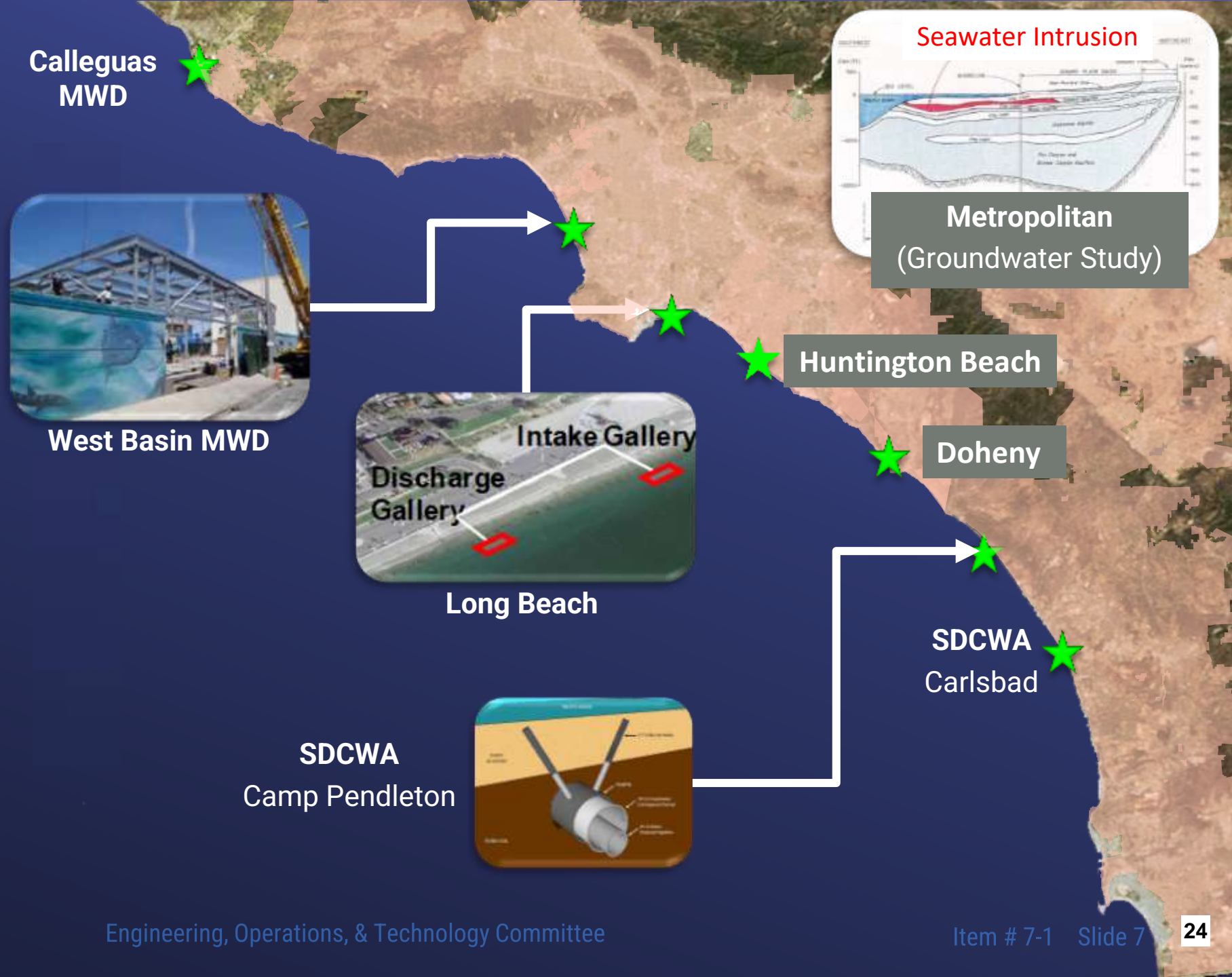
# What has already been done?

## Brackish desalination

- Metropolitan
- USBR

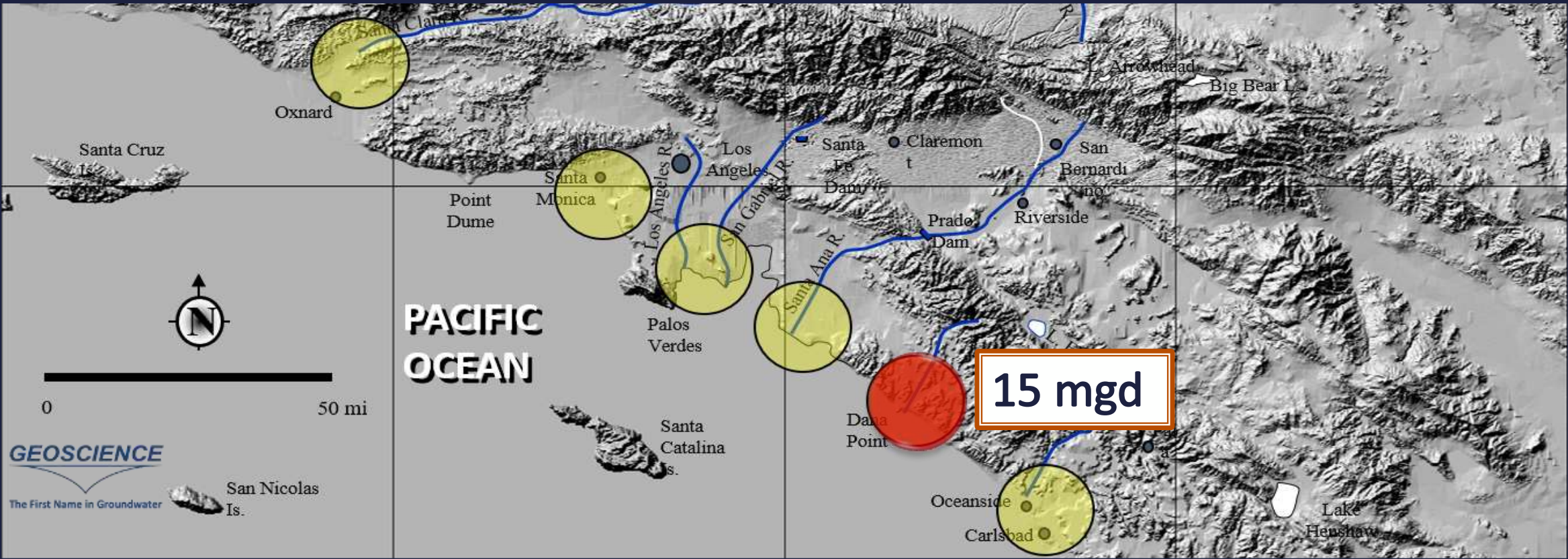
## Seawater desalination

- Member agency
- State agency
- Metropolitan
- Offshore companies



# Knowledge Gaps within Metropolitan's Service Area

Paleochannel locations suited for slant well technology



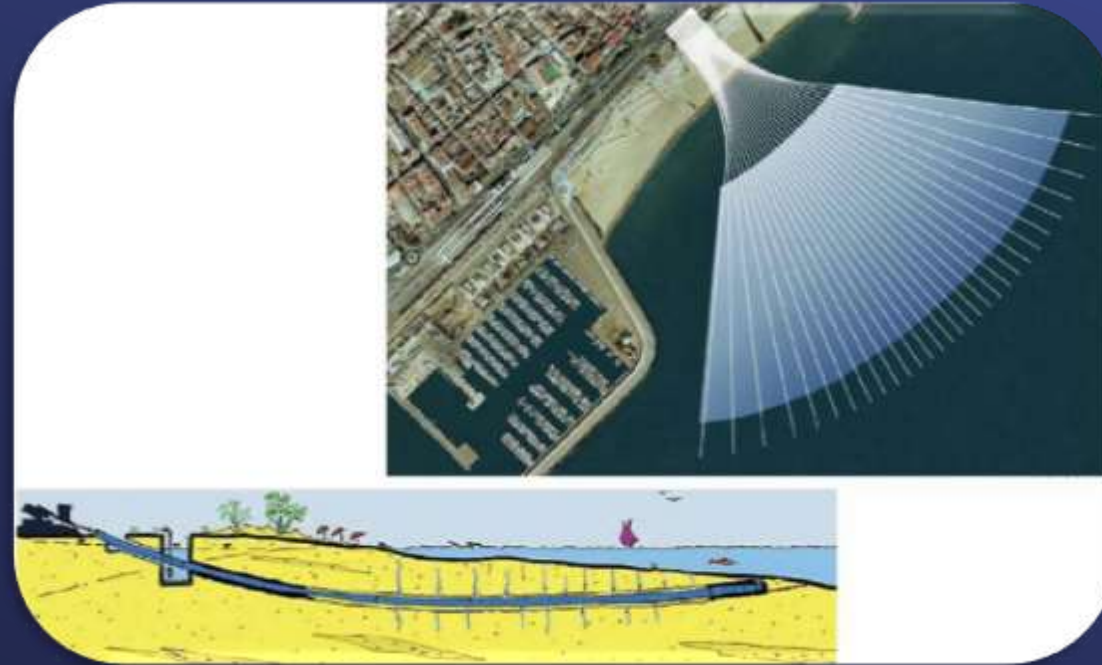
Source: Geoscience Presentation to CalDesal in 2020



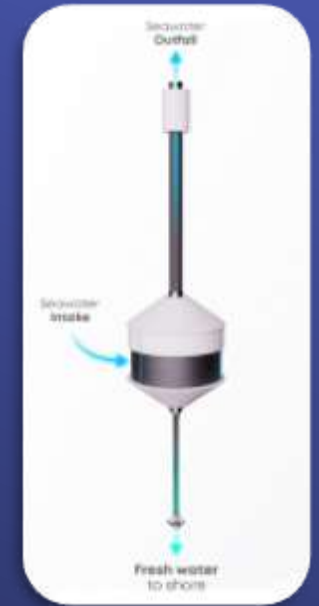
# Opportunity to Explore New Approaches



- Singapore
- Keppel Marina East Desalination Project
- 30 MGD
- Brackish and seawater



- Horizontal Directionally Drilled Wells
- 34 MGD San Pedro Del Pinatar: Murcia Spain



- Las Virgenes MWD pilot study
- Subsea Seawater Desalination

# New Agreement

- Competitively selected under RFP 1327
- SBE participation level – 25%
- NTE amount – \$660,000

## AECOM Technical Services Inc.

### Scope of work

- Task 1: Opportunities in Brackish Groundwater Desalination
  - Review of previous studies
  - Supply potential and conceptual costs for CAMP4W
  - Use of RCP 8.5
- Task 2: Project Implementation Options
  - Emphasize partnerships
- Task 3: Brackish Groundwater Desalination Technology Evolution

\* Adjustments based on input received are in orange

# New Agreement

- Competitively selected under RFP 1327
- SBE participation level – 25%
- **NTE amount – \$475,000**

## CDM Smith Inc.

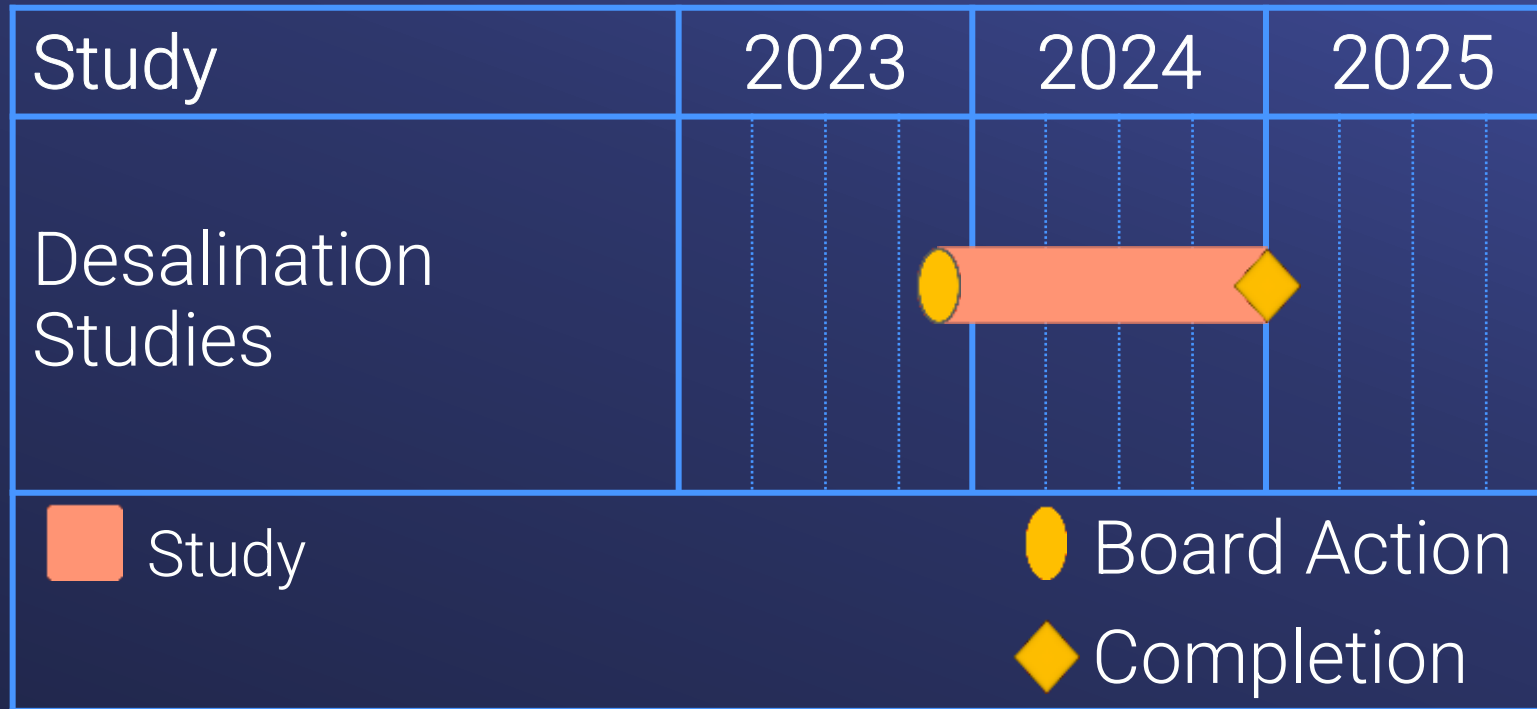
### Scope of work

- Task 1: Opportunities for Seawater Desalination
  - **Review of previous studies**
  - **Prioritize State siting criteria and sub-surface intakes**
  - **Supply potential and conceptual costs for CAMP4W**
  - **Include offshore**
- Task 2: Project Implementation Options
  - **Emphasize partnerships**
- Task 3: Emerging Technologies for Seawater Desalination
  - **Include offshore**

**\*Adjustments based on input received are in orange**



# Study Schedule



# Board Options

- Option #1

Authorize professional services agreements with (1) AECOM Technical Services Inc. in an amount not to exceed \$660,000 and (2) CDM Smith Inc. in an amount not to exceed \$475,000, to perform water desalination studies in Metropolitan's service area.

# Board Options

- Option #2

Authorize a professional services agreement with AECOM Technical Services Inc. only, in an amount not to exceed \$660,000, to perform a brackish water desalination study in Metropolitan's service area.

- Option #3

Authorize a professional services agreement with CDM Smith Inc. only, in an amount not to exceed \$475,000, to perform a seawater desalination study in Metropolitan's service area.

- Option #4

Do not proceed with either study at this time.

# Staff Recommendation

- Option #1





● **Board of Directors**  
***Engineering, Operations, and Technology Committee***

11/14/2023 Board Meeting

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7-2

**Subject**

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Authorize an agreement with General Networks Corporation in an amount not to exceed \$6,609,900 for the implementation of a cloud-based Enterprise Content Management System; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

**Executive Summary**

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This action authorizes the implementation of an Enterprise Content Management (ECM) system (ECM Phase II) for Metropolitan. The ECM system will organize, manage, and provide easy, anytime, anywhere access to Metropolitan's digital assets and other media to promote operational efficiency and introduce automation to the review and disposition process of digital information pursuant to Metropolitan's record retention schedule.

**Timing and Urgency**

Currently, Metropolitan uses the Electronic Document Management System (EDMS) as its primary repository for storing and managing digital assets. EDMS was implemented in 1997, has lost vendor support, and the software and system design are outdated. A new ECM system will allow Metropolitan to more effectively and efficiently manage its digital assets to optimize operational efficiency, locate historical records, respond to requests under the California Public Records Act, significantly improve search results, and automate compliance with data classification and records retention policies. ECM Phase II has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is included in the Cost Efficiency and Productivity Program. ECM is also included as an Outcome of the General Manager's Strategic Priorities. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2023/24.

**Details**

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**Background**

Effective management of digital assets is critical to optimizing Metropolitan's operational efficiency. Digital assets are electronic files, typically generated from (but not limited to) Microsoft Word, Excel, PowerPoint, photographs, or any other type of digital media or content created at Metropolitan. Currently, the storage of this content is scattered across various Metropolitan business applications and network storage devices. Some of this content is stored in the EDMS, which was implemented in 1997 and has lost vendor support. For reference purposes, the cost to implement the system in 1997 would cost \$14 million in today's dollars. Metropolitan has a responsibility to manage content for business needs and to optimize workforce and operational efficiency. A 2015 records management study conducted by a consultant specializing in industry best practices found Metropolitan's records management capabilities to be substandard. Action must be taken to upgrade Metropolitan's digital information management in line with industry best practices. Current industry practice and recommendations from the Phase I consultant propose using software packages known as ECM applications to manage digital information.

The Board-approved first phase of the ECM Program involved a district-wide effort to remediate redundant, obsolete, and trivial (R.O.T.) digital files, scan paper records to digital form, and reorganize and migrate content (now tagged with metadata). This effort was done in accordance with a newly developed classification protocol and within a newly optimized network folder structure. For reference, total costs for ECM Phase I were \$6.2 million, including the Backfile Conversion Project. Completing ECM Phase I was a necessary prerequisite

and established the foundation and progression for Phase II, the acquisition and deployment of a new ECM system.

RFP-DH-1335 was issued for ECM system implementation on January 10, 2023, to provide staff the capability to effectively manage and search records, administer workflows, and optimize enforcement of retention policies. This includes any required software licenses, implementation, and support services. Metropolitan received a total of seven (7) responsive proposals from the competitive process on March 6, 2023. The business outreach participation goal designated for this solicitation was 25 percent.

Proposals were reviewed by a team consisting of representatives from the Administrative Services Section, Information Technology Group, Engineering Services Group, External Affairs Group, and Water System Operations Group. The evaluation team scored and ranked the responsive proposals on the following criteria: firm qualifications, a record of past performance, key personnel and staff, technical approach and methodology, cost proposal, and business outreach program incentives for Small Business Enterprise (SBE) and Regional Business Enterprise (RBE). Based on initial scoring, three firms were short-listed and invited for interviews and to provide a demonstration of their proposed solution. After careful deliberation and thorough consideration, the evaluation team chose General Networks Corporation to perform the work. General Networks Corporation has 15 years of experience in delivering these types of services and is qualified as both an SBE and an RBE. This vendor has worked with other organizations, including Las Vegas Valley Water District and Southern California Edison. Based on their proposal, references, and experience, the RFP evaluation panel recommended this vendor be awarded all components of the work.

### **Scope of Work**

The planned work includes the implementation of a cloud-based ECM system to provide anytime, anywhere access to files and information from any device across key business information systems. The ECM Solution will leverage (and integrate with) the functionality and security of Microsoft 365. This board letter is requesting authorization to perform the next steps in the implementation.

ECM goals include, but are not limited to, the following:

- Implement a cloud-based ECM system.
- Migrate and consolidate siloed information repositories.
- Significantly improve search capabilities by providing “Google” style querying.
- Integrate with key business information systems to provide federated searching capabilities and in-place management functionality.
- Design and deploy controls to achieve compliance with records and information governance policies and procedures.
- Streamline key informational processes using automated workflows and Business Process Management capabilities.

### **Deliverables**

- Cloud-based Enterprise Content Management Solution with the following components/features:
  - Portal
  - User Interface
  - Document / Library Management
  - Information Governance and Records Management
  - Web Content Management
  - Digital Asset Management and Digital Preservation
  - Workflow and Business Process Management
  - Imaging and Document Capture
  - Integration
  - Security
- Data Migration
- Systems Integration
- Project Management and Communications
- Testing Strategy

- Training Program
- Maintenance and Support Services

### Summary

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2023/24 capital expenditure plan. See **Attachment 1** for the Financial Statement.

The total project budget for ECM Phase II is \$10.325 million. It includes funds for awarding a new contract with General Networks Corporation for \$6,609,900, with \$3,658,120 for professional and technical services and \$2,951,780 for materials and supplies cost (software). Other costs included are \$2,877,000 for labor costs by Metropolitan staff, including owner costs and project management, and \$838,100 for the remaining budget.

Following implementation, Operations and Maintenance (O&M) expenses related to software maintenance/subscriptions are expected to be \$719,980 annually. With an implementation of this scope, the Information Technology Group will require an additional full-time equivalent position to perform technical support to maintain quality of service with the new system going forward. The annual cost of this new position is estimated to be \$256,855 fully burdened. It should also be expected that staff from the Administrative Services Section will be performing ongoing maintenance tasks related to the functional support that will be required. Upgraded Microsoft 365 (M365) licensing (G5) would also be beneficial since this implementation will complement other I.T. strategic initiatives. It is estimated that there would be a change in M365 licensing fees of approximately \$222,084 per year for this upgrade. Once implementation is completed, there is an expectation that O&M expenses related to Metropolitan's existing network file shares will be significantly reduced. These future ongoing O&M expenses will be included in the next budget cycle.

### Project Milestones

March 2024 – Design Phase

March 2025 – Develop Phase

October 2026 – Deploy Phase

### Policy

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Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 52778, dated April 12, 2022, the Board appropriated a total of \$600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/23 and 2023/24.

### California Environmental Quality Act (CEQA)

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#### CEQA determination for Option #1:

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378) because it involves continuing administrative activities which will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment (Section 15378(b)(2) of the State CEQA Guidelines).

#### CEQA determination for Option #2:

None required



**Board Options**

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**Option #1**

Authorize an agreement with General Networks Corporation in an amount not to exceed \$6,609,900 for the implementation of a cloud-based Enterprise Content Management System.

**Fiscal Impact:** Expenditure of \$6,609,900 in capital funds.

**Business Analysis:** This option would implement a cloud-based Enterprise Content Management System to provide anytime, anywhere access to files and information from any device across key business information systems.

**Option #2**

Do not proceed with Enterprise Content Management Phase II at this time.

**Fiscal Impact:** None

**Business Analysis:** This option would not implement a cloud-based Enterprise Content Management System to provide anytime, anywhere access to files and information from any device across key business information systems.

**Staff Recommendation**

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Option #1

	10/25/2023
_____ Charlie Eckstrom Group Manager, Information Technology	Date

	10/30/2023
_____ Adel Hagekhalil General Manager	Date

**Attachment 1 – Financial Statement**

Ref# it12692977

**Allocated Funds for Enterprise Content Management (ECM) Phase II**

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	<b>Current Board Action (November 2023)</b>
Labor	
Studies & Investigations	\$ -
Final Design	2,877,000
Owner Costs (Program mgmt.)	-
Submittals Review & Record Drwgs	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	2,951,780
Incidental Expenses	
Professional/Technical Services	3,658,120
Equipment Use	-
Contracts	-
Remaining Budget	838,100
<b>Total</b>	<b><u><u>\$ 10,325,000</u></u></b>



Engineering, Operations, & Technology Committee

# Enterprise Content Management (ECM) Phase II

Item 7-2

November 13, 2023

## Item 7-2 ECM Phase II

### Subject

- Authorize an agreement with General Networks Corporation, in an amount not to exceed \$6,609,900 to implement a cloud-based Enterprise Content Management (ECM) system.

### Purpose

- To provide anytime, anywhere access to files and information from any device across key business information systems.

### Recommendation and Fiscal Impact

- Staff recommends authorizing an agreement with General Networks Corporation, in an amount not to exceed \$6,609,900 in capital funds to implement a cloud-based Enterprise Content Management (ECM) system.

### Budgeted

“ECM is the **foundational** component in an organization for the management and use of content.”

“Access information anytime, anywhere, from any device”

“Effectiveness, efficiency, compliance, and continuity”

“The content management crisis is accelerating – on average, **57%** of the information that must be managed is **unstructured.**”

“On average, the volume of incoming information will grow from X to 4.5X **in the next two years.**”



## ECM Phase II



## ECM Phase II

# Background

- Digital assets are essential to Metropolitan
- Electronic files
  - Microsoft PowerPoint files
  - Microsoft Word files
  - Microsoft Excel files
  - PDFs
  - Image files
  - Etc.
- Approximately 50TB of unstructured information currently stored in siloed environments





## ECM Phase II



### Background (cont.)

- Program Assessment
  - Findings
    - Substandard Rating
    - E.D.M.S.
      - **Obsolete, non-supported technology**
  - Strategic Plan
    - Information Governance (IG) and Enterprise Content Management (ECM)
    - Capital Investment Plan (CIP)
    - GM Strategic Priority Outcome
    - Multi-Phase Program Objective

# ECM Phases

## ECM Phase II

### Phase I (Completed)

- Classification scheme
- R.O.T. analysis
- Optimized network folder structure
- Metadata extraction
- Sensitivity classification
- Records Retention Schedule
- Backfile Conversion project

### Phase II (Current Action)

- Acquisition and implementation of a comprehensive, cloud-based ECM solution
- Migrate siloed unstructured information from legacy systems
- Federated Search
- Deploy Records Management controls
- Information Protection

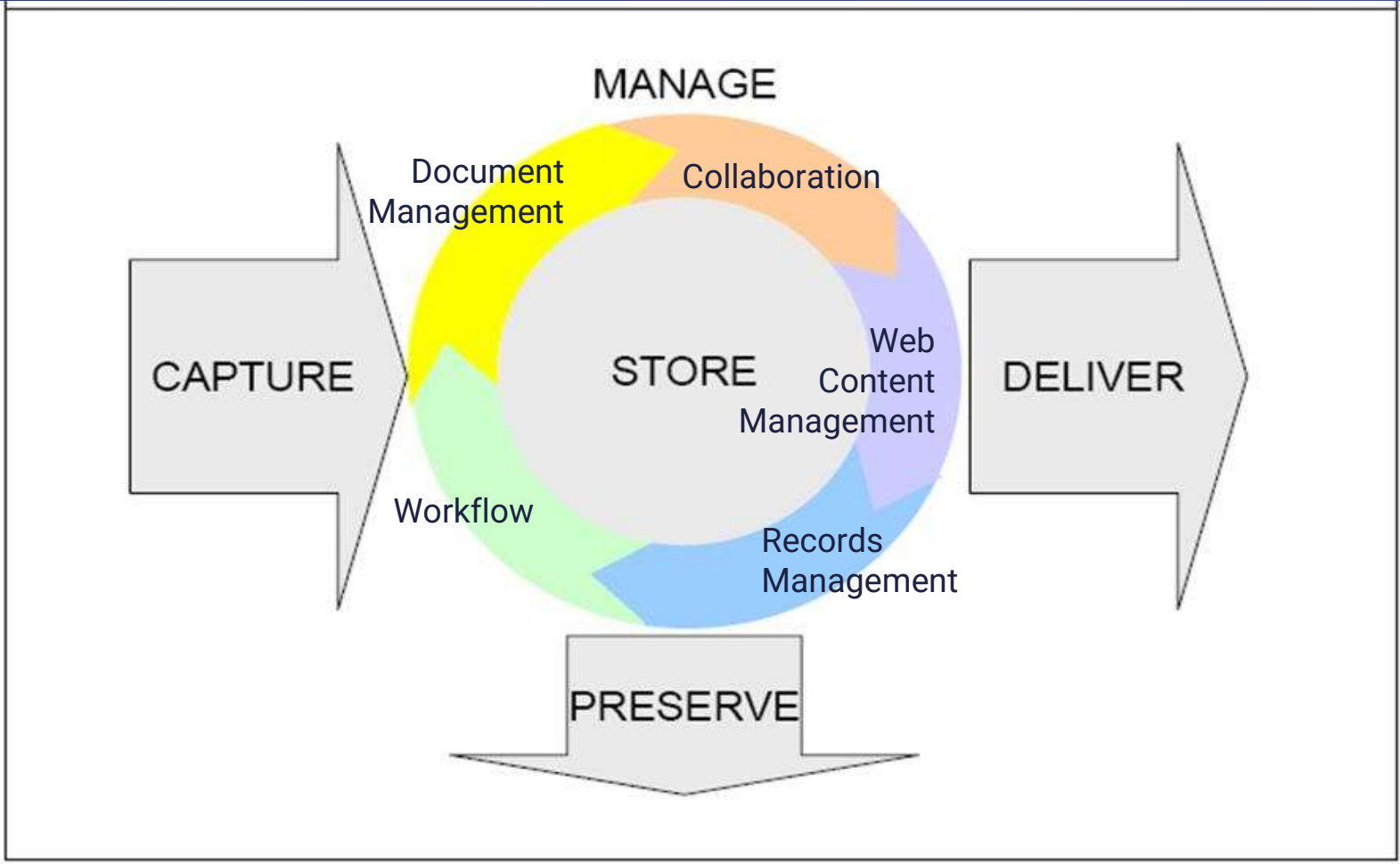
### Phase III (Future)

- Enhance core ECM deployment
- Implement additional federated search connectors
- Structured information systems integration
- Automate records retention disposition
- Additional platform features



# ECM Concept

## ECM Phase II





## ECM Phase II

# Scope of Work

- Procurement of an ECM system and related implementation services
- Key desired features/goals:
  - Cloud-Based
  - Migrate and consolidate siloed information
  - Significantly improve search capabilities
  - Records Management efficiency and compliance
  - Business Process Management (B.P.M.)

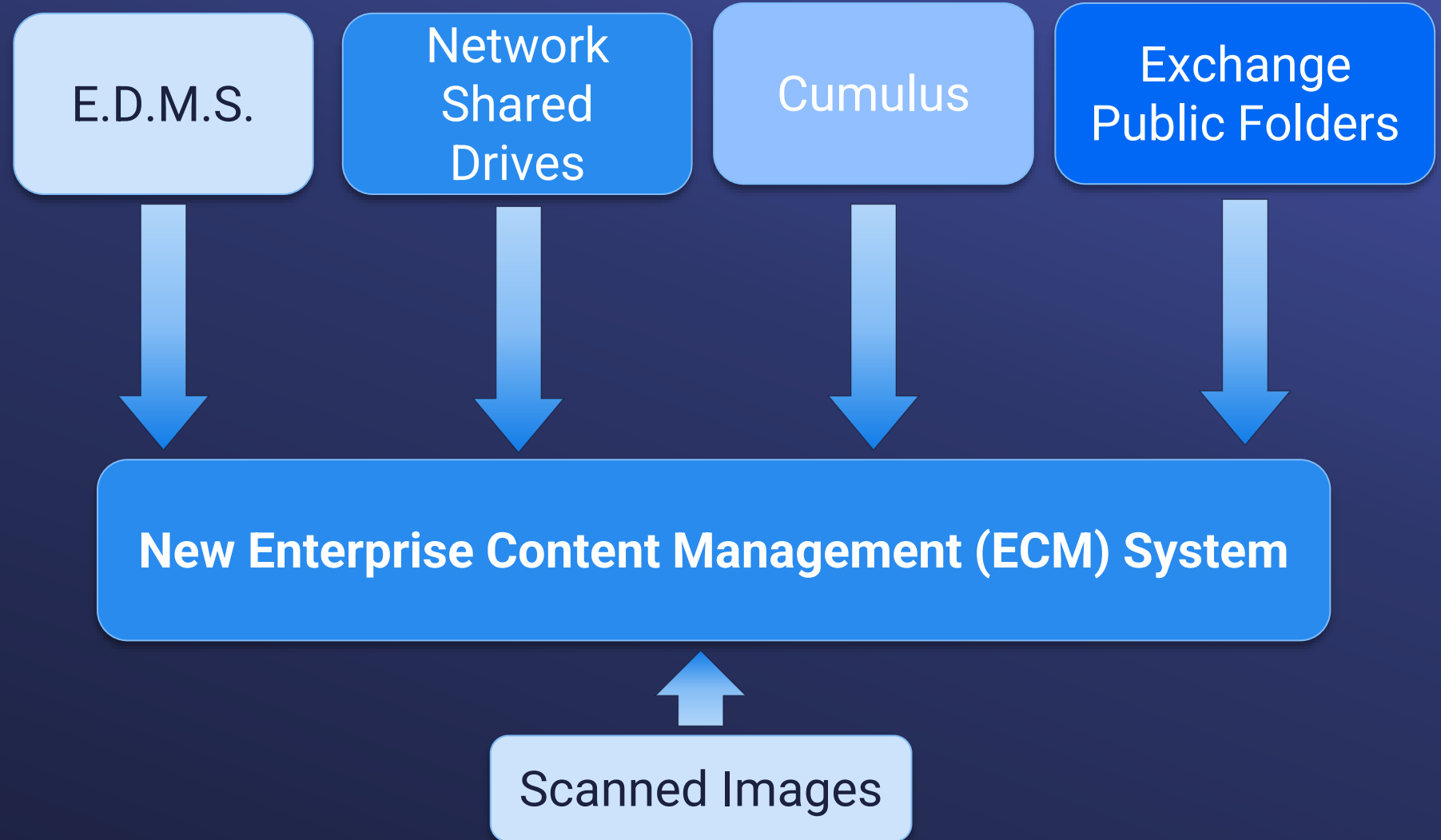
## ECM Phase II

# Deliverables

- Comprehensive Solution
  - Portal, User Interface, Document/Library Mgmt., Information Governance and Records Management, Web Content Management, Digital Asset Management and Digital Preservation, Workflow, Imaging and Document Capture, Integration, and Security
- Data Migration
  - Shared drives, E.D.M.S., Cumulus (MWD Image Collection), scanned documents (Backfile Conversion), Exchange Public Folders
- Systems Integration
  - Key MWD Business Information Systems (unstructured)
- Project Management and Communications
- Testing and Execution Strategy
- Training Program
- Maintenance and Support Services

# Scope of Work / Deliverables (cont.)

ECM Phase II



## ECM Phase II

# Selection Process

- Phase II RFP (No. 1335) development
- Solicitation response
- Evaluation Team
  - 5 Evaluators
  - 5 Subject Matter Experts (SMEs) / Technical Advisors (TAs)
- Evaluation Criteria
  - Business Outreach Participation Goal – 25%
- Evaluation Process and Results



## ECM Phase II

# Recommended Vendor

- Selected under Request for Proposals No. 1335
- General Networks Corporation
  - Based in Glendale, CA
  - Small Business Enterprise (SBE) and Regional Business Enterprise (RBE)
  - 36 years overall experience
  - Microsoft Gold Partner
  - Over 100 clients related to Microsoft and Enterprise Content Management

## ECM Phase II

# Allocation of Funds

### Enterprise Content Management (ECM) Phase II

#### Vendor Costs (current action)

ECM Solution	\$2,951,780
Data Migration	\$1,943,200
Systems Integration	\$335,000
Project Mgmt., Testing, Training	\$858,480
Proofs of Concept/Deployment	\$521,440
<b>SUBTOTAL</b>	<b>\$6,609,900</b>

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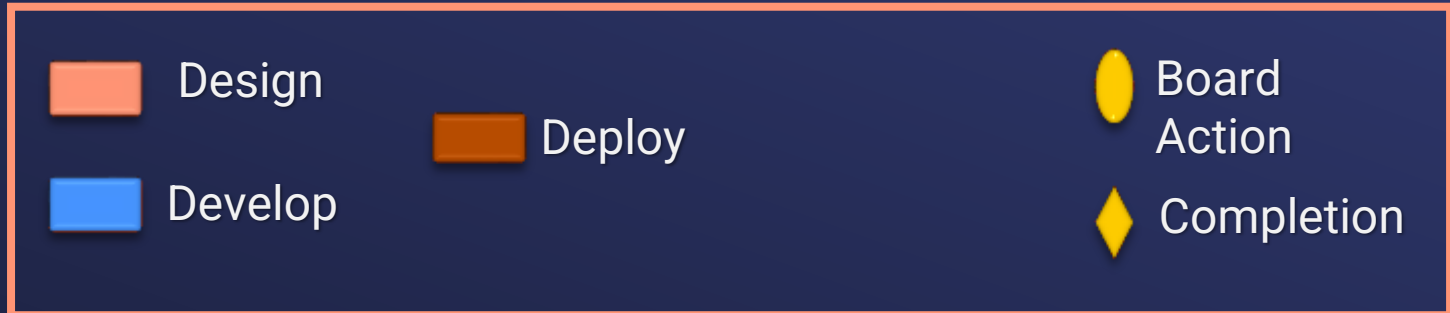
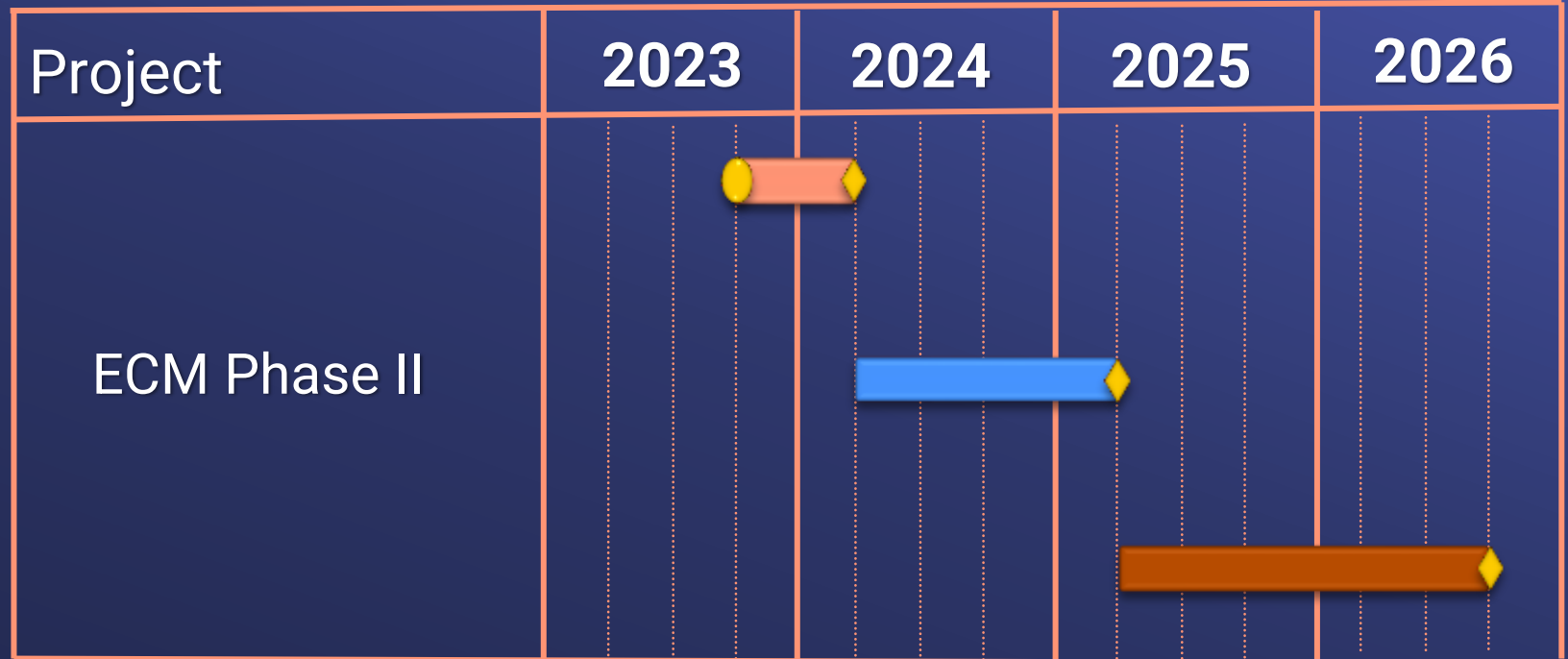
#### CIP Costs (Appropriation 15500 - approved)

Metropolitan Labor	\$2,877,000
Contingency/Remaining Budget	\$838,100
<b>TOTAL</b>	<b>\$10,325,000</b>

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# Estimated Schedule

## ECM Phase II





## ECM Phase II

# Board Options

- Option #1
  - Authorize an agreement with General Networks Corporation in an amount not to exceed \$6,609,900 for the implementation of a cloud-based Enterprise Content Management System
- Option #2
  - Do not proceed with Enterprise Content Management Phase II at this time.

# Staff Recommendation

- Option #1

ECM Phase II





● **Board of Directors**  
***Engineering, Operations, and Technology Committee***

11/14/2023 Board Meeting

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7-3

**Subject**

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Authorize an increase of \$3,100,000 in change order authority for the contract to replace the overhead bridge cranes at the five Colorado River Aqueduct pumping plants; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

**Executive Summary**

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Metropolitan's construction contracts are typically completed with final change order amounts falling well within the General Manager's Administrative Code authority, which is the greater of \$250,000 or five percent of the initial contract amount. This action authorizes increasing the General Manager's change order authority for the Colorado River Aqueduct (CRA) Overhead Crane replacement. The increase in change authority will address the abatement of lead-containing material encountered in the construction area, the presence of which was not identified during the original design development for this contract. Based on current and anticipated field conditions, the extent of required extra work under the subject contract is projected to exceed the General Manager's existing change order authority of \$1,170,950. Staff recommends that the General Manager's change order authority for this construction contract be increased by \$3,100,000 at this time so the contractor can complete the remaining work without delay and at the lowest overall cost.

**Details**

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**Background**

The CRA is a 242-mile-long conveyance system that transports water from the Colorado River to Lake Mathews. It consists of five pumping plants, 124 miles of tunnels, 63 miles of canals, and 55 miles of conduits, siphons, and reservoirs. The aqueduct was constructed in the late 1930s and was placed into service in 1941.

Each of Metropolitan's five pumping plants has one overhead bridge crane on the pump room's main floor. The existing cranes were installed during the original CRA construction. Each crane spans the width of the entire floor, running along tracks that are anchored to the building at a height of 45 feet above the ground floor. These cranes have performed well over the last 80 years; however, they show signs of deterioration and require frequent repair, and staff must custom fabricate many of the replacement parts since original or substitute off-the-shelf parts are no longer available.

In September 2020, Metropolitan's Board awarded a \$13,419,000 contract to J.F. Shea Construction Inc. to perform the overhead crane replacement work at all five CRA pumping plants. The contractor has currently completed the fabrication of four cranes and completed the installation of the cranes at Iron Mountain and Gene pumping plants. Construction is approximately 60 percent complete and scheduled to be finished by summer 2024.

Metropolitan's Administrative Code authorizes the General Manager to execute change orders on construction contracts in an aggregate amount not to exceed five percent of the initial amount of the contract or \$250,000, whichever is greater. Change orders to construction contracts can be issued for a variety of reasons, including (1) to address design errors and/or omissions after construction began; (2) to address field conditions that differ from those shown on the contract drawings and specifications; (3) owner-initiated changes because they increase the overall project quality and efficiency; and (4) changes needed to benefit other related construction projects.

Metropolitan staff carefully considers the need to issue contract change orders and negotiates the cost and schedule impacts of all change orders before they are formally authorized.

Metropolitan's construction contracts are typically completed with final change order amounts falling well within the General Manager's Administrative Code authority. Since the beginning of 2018, Metropolitan has completed 115 public works contracts with a total awarded amount of approximately \$542 million and total earnings after net extra work of \$557 million. The average change order authority utilized over this period is 2.8 percent. All but five of the 115 contracts have stayed within their original awarded change order authority amount.

If changes occur on a construction contract that exceeds the General Manager's authority, additional authorization from the Board is required. For this contract, the original change order authority based on the construction contract amount was \$670,950. The change order authority was increased in March 2023 by \$500,000 to provide modifications to the original design of the cranes to optimize the operational functionality of the crane systems. These enhancements will improve staff's ability to efficiently conduct maintenance activities and minimize downtime during equipment installation. At this time, the subject contract has experienced differing site conditions that were not expected related to the discovery of lead-containing material in the construction area that was not previously identified during the design phase of this project. Staff anticipates that resolving these issues will exceed the General Manager's Administrative Code authority.

### **CRA Overhead Crane Replacement – Increase in Change Order Authority (Contract No. 1946)**

In the early and mid-1900s, lead-based coatings were in high demand because they were affordable, durable, and washable. Lead-based coatings were later found to be of public health concern, primarily in housing and schools, due to childhood lead poisoning. In 1993, Cal/OSHA established the Lead in Construction Standard to address lead hazards in the workplace. Since the inception of this standard, Metropolitan has been eliminating the purchase of products and coating materials that contain lead.

Moreover, Metropolitan established a robust Lead Management Program ([HSE 127 Lead Program](#)) that has multiple layers of prevention controls, including assessing work exposures; establishing safe work practices; providing routine employee lead training; pre-authorizing lead work; overseeing remediation; and providing employee medical surveillance. As specified in the Lead Management Program, Metropolitan routinely conducts exposure assessments and program reviews to validate negative lead exposures, confirm that prevention controls continue to be effective, and update the program to improve its effectiveness as necessary.

As most Metropolitan facilities were built in the early and mid-1900s, staff has developed a lead remediation strategy when a project requires modifications to lead-containing materials. Under Metropolitan's lead remediation strategy, staff tests materials that may be disturbed during the project's construction and then develops contract documents to safely remove and remediate the equipment.

For the CRA Overhead Crane Replacement, the specifications directed the contractor to assume that all painted surfaces, including the crane runway support beams, contain lead-based paint above the regulatory limit and to abate consistent with applicable regulations. During the abatement process, the contractor inadvertently breached the containment system at Iron Mountain Pumping Plant, releasing blast media into the pumphouse. The contractor immediately started a cleanup process, including additional lead testing throughout the pumphouse, and enhanced the containment system. During this testing, the contractor discovered accumulated and settled sticky dust containing lead (settled dust) in the uppermost parts of the building, such as roof trusses, windowsills, and on top of the light fixtures.

The three pumping plants (Eagle, Hinds, and Intake pumping plants) with an upcoming crane installation were then tested for the presence of the settled dust before the start of construction at these plants. This testing has determined that settled dust exists in rarely accessed areas in the uppermost parts of these pump houses. This has led to the conclusion that the settled dust did not result from the crane replacement project. It is important to note that air monitoring samples collected at the Eagle Plant in early October 2023 with all the plant fans in operation were below the laboratory detection limit for lead.

Metropolitan plans a two-stage strategy for managing lead in CRA facilities. Under Stage 1, this work will focus on abating the settled dust in the vicinity of the crane replacement project work areas. With the increased change order authority, Metropolitan will direct the contractor to remediate each remaining pump house so that construction can continue. This includes cleaning all surfaces that may be disturbed or are near the construction

area, including the entire length of the walls, horizontal roof trusses, windowsills, and the top of light fixtures at all five pumping plants. This plan was reached in concurrence with the contractor in an overabundance of caution and despite negative exposure air monitoring results.

Under Stage 2, staff will contract with an industrial hygiene firm for a lead assessment of the pump houses and to develop a programmatic approach for CRA facilities. This more comprehensive assessment will be conducted in light of the extensive nature of the planned work to rehabilitate the pump house main motors and electrical facilities under the current Capital Investment Plan. Lessons learned from the assessment will be incorporated into Metropolitan's Lead Management Program.

The changes to on-site conditions described above, and other less significant changes to the contract, have utilized most of the existing change order authority. Several months of work are required to perform the lead-containing material cleanup before the construction, start-up, and commissioning at the remaining three CRA pumping plants. Staff recommends that this cleanup work be conducted as additional changes to the original construction contract to minimize delays to the contractor's work. Therefore, it is recommended that the change order authority be increased to address the recently discovered change in site conditions described above, as well as any potential future issues that may arise during the final stages of this contract.

As authorized in March 2003, the General Manager has the authority to execute change orders for this contract up to a maximum of \$1,170,950. To date, approximately \$970,000 in change orders have been executed. To fully resolve these issues and complete the construction, testing, and commissioning of the overhead bridge cranes at the remaining three CRA pumping plants, staff recommends that the change order authority be increased by \$3,100,000 for a new maximum amount of \$4,270,950. This increase will enable all remaining work to be performed expeditiously without delaying the contract completion.

This action authorizes an increase in the General Manager's authority to execute change orders from \$1,170,950 to an aggregate amount not to exceed \$4,270,950 for the overhead bridge crane replacement at all five CRA pumping plants. In accordance with Governmental Accounting Standards Board provisions, the lead abatement work will be conducted with Metropolitan's operations and maintenance funds for fiscal year 2023/24 instead of a capital appropriation.

### **Alternative Considered**

Staff considered soliciting a separate hazardous materials abatement contractor to abate and clean up the lead-containing material at the remaining three CRA pump houses. With this approach, Metropolitan would direct the construction contractor to pause work until the pumping plants are fully abated. Due to the estimated cost of the cleanup, a request for competitive bids will need to be developed, and a separate board action to award the contract would be required. This would delay the crane installation contract, as well as the remediation, by several months. Using the current contractor to complete the lead abatement will allow the work to be completed in a timely and cost-effective manner while proactively providing a safe working environment for all personnel during construction and future plant operations.

### **Summary**

This action authorizes an increase of \$3,100,000 in the General Manager's authority to execute change orders for Contract No. 1946 with J.F. Shea Construction Inc. for unforeseen conditions during construction. See **Attachment 1** for the Financial Statement and **Attachment 2** for the Location Map.

### **Project Milestone**

June 2024 – Construction completion

### **Policy**

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Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities



By Minute Item 52113, dated September 15, 2020, the Board awarded a \$13,419,000 construction contract to J.F. Shea Construction Inc. to replace the overhead bridge cranes at all five CRA pumping plants.

By Minute Item 53178, dated March 14, 2023, the Board authorized an increase of \$500,000 in the General Manager’s authority to execute change orders for Contract No. 1946 with J.F. Shea Construction Inc.

By Minute Item 21997, dated April 11, 2022, the Board appropriated a total of \$600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/23 and 2023/24.

**California Environmental Quality Act (CEQA)**

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**CEQA determination for Option #1:**

The proposed action is exempt from CEQA because it involves the operation, repair, maintenance, or minor alteration of existing public structures, facilities, mechanical equipment, involving negligible or no expansion of existing or former use and no possibility of significantly impacting the physical environment. (State CEQA Guidelines Section 15301.)

**CEQA determination for Option #2:**

None required

**Board Options**

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**Option #1**

Authorize an increase of \$3,100,000 in change order authority for the contract to replace the overhead bridge cranes at the five Colorado River Aqueduct pumping plants.

**Fiscal Impact:** Expenditure of up to \$3,100,000 in O&M funds. All costs will be incurred in the current biennium and have been previously authorized.

**Business Analysis:** This option will allow the timely completion of remaining work for the replacement of the overhead bridge cranes at all five CRA pumping plants.

**Option #2**

Do not authorize an increase in change order authority.

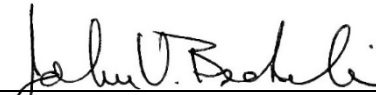
**Fiscal Impact:** Additional costs would likely be incurred in the future as an additional contract(s) will need to be authorized to perform the lead cleanup or complete the work that was planned in the original contract.

**Business Analysis:** This option is unlikely to result in lower costs for the extra work performed and would delay the project’s completion.

**Staff Recommendation**

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Option #1

  
 \_\_\_\_\_  
 John V. Bednarski  
 Manager/Chief Engineer  
 Engineering Services

10/26/2023  
 Date

  
 \_\_\_\_\_  
 Adel Hagekhalil  
 General Manager

10/30/2023  
 Date

**Attachment 1 – Allocation of Funds**

**Attachment 2 – Location Map**

Ref# es12690867

### **Allocation of Funds for CRA Overhead Cranes Replacement Project**

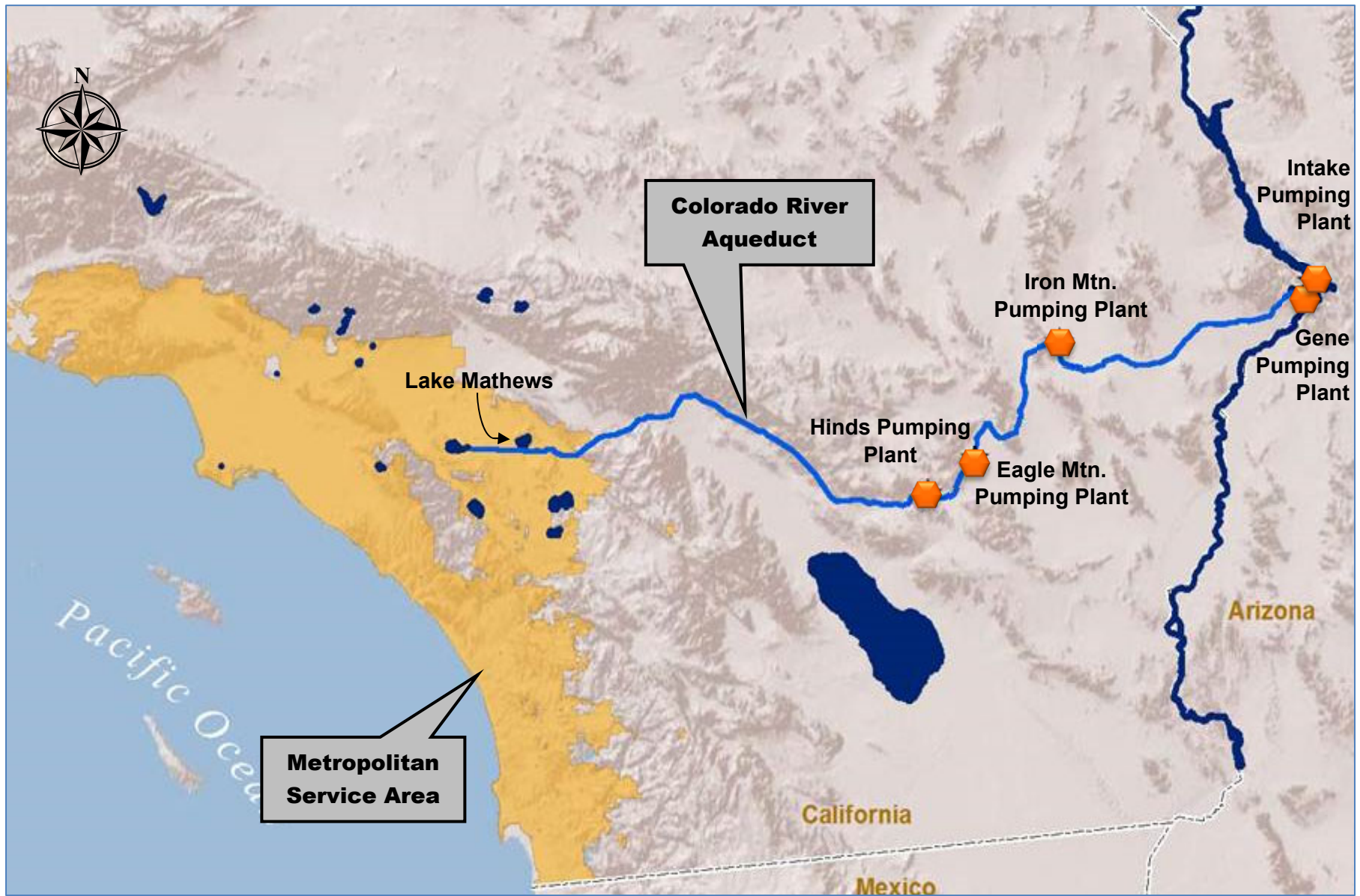
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	<b>Current Board Action</b>
	<b>(Nov. 2023)</b>
	<hr/>
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	-
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	
J. F. Shea Construction Inc	3,100,000
Remaining Budget	-
	<hr/>
<b>Total</b>	<b>\$ 3,100,000</b>
	<hr/>

The CRA Overhead Cranes lead abatement will be completed with O&M funding.



Location Map





Engineering, Operations, & Technology Committee

# Change Order Authority Increase for CRA Overhead Bridge Cranes Project

Item 7-3

November 13, 2023

# Item 7-3 Change Order Authority Increase for CRA Overhead Bridge Cranes Project

## Subject

Authorizes an increase in change order authority for the contract to replace the overhead bridge cranes at five Colorado River Aqueduct pumping plants

## Purpose

Perform lead remediation

## Recommendation and Fiscal Impact

Authorize a \$3.1 million increase in change order authority for the contract to replace the overhead bridge cranes. Expenditure of \$3.1 million in budgeted O&M funds

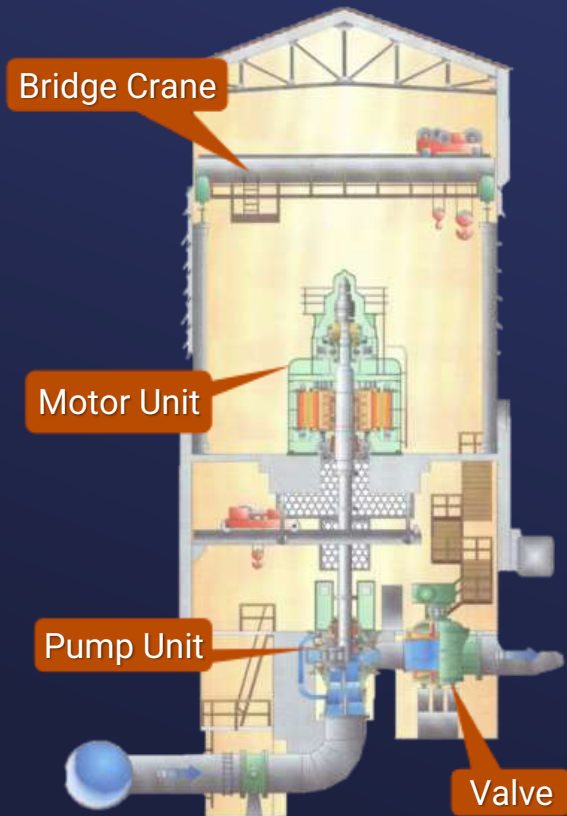
Budgeted



# Location Map



# Change Order Authority Increase for CRA Overhead Bridge Cranes Project



## Background

- Installed in the 1930s
- Single overhead bridge crane per plant
- Spans entire width of the plant
- Primary means to perform maintenance
- Cranes are deteriorated & require replacement
- Important precursor project to support CRA pump rehabilitation program

## Change Order Authority Increase for CRA Overhead Bridge Cranes Project

### Contractor Scope

- Sept. 2020 - Contract awarded to J.F. Shea Const. Inc.
- Contract amount - \$13,419,000
- Contract scope
  - Remove & replace overhead bridge cranes at all five CRA pumping plants
  - Upgrade bridge crane electrical system
  - Structural retrofit of crane supports
  - 6-week outage period per pumping plant
    - Work completed at Gene & Iron Mtn. Pumping Plants
- Construction is approx. 60% complete

## Change Order Authority Increase for CRA Overhead Bridge Cranes Project

### Change Order Authority Limits

- Change order authority determined by Admin. Code (Section 8123)
  - GM authority to execute change orders is the greater of:
    - 5% of the original contract amount
    - \$250,000
- Since 2018 – 115 contracts have been completed
  - 110 of the 115 contracts have stayed within their original change order authority amount
  - Average change order authority is 2.8%



# Change Order Authority Increase

Contract No. 1946	
• Original contract value:	\$13,419,000
• Original change order authority:	\$670,950
March 2023 Change Order Increase	
• Upgrade crane & pendant controllers:	\$500,000
• Revised change order authority:	\$1,170,950
Requested Action	
• Proposed increase for lead remediation:	\$3,100,000*
• New change order authority:	\$4,270,950



Iron Mtn. Pumping Plant

\* Per Governmental Accounting Standards Board (GASB) provisions lead remediation is conducted with O&M funds

# Lead Remediation at Five Pumping Plants

- Contractor discovered undisturbed sticky lead dust in uppermost parts of the Iron Mtn. pumping plant
  - Metropolitan directed abatement of the pump house motor room floor
- Additional testing identified similar lead dust at Eagle Mtn., Hinds, & Intake Pumping Plants
  - Lead dust did not result from crane project work
- Air monitoring sample results below detection limit





# Two Stage Lead Remediation

- Stage 1
  - Remediate all five pump houses
  - Includes walls, roof trusses, windowsills & light fixtures
  - Covered under requested change order increase



# Two Stage Lead Remediation

- Metropolitan's Lead Management Program includes
  - Assessing work exposures
  - Establishing safe work practices
  - Overseeing remediation
  - Providing employee medical surveillance
- Stage 2
  - Perform comprehensive programmatic lead assessment of pump houses
    - Includes future rehabilitation of main motors & electrical facilities
  - Incorporate lessons learned into the program

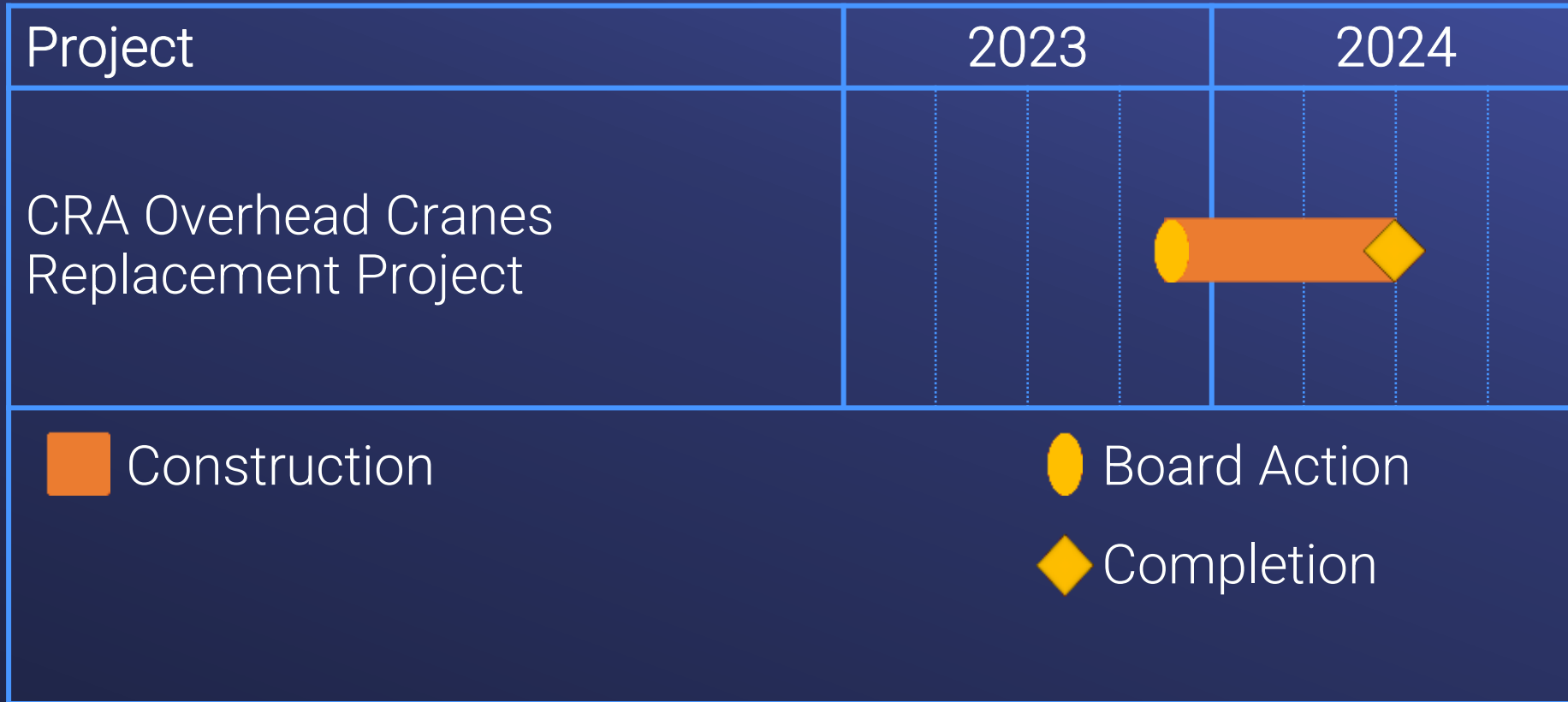


Change Order  
Authority  
CRA Overhead  
Bridge Cranes  
Replacement

## Alternatives

- Complete hazardous material abatement under a separate stand-alone contract
  - Increases project costs, delays project & remediation schedule
- Selected Alternative
  - Use current contractor to complete change order work
  - All work completed in a timely & cost-effective manner

# Project Schedule





# Board Options

- Option #1

Authorize an increase of \$3,100,000 in change order authority for the contract to replace the overhead bridge cranes at the five Colorado River Aqueduct pumping plants.

- Option #2

Do not authorize an increase in change order authority.



# Staff Recommendation

- Option #1





● **Board of Directors**  
***Engineering, Operations, and Technology Committee***

11/14/2023 Board Meeting

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7-4

**Subject**

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Award a \$1,244,935 contract to HP Communications Inc. to construct a new fiber optic cable line from Parker Dam to the Gene Pumping Plant; and authorize an increase of \$176,000 to an existing agreement with HDR Engineering Inc. for a new not-to-exceed amount of \$451,000 for technical support during construction; the General Manager has determined that the proposed actions are exempt or otherwise not subject to CEQA

**Executive Summary**

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The Colorado River Aqueduct (CRA) facilities rely on Metropolitan’s wireless Wide Area Network (WAN) to provide data transmission and communications data across the desert region. Recent commercial and residential developments in the desert region have included the expansion of fiber optic communication connections to locations near Parker Dam. The opportunity now exists to bring high-speed, high-quality fiber optic communications capabilities to some of Metropolitan’s desert facilities. A new pole-mounted fiber optic communication line will provide an alternative path to transmit critical communications to and from the Gene Pumping Plant. This action awards a construction contract for the installation of approximately two miles of fiber optic communication line from Parker Dam to the Gene Pumping Plant administration building.

**Details**

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**Background**

The CRA is a 242-mile-long conveyance system that transports water from the Colorado River to Lake Mathews. It consists of five pumping plants; 124 miles of tunnels, siphons, and reservoirs; 63 miles of canals; and 55 miles of conduits. The aqueduct was constructed in the late 1930s and was placed into service in 1941. Given the remoteness and isolation of many of the facilities along the CRA, Metropolitan’s wireless WAN provides the primary data transmission and communications path across the desert region.

The Gene Pumping Plant is located two miles southeast of Lake Havasu City, Arizona. Recent commercial and residential developments nearby have included the expansion of fiber optic communication connections to locations near Parker Dam. The opportunity now exists to bring high-speed, high-quality fiber optic communications capabilities to some of Metropolitan’s desert facilities, thereby improving a variety of technological challenges. Extending a new fiber optic connection from Parker Dam to the Gene Pumping Plant will: (1) provide critical redundancy to the existing desert microwave communications systems; (2) improve the speed and resolution of video surveillance at the Gene Pumping Plant; (3) allow desert facilities to access more innovative cloud-based computing applications; and (4) improve the communication system’s overall speed, reliability, and resiliency. As a future project(s), staff is currently evaluating the potential to bring high-speed fiber optic communications to the other four pumping plants.

In July 2021, the Board authorized a consultant agreement to perform final design to install approximately two miles of fiber optic cable from Parker Dam to the Gene Pumping Plant administration building. The new line is predominantly located within Metropolitan fee property on new power poles with a small underground portion of the alignment within the Bureau of Reclamation’s property. Final design for the Gene Communication System Upgrades is complete, and staff recommends award of a construction contract at this time.

**Budget Impact**

In accordance with the April 2022 action on the biennial budget for fiscal years 2022/23 and 2023/24, the General Manager authorized staff to proceed with construction of the Gene Communication System Upgrade, pending board award of the construction contract described below. Based on the current Capital Investment Plan expenditure forecast, funds for the work to be performed pursuant to this action during the current biennium are available within the Capital Investment Plan Appropriation for Fiscal Years 2022/23 and 2023/24 (Appropriation No. 15525). This project anticipates an expenditure of \$2.28 million in capital funds. Approximately \$1.2 million will be incurred in the current biennium and has been previously authorized. This project has been reviewed in accordance with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and was approved by Metropolitan's CIP evaluation team to be included in the System Reliability Program.

**Gene Communication System Upgrade – Construction**

The scope of the contract includes: (1) installation of a two-mile long fiber optic line from Parker Dam to Gene Pumping Plant; (2) installation of twenty-two new wooden poles to support the overhead fiber line; (3) demolition of four existing poles; and (4) installation of 1,400 linear feet of buried electrical duct bank of which 600 feet will be directionally bored to minimize traffic impacts as the alignment crosses a public street. Staff worked closely with the Bureau to meet their requirements and obtain the necessary easement rights to facilitate access and future maintenance activities.

A total of \$2,280,000 is allocated for this work. In addition to the amount of the contract described below, other funds to be allocated include: \$184,000 for Metropolitan forces to install the server router and associated equipment; \$210,000 for construction management and inspection; \$176,000 for technical support during construction and preparation of record drawings by HDR Engineering Inc., as discussed below; \$38,000 for review of consulting work and submittal coordination; \$204,000 for contract administration, environmental monitoring, and project management; and \$223,065 for remaining budget. **Attachment 1** provides the allocation of the required funds. The total estimated cost for the Gene Communication System Upgrade project, including the amount appropriated to date and funds allocated for the work described in this action, is \$2.89 million.

***Award of Construction Contract (HP Communications Inc.)***

Specifications No. 1976 for the construction of the Gene Communication System Upgrade was advertised on August 1, 2023. As shown in **Attachment 2**, two bids were received and opened on September 21, 2023. The low bid from HP Communications Inc. in the amount of \$1,244,935 complies with the requirements of the specifications. The other bid was for \$1,788,294, while the engineer's estimate for this project was \$1.318 million. For this contract, Metropolitan established a Small Business Enterprise participation level of at least 25 percent of the bid amount. HP Communications Inc. has committed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 3**.

As described above, Metropolitan staff will perform construction management and inspection. The total cost of construction for this project is \$1,428,935, which includes the amount of the contract (\$1,244,935), and Metropolitan force activities (\$184,000). Engineering Services' performance metric goal for inspection of projects with construction less than \$3 million is 9 to 15 percent. For this project, the performance metric for inspection is 14.7 percent of the total construction cost.

**Technical Support During Construction (HDR Engineering Inc.) – Amendment to Existing Agreement**

HDR Engineering Inc. (HDR) performed final design for the Gene Communication System Upgrades under an existing board-authorized professional services agreement. As the engineer of record, HDR is recommended to provide technical support during construction. Planned activities include responding to requests for information from the contractor, reviewing submittals, advising staff on technical issues as they may arise during construction, and preparing record drawings. The estimated cost for these services is \$176,000.

This action authorizes an increase of \$176,000 to the existing agreement with HDR for a new not-to-exceed amount of \$451,000 to provide technical support during construction. For this agreement, Metropolitan has established a Small Business Enterprise participation level of 25 percent. HDR has agreed to provide this level of

participation. The subconsultants planned for this agreement are DRP Engineering Inc. and TJC and Associates Inc.

### **Alternative Considered**

Staff considered multiple alternatives to improve the reliability and resiliency of the communication system at the Gene Pumping Plant. One alternative included adding a third microwave path between Parker Dam and Gene Pumping Plant, which would include a microwave tower at Metropolitan's Black Metal Mountain Communication site. This alternative continues reliance on microwave towers for desert communications and would not allow Metropolitan to take advantage of the technology improvements that are offered by fiber optic communication pathways. The selected option to install fiber optic cable will provide critical redundancy to the desert communications and will improve speed, reliability, and resiliency without negatively impacting Metropolitan's other communications facilities.

### **Summary**

This action awards a \$1,244,935 construction contract to HP Communications Inc. for installation of new wooden poles and two miles of fiber optic cable from Parker Dam to the Gene Pumping Plant administration building. It also authorizes a \$176,000 increase to an existing agreement with HDR Engineering Inc. to provide technical support during construction. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the Listing of Subcontractors for the Low Bidder, and **Attachment 4** for the Location Map.

### **Project Milestone**

September 2024 – Completion of construction

### **Policy**

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Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 52438, dated July 13, 2021, the Board authorized final design for the Gene Communication Upgrades.

By Minute Item 52778, dated April 12, 2022, the Board appropriated a total of \$600 million for projects identified in the Capital Investment Plan for Fiscal Year 2022/2023 and 2023/2024.

### **California Environmental Quality Act (CEQA)**

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#### **CEQA determination for Option #1:**

As previously determined in the July 13, 2021, board meeting, the proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use and no possibility of significantly impacting the physical environment. In addition, the proposed action consists of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced. Furthermore, the proposed action consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes. Finally, the proposed action consists of basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed action qualifies under Class 1, 2, 4, and 6 Categorical Exemptions (Sections 15301, 15302, 15304 and 15306 of the State CEQA Guidelines).

**CEQA determination for Option #2:**

None required

**Board Options**

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**Option #1**

- a. Award a \$1,244,935 contract to HP Communications Inc. to construct a new fiber optic cable line from Parker Dam to the Gene Pumping Plant and
- b. Authorize an increase of \$176,000 to an existing agreement with HDR Engineering Inc. for a new not-to-exceed amount of \$451,000 for technical support during construction.

**Fiscal Impact:** Expenditure of \$2.28 million in capital funds. Approximately \$1.2 million will be incurred in the current biennium and has been previously authorized. The remaining funds will be accounted for in subsequent biennium budgets.

**Business Analysis:** This option will enhance the reliability of the communication networks at Gene Pumping Plant.

**Option #2**

Do not proceed with the project at this time.


**Fiscal Impact:** None


**Business Analysis:** This option will not provide critical redundancy to the existing desert microwave communications systems at the Gene Pumping Plant.

**Staff Recommendation**

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Option #1

  
 \_\_\_\_\_ 10/24/2023  
*Date*  
 John V. Bednarski  
 Manager/Chief Engineer  
 Engineering Services

  
 \_\_\_\_\_ 10/30/2023  
*Date*  
 Adel Hagekhalil  
 General Manager

**Attachment 1 – Allocation of Budgeted Funds**

**Attachment 2 – Abstract of Bids**

**Attachment 3 – Subcontractors for Low Bidders**

**Attachment 4 – Location Map**

Ref# es12686942

**Allocation of Funds for Gene Communication System Upgrade**

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	<b>Current Board Action (Nov. 2023)</b>
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	199,000
Submittals Review & Record Drwgs.	38,000
Construction Inspection & Support	210,000
Metropolitan Force Construction	64,000
Materials & Supplies	120,000
Incidental Expenses	5,000
Professional/Technical Services	
HDR Engineering Inc.	176,000
Right-of-Way	-
Equipment Use	-
Contracts	
HP Communications Inc.	1,244,935
Remaining Budget	223,065
<b>Total</b>	<b>\$ 2,280,000</b>

The total amount expended to date is approximately \$610,000. The total estimated cost to complete the Gene Communication System Upgrade, including the amount appropriated to date and funds allocated for the work described in this action, is \$2.89 million.



**The Metropolitan Water District of Southern California**  
**Abstract of Bids Received on September 21, 2023, at 2:00 P.M.**

**Specifications No. 1976**  
**Gene Communication System Upgrade**

The work consists of installing a two-mile-long fiber optic line from Lumen’s Parker Dam facility to Gene pumping plant, using existing poles and installing approximately 22 new poles, 600 linear feet of directional boring, and 1,400 linear feet of electrical duct bank.

Engineer’s estimate: \$1,318,000

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE \$</b>	<b>SBE %</b>	<b>Met SBE<sup>1</sup></b>
<b>HP Communications Inc. Corona, CA</b>	<b>\$1,244,935</b>	<b>\$325,000</b>	<b>26.13%</b>	<b>Yes</b>
HHS Construction LLC Ontario, CA	\$1,788,294	-	-	-

<sup>1</sup> Small Business Enterprise (SBE) participation level established at 25 per cent for this contract.

**The Metropolitan Water District of Southern California**

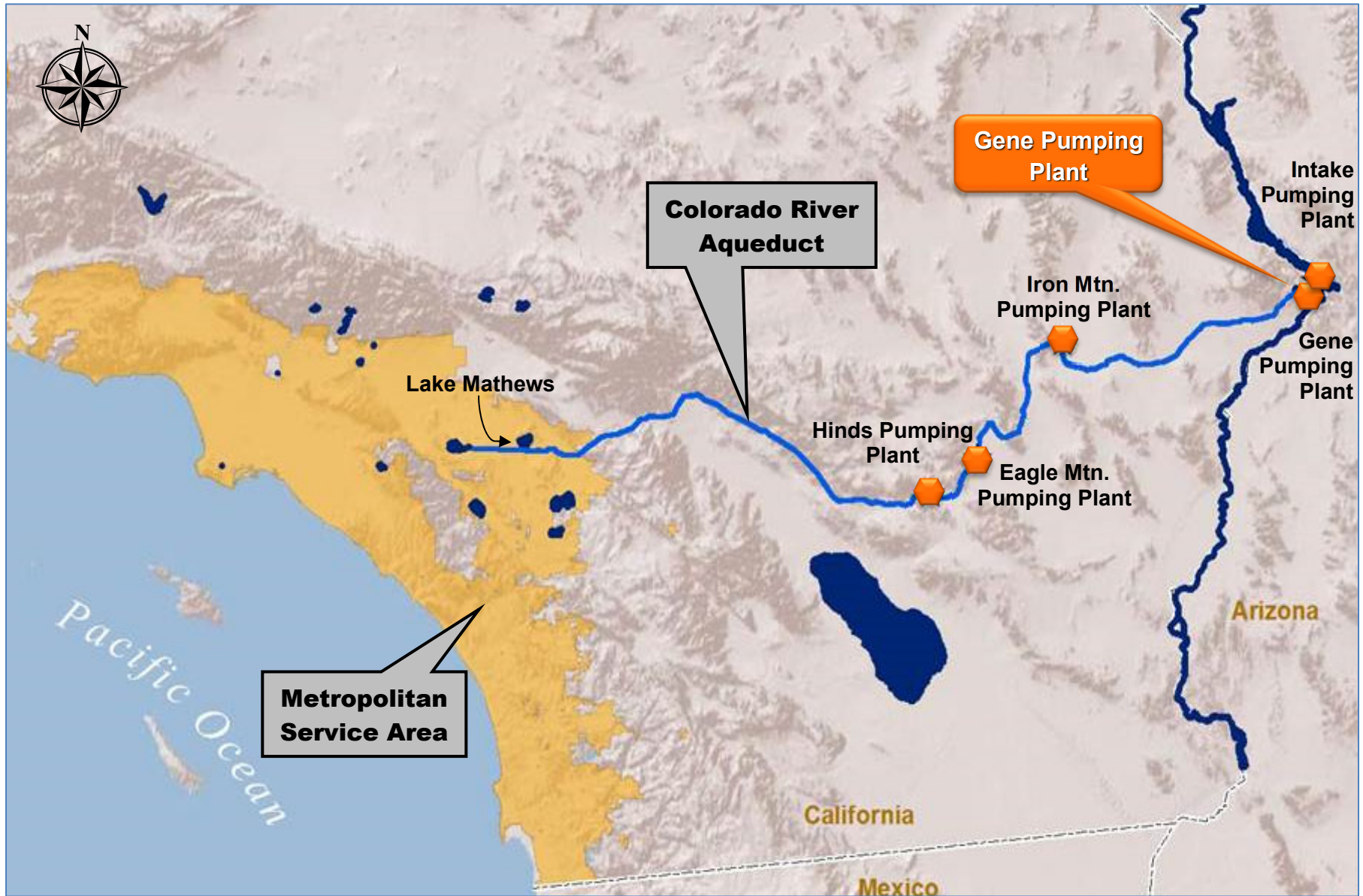
**Subcontractors for Low Bidder**

**Specifications No. 1976  
Gene Communication System Upgrade**

Low bidder: HP Communications Inc.

<b>Subcontractor</b>	<b>Service Category; Specialty</b>
S&B Construction Services Yorba Linda, CA	Underground Construction

### Location Map





Engineering, Operations, & Technology Committee

# Gene Communication System Upgrade

Item 7-4

November 13, 2023

# Item 7-4 Gene Communication System Upgrade

## Subject

Award a contract to construct a new fiber optic cable line from Parker Dam to Gene Pumping Plant & amend an agreement for technical support during construction

## Purpose

Improve data transmission speed, reliability, & resiliency

## Recommendation and Fiscal Impact

Recommendation – Award a \$1,244,935 contract to HP Communications Inc. to construct a new fiber optic cable line & authorize an increase of \$176,000 to an existing agreement with HDR Engineering Inc. Expenditure of \$2.28 million in budgeted capital funds

Budgeted



# Location Map



# Gene Plant Communication System Upgrade



## Background

- Desert microwave radio WAN system constructed in the 1990s
  - Transmits data, voice, video, & command signals to operate its distribution & business systems
- New fiber optic connection will
  - Improve speed & video surveillance resolution
  - Allow access to more innovative cloud apps
  - Improve communication system speed, reliability & resiliency
  - Provides critical redundancy to the existing desert WAN system
- Final design complete

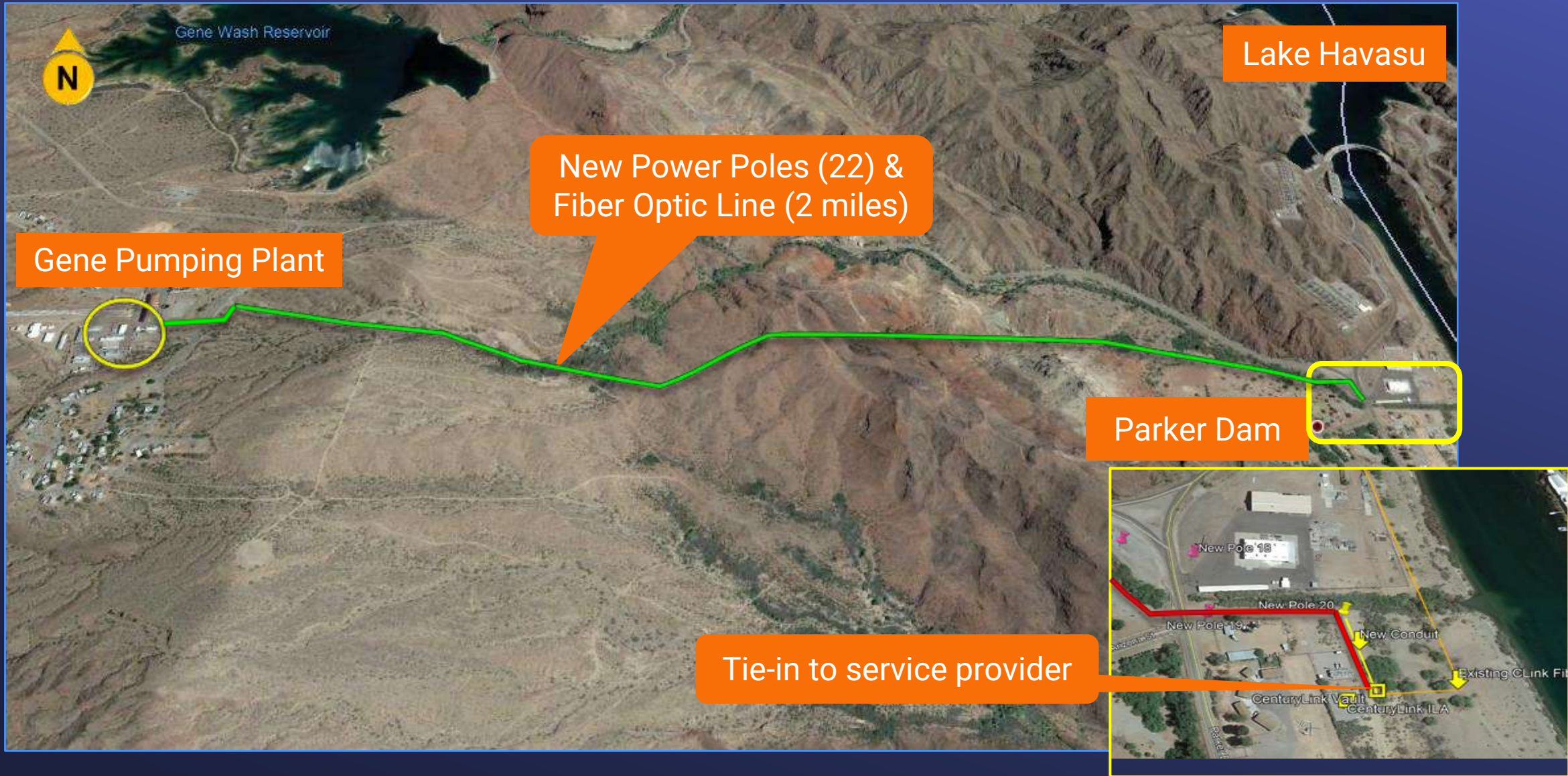


# Gene Plant Communication System Upgrade

## Alternative Considered

- Add third WAN path between Parker Dam & Gene Plant
  - Does not take advantage of technology improvements
- Selected Alternative
  - Install fiber optic cable to provide critical redundancy at Gene Plant
  - Improves internet service for desert employees at Gene Plant

# Fiber Optic Alignment



# Gene Plant Communication System Upgrade

## Scope of Work

- Contractor
  - Install two miles of fiber optic line from Parker Dam to Gene Pumping Plant
  - Install 22 new overhead poles
  - Demolish four existing poles
  - Install 1,400' of buried electrical duct bank
- Metropolitan
  - Install server router & associated equipment
  - Construction management & inspection
  - Project management & contract administration



# HDR Engineering Inc. – Agreement Amendment

- Engineer of record
  - Respond to request for information
  - Review submittals
  - Advise staff on technical issues
  - Prepare record drawings
- New NTE amount: \$451,000
  - \$176,000 increase to existing agreement

## Gene Plant Communication System Upgrade

# Bid Results

## Specifications No. 1976

Bids Received	September 21, 2023
No. of Bidders	2
Lowest Responsible Bidder	HP Communications Inc.
Low Bid	\$1,244,935
Other Bid	\$1,788,294
Engineer's Estimate	\$1,318,000
SBE Participation*	26%

\* SBE (Small Business Enterprise) participation level set at 25%

# Allocation of Funds

## Gene Plant Communication System Upgrade

### Metropolitan Labor

Owner Costs (Proj. Mgmt., Contract Admin., Envir. Support) \$ 199,000

Construction Inspection & Support 210,000

Force Construction 64,000

Submittals Review, Tech. Support, Record Dwgs. 38,000

Materials & Incidentals (Server Equipment) 125,000

Professional/Technical Services (HDR Engineering Inc.) 176,000

### Contract

HP Communications Inc. 1,244,935

Remaining Budget 223,065

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Total \$ 2,280,000

# Project Schedule





# Board Options

- Option #1
  - a. Award a \$1,244,935 contract to HP Communications Inc. to construct a new fiber optic cable line from Parker Dam to the Gene Pumping Plant and
  - b. Authorize an increase of \$176,000 to an existing agreement with HDR Engineering Inc. for a new not-to-exceed amount of \$451,000.
- Option #2

Do not proceed with the project at this time.

# Board Options

- Option #1





● **Board of Directors**  
***Engineering, Operations, and Technology Committee***

11/14/2023 Board Meeting

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**8-1**

**Subject**

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Award an \$18,840,000 contract to Steve P. Rados Inc. to construct a surge protection facility on the Inland Feeder as part of the water supply reliability improvements in the Rialto Pipeline service area; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA (This action is part of a series of projects that are being undertaken to improve the supply reliability for State Water Project dependent member agencies.)

**Executive Summary**

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The recent state-wide drought and resulting low allocation of State Water Project (SWP) supplies by the California Department of Water Resources (DWR) directly impacted Metropolitan's ability to deliver water to the Rialto Pipeline service area. New additions to existing infrastructure will enable the delivery of water from Diamond Valley Lake (DVL), and the Colorado River Aqueduct, to benefit this area and preserve limited SWP supplies for the West Branch SWP member agencies. This action awards a construction contract to construct a surge protection facility at the south portal of the Badlands Tunnel on the Inland Feeder. This facility will protect the pipeline from potential negative pressure conditions in the Inland Feeder caused by an unplanned pump shutdown when pumping water from DVL to Rialto Pipeline. This project is the third of four associated projects which are currently underway to enable the direct delivery of water from DVL to the Rialto Pipeline through the Inland Feeder to improve water supply reliability for SWP-dependent member agencies.

**Details**

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**Background**

The Rialto Pipeline, constructed in 1972, is approximately 30 miles long with a diameter ranging from 96 inches to 144 inches. It conveys untreated water from DWR's Lake Silverwood to Metropolitan's Live Oak Reservoir and ultimately into the F.E. Weymouth Water Treatment Plant in La Verne. Member agencies with service connections on the Rialto Pipeline include the Inland Empire Utilities Agency, Three Valleys Municipal Water District, and the Upper San Gabriel Valley Municipal Water District. These agencies use the untreated water for groundwater replenishment or as the source water to their water treatment plants.

Metropolitan's DVL provides emergency storage in the event of a major earthquake, carryover storage as a reserve for drought conditions, and seasonal storage to meet annual member agency demands. DVL is Metropolitan's largest reservoir, with a maximum storage capacity of 810,000 acre-feet. At this time, the Rialto Pipeline is unable to access the water stored in DVL due to infrastructure and operational constraints and hydraulic limitations.

In December 2021, the Board authorized amending the Capital Investment Plan (CIP) to include water supply reliability improvements in the Rialto Pipeline service area. The improvements include the Wadsworth Pumping Plant Bypass Pipeline, the Inland Feeder Rialto Pipeline Intertie, the Inland Feeder Badlands Tunnel Surge Protection Facility, and a connection between the Inland Feeder and San Bernardino Valley Municipal Water District's (SBVMWD) Foothill Pump Station near the city of Highland. When these Rialto Pipeline water supply reliability improvements are completed, Metropolitan will be able to deliver up to 107 cubic feet per second (cfs) of DVL water to the Rialto Pipeline. These infrastructure improvements will significantly increase operational flexibility and enhance the water supply reliability to member agencies with service connections on the Rialto

Pipeline. This approach will also benefit West Branch SWP member agencies by allowing limited SWP supplies to be allocated to the West Branch of the SWP facilities while DVL water complements supplies to East Branch-dependent areas.

Work activities on all four projects are currently underway, either in design or construction phases. In January 2023, the Board awarded a construction contract for the Wadsworth Pumping Plant Bypass Pipeline, and construction is approximately 48 percent complete. In September 2023, the Board awarded a construction contract for the Inland Feeder Rialto Pipeline Intertie. Design activities for the Badlands Tunnel Surge Protection Facility are complete, and staff recommends proceeding with construction at this time. Design, permitting, and right-of-way acquisition for the SBVMWD Foothill Pump Station Intertie is anticipated to be completed by Winter 2023/24.

### **Budget Impact**

In accordance with the April 2022 action on the biennial budget for fiscal years 2022/23 and 2023/24, the General Manager will authorize staff to proceed with construction of the Badlands Tunnel Surge Protection Facility, pending board award of the construction contract described below. Based on the current CIP expenditure forecast, funds for the work to be performed pursuant to the subject contracts during the current biennium are available within the CIP Appropriation for fiscal years 2022/23 and 2023/24 (Appropriation No. 15525). This action anticipates an expenditure of \$23.8 million in capital funds, of which approximately \$5.5 million will be incurred in the current biennium. This project has been reviewed in accordance with Metropolitan's CIP prioritization criteria and was approved by Metropolitan's CIP evaluation team to be included in the Supply Reliability Program.

### **Badlands Tunnel Surge Protection Facility – Construction**

The scope of the construction contract consists of installing the following major project components: approximately 200 feet of 8-foot-diameter steel pipe, an 84-inch-diameter Metropolitan-furnished butterfly valve, an underground isolation valve structure, and a 430,000-gallon surge tank near the south portal of the Badlands Tunnel. Construction also includes concrete encasement of the connecting tee and installation of power and monitoring systems. Metropolitan forces will dewater the pipelines, establish clearances, and return the system to service. The interconnection work will be conducted during a planned shutdown scheduled for February 2025.

These improvements are needed to protect the Inland Feeder from potential negative pressure conditions that could occur when the system experiences a sudden pump shutdown (pump trip due to power outage or other unplanned event) while pumping water from DVL to the Rialto Pipeline through the Inland Feeder. The Inland Feeder pipelines and tunnels were not designed for these types of negative pressure conditions, as they would not occur during normal operations of flowing water by gravity from Devil Canyon Afterbay to DVL. However, when pumping water from DVL to Rialto Pipeline, there is the potential for negative pressure conditions to occur as a result of an unplanned pump trip.

A total of \$23.8 million is required to do this work. In addition to the contract amount, allocated funds for professional services include \$153,000 for technical support during construction and preparation of record drawings. This work will be performed by AECOM Technical Services Inc. (AECOM), the engineer of record for the project, under an existing board-authorized agreement. Allocated funds for Metropolitan staff include \$2,000,000 for construction management and inspection; \$560,000 for Metropolitan force shutdown activities; \$120,000 for Metropolitan-furnished materials; \$343,000 for submittals review and responding to requests for information; \$373,000 for contract administration, environmental monitoring support, Project Labor Agreement (PLA) administration, and project management; and \$1,411,000 for remaining budget.

### ***Award of Construction Contract (Steve P. Rados Inc.)***

Specifications No. 2040 for the construction of the Inland Feeder Badlands Tunnel Surge Protection Facility was advertised on July 31, 2023. As shown in **Attachment 2**, three bids were received and opened on September 28, 2023. The low bid from Steve P. Rados Inc. in the amount of \$18,840,000, complies with the requirements of the specifications. The engineer's estimate for this project was \$25.4 million. Staff investigated the difference between the engineer's estimate and the low bid and attributes the difference to a conservative engineer's estimate that factored inflation for labor rates and steel pipe pricing. The low bidder was also the successful bidder for the Wadsworth Pumping Plant Bypass Pipeline and the Inland Feeder-Rialto Pipeline

Intertie projects and is already mobilized in the area with management and supervision teams, and this may have had an impact on their bid amount. For this contract, Metropolitan established a Small Business Enterprise participation level of at least 20 percent of the bid amount. Steve P. Rados Inc. has committed to meeting this participation level. The subcontractors for this contract are listed in **Attachment 3**. This contract will be conducted under the terms of Metropolitan's PLA.

As described above, Metropolitan staff will perform construction management and inspection. The total cost of construction for this project is \$21,508,000, which includes the amount of the contract (\$18,840,000), a Metropolitan-furnished 84-inch diameter butterfly valve and other previously procured materials (\$1,988,000), and Metropolitan force activities (\$680,000). Engineering Services' performance metric goal for inspection of projects with construction greater than \$3 million is 9 to 12 percent. For this project, the performance metric for inspection is 9.3 percent of the total construction cost.

### **Alternatives Considered**

Metropolitan staff initially considered using a pressurized tank for surge control. This type of system isolates the water from the environment. However, a pressurized surge protection system requires additional equipment like pumps, piping and valves, and multiple tanks which would be challenging to fit into Metropolitan's existing fee property. In addition, a pressurized system in a remote location will require more equipment maintenance from staff.

As a passive system, the selected alternative which includes an above-grade/open-to-atmosphere tank, will require considerably less maintenance by staff. The selected alternative also has a smaller project footprint and is more cost effective when compared to the pressurized system. The reduced footprint allowed the selected alternative to be located on Metropolitan-owned property at the Badlands Tunnel portal site; hence, there was no need to acquire additional property or long-term easements for this project.

### **Summary**

This action awards a \$18,840,000 contract to Steve P. Rados Inc. to construct the Badlands Tunnel Surge Protection Facility. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the Listing of Subcontractors for the Low Bidder, and **Attachment 4** for the Location Map.

### **Project Milestone**

May 2025 – Complete construction for Badlands Tunnel Surge Protection Facility

### **Policy**

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Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 52622, dated December 14, 2021, the Board authorized amending the Capital Investment Plan to include infrastructure improvements that would enhance water delivery capabilities to member agencies that can only receive State Project Water.

By Minute Item 52938, dated August 16, 2022, the Board authorized procurement of three 84-inch diameter butterfly valves.

By Minute Item 52778, dated April 12, 2022, the Board appropriated a total of \$600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/2023 and 2023/2024.

### **California Environmental Quality Act (CEQA)**

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#### **CEQA determination for Option #1:**

The proposed action is exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action consists of the installation of a new pipeline or the maintenance, repair, replacement, removal, or demolition of an existing pipeline of less than one mile in length within a public right-of-way. Accordingly, the proposed actions qualify under a statutory exemption (Section 21080.21 of the California Public Resources Code



and Section 15282(k) of the State CEQA Guidelines). Additionally, the proposed actions are categorically exempt under the provisions of CEQA and the State CEQA Guidelines. In particular, the proposed action consists of the minor alterations and of construction and location of limited numbers of new, small facilities or structures with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Further, the proposed action consists of public or private alterations in the condition of land, water, and/or vegetation, which do not involve removal of healthy, mature, scenic trees. Accordingly, the proposed action qualifies under Class 1, Class 3, Class 4 Categorical Exemptions (Sections 15301, 15303, and 15304 of the State CEQA Guidelines).

**CEQA determination for Option #2:**

None required

**Board Options**

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**Option #1**

Award an \$18,840,000 contract to Steve P. Rados Inc. to construct a surge protection facility on the Inland Feeder near the Badlands Tunnel. This project is part of water supply reliability improvements in the Rialto Pipeline service area.

**Fiscal Impact:** Expenditure of \$23.8 million in capital funds. \$5.5 million will be incurred in the current biennium and has been previously authorized. The remaining funds from this action will be accounted for in the next biennial budget.

**Business Analysis:** This option will protect the existing Inland Feeder from potential damage during unplanned events while improving the operational reliability of water deliveries to member agencies with connections to the Rialto Pipeline.

**Option #2**

Do not proceed with the project at this time.

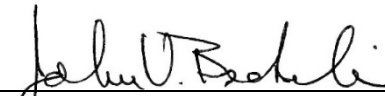

**Fiscal Impact:** None

**Business Analysis:** This option would forego improving the reliability of service to those member agencies with connections to the Rialto Pipeline.

**Staff Recommendation**

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Option #1

 _____ John V. Bednarski Manager/Chief Engineer Engineering Services	10/24/2023 Date
 _____ Adel Hagekhalil General Manager	10/30/2023 Date

**Attachment 1 – Allocation of Funds**

**Attachment 2 – Abstract of Bids**

**Attachment 3 – Subcontractors for Low Bidder**

**Attachment 4 – Location Map**

Ref# es12693270



### Allocation of Funds for Inland Feeder Badlands Tunnel Surge Protection Facility

	<b>Current Board Action</b>
	<b>(Nov. 2023)</b>
	<hr/>
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	358,000 -
Submittals Review & Record Drwgs.	343,000
Construction Inspection & Support	2,000,000
Metropolitan Force Construction	560,000
Materials & Supplies	120,000
Incidental Expenses	15,000
Professional/Technical Services	
AECOM	153,000
Right-of-Way	-
Equipment Use	-
Contracts	
Steve P. Rados Inc.	18,840,000
Remaining Budget	1,411,000
<b>Total</b>	<hr/> <b>\$ 23,800,000</b> <hr/>

The total amount expended for the Badlands Tunnel Surge Protection Facility is approximately \$2,900,000. The total estimated cost to complete this project, including funds spent to date and funds allocated for the work described in this action, is \$26.7 million.

**The Metropolitan Water District of Southern California**  
**Abstract of Bids Received on September 28, 2023, at 2:00 P.M.**  
**Specifications No. 2040**  
**Inland Feeder Badlands Tunnel Surge Protection Facility**

The work consists of furnishing and installing approximately 200 linear feet of 96-inch-diameter welded steel pipe and a 30-foot-diameter 80-foot-tall steel tank; construction of a valve structure; installation of an 84-inch diameter Metropolitan-furnished butterfly valve.

Engineer's estimate: \$25.4 million

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE \$</b>	<b>SBE %</b>	<b>Met SBE<sup>1</sup></b>
<b>Steve P. Rados Inc.</b> <b>Santa Ana, CA</b>	<b>\$18,840,000</b>	<b>\$4,896,343</b>	<b>26%</b>	<b>Yes</b>
J.F. Shea Construction Inc. Walnut, CA	\$21,113,400	-	-	-
Mladen Buntich Construction Co. Inc. Upland, CA	\$21,285,000	-	-	-

<sup>1</sup> Small Business Enterprise (SBE) participation level established at 20 per cent for this contract.

**The Metropolitan Water District of Southern California**

**Subcontractors for Low Bidder**

**Specifications No. 2040  
Inland Feeder Badlands Tunnel Surge Protection Facility**

**Low bidder: Steve P. Rados Inc.**

<b>Subcontractor and Location</b>	<b>Service Category, Specialty</b>
Associated Tank Constructors Laguna Hills, CA	Steel Surge Tank
Capital Industrial Coatings LLC Huntington Beach, CA	Painting & Damp Proofing
Dean's Certified Welding Inc. Temecula, CA	Welding
Integrity Rebar Placers Perris, CA	Rebar
Landmark Surveying Solutions Inc. Highland, CA	Surveying
Leed Electric Inc. Santa Fe Springs, CA	Electrical & Instrumentation
Matrix Environmental Inc. Long Beach, CA	Asbestos Removal
Nickolas Steel Inc. Ontario, CA	Miscellaneous Metal
USA Supply Inc. Nevada City, CA	Pipe Supplier
Zila Stormwater Management & Civil Engineering Los Angeles, CA	SWPP Plan & Reports

# Distribution System





Engineering, Operations, & Technology Committee

# Inland Feeder Surge Protection Facility

Item 8-1

November 13, 2023

# Item 8-1 Inland Feeder Surge Protection Facility

## Subject

Award contract to construct a surge protection facility on the Inland Feeder (This action is being undertaken to improve supply reliability for SWP dependent member agencies)

## Purpose

Improve water supply reliability in the Rialto Pipeline service area

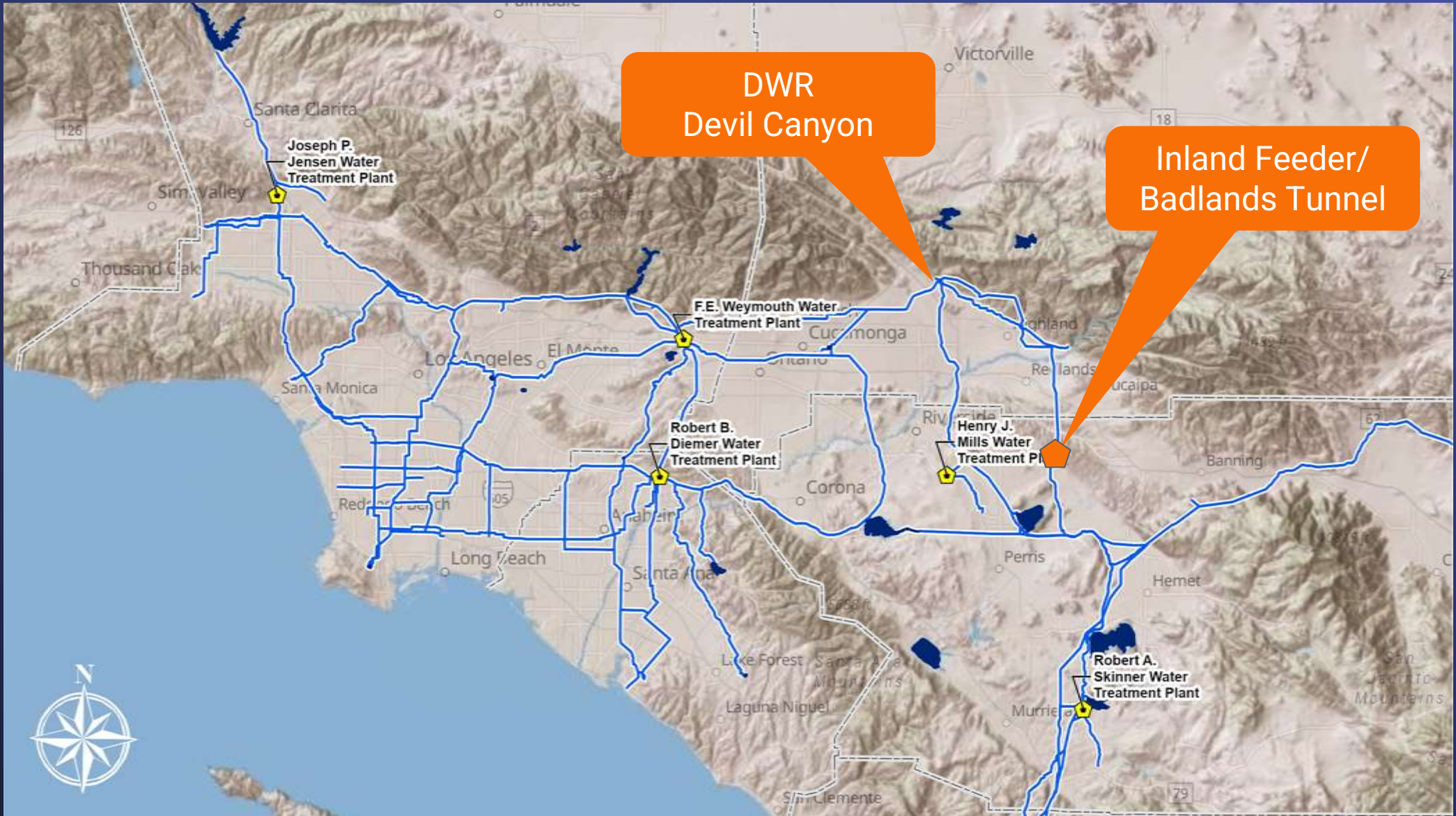
## Recommendation and Fiscal Impact

Award \$18,840,000 contract to Steve P. Rados Inc. to construct a surge protection facility. Expenditure of \$23.8 million in budgeted capital funds

Budgeted



# Distribution System



## Inland Feeder Surge Protection Facility

### Background

- Rialto Pipeline conveys SWP supplies to Inland Empire Utilities Agency, Three Valleys MWD & Upper San Gabriel Valley MWD
- DVL is Metropolitan's largest reservoir
  - DVL helps meet member agency demands under normal, drought, & emergency conditions
- Rialto Pipeline unable to access water stored in DVL or from CRA due to infrastructure & operational constraints

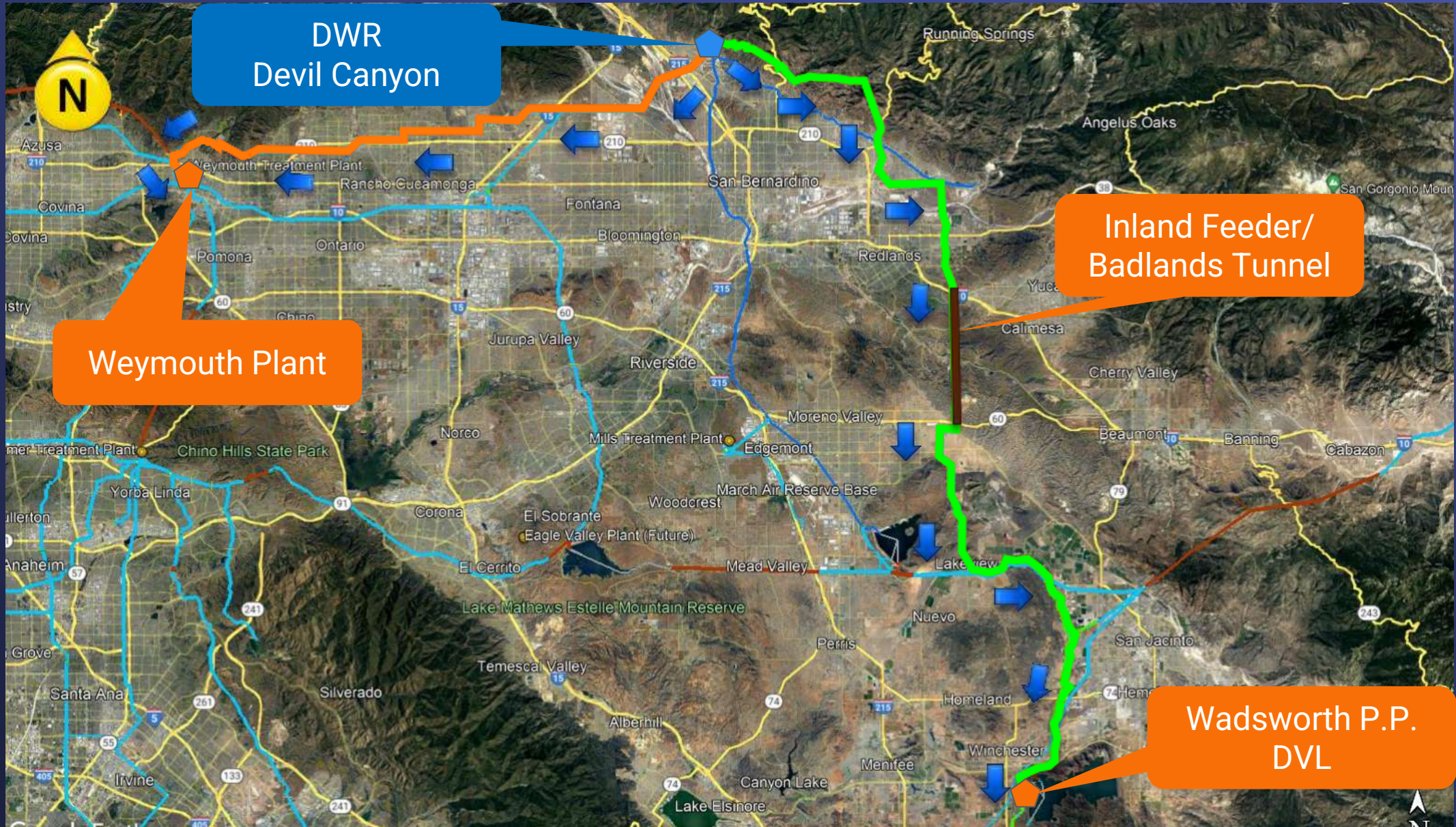
# Background – On-going Water Supply Reliability Improvements

- Four projects initiated to improve supply reliability of SWP-dependent areas
- Wadsworth Bypass & IF/RP Intertie in construction
- Inland Feeder Surge Protection (this action)
- Final design ongoing for Foothill PS Intertie



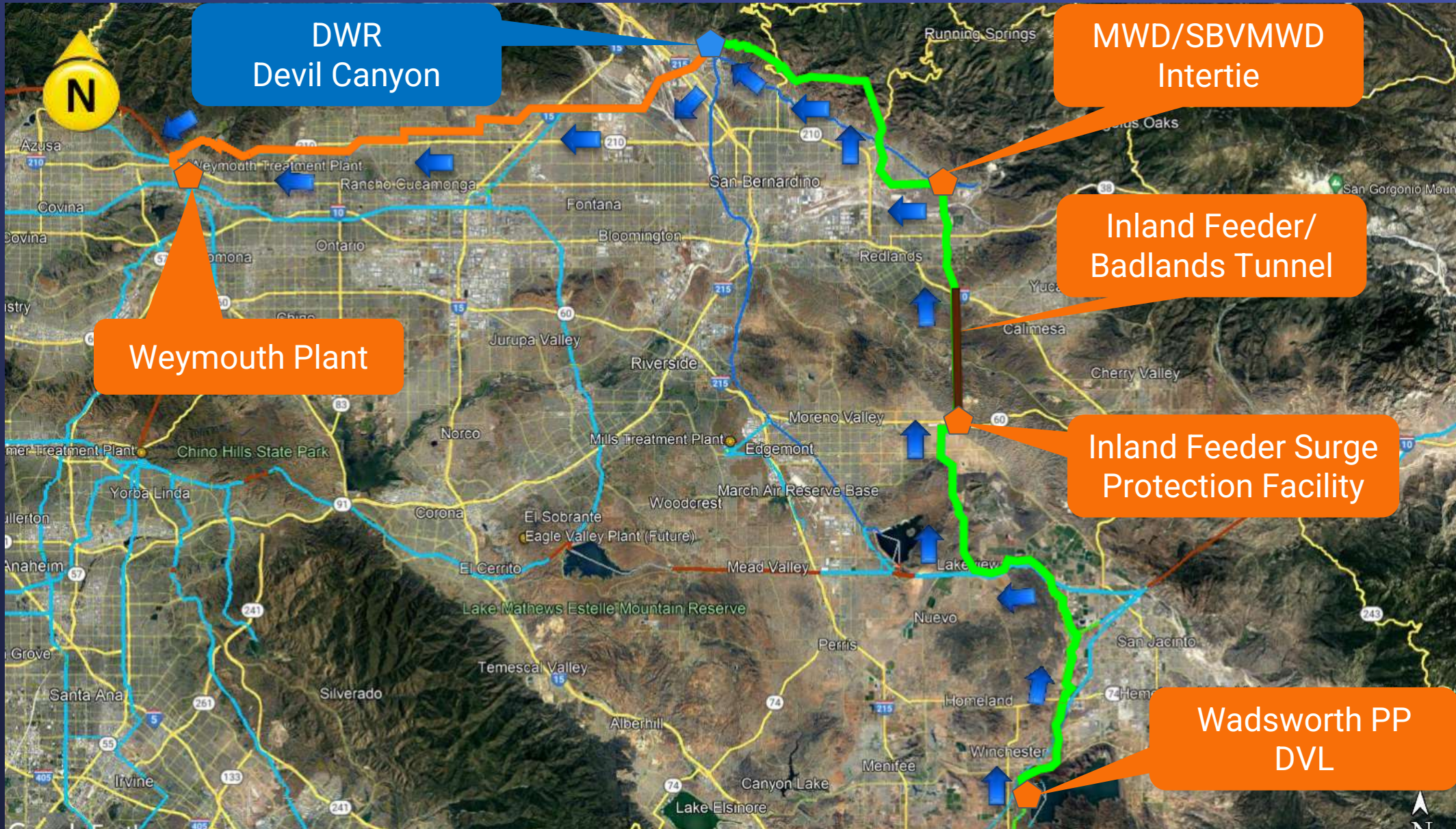


# Normal Operation





# Low SWP Water Operation





## Inland Feeder Surge Protection Facility

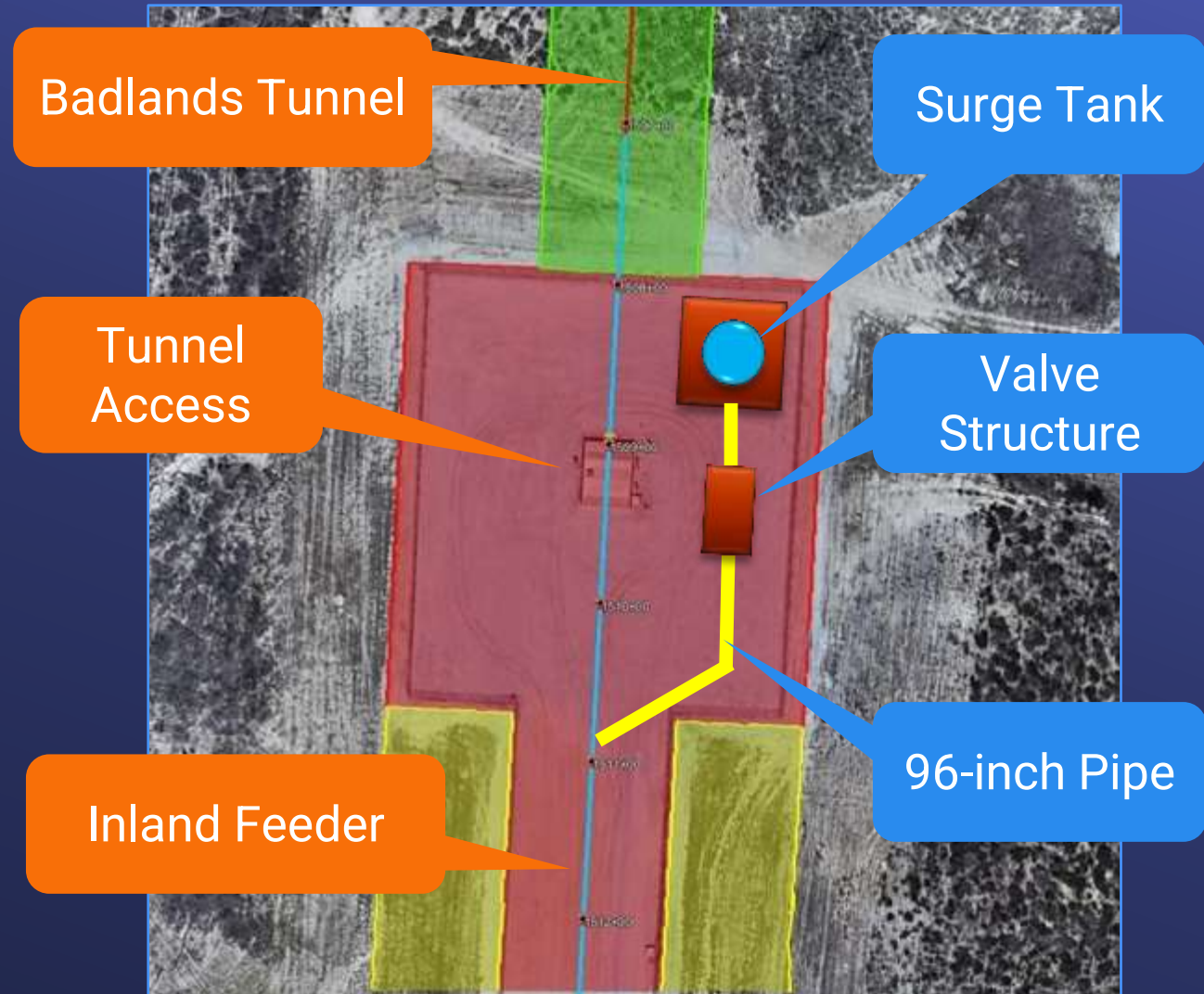
### Alternatives Considered

- Considered Alternative – Use of a pressurized tank for surge control
  - Requires additional pumps, piping, valves & multiple tanks
  - Requires more equipment maintenance
- Selected Alternative – Use an above-grade, open-to-atmosphere tank
  - Smaller footprint & more cost-effective option
  - Requires considerably less maintenance



## Scope of Work – Contractor

- Install approx. 200 feet of 96-inch pipe & connecting tees
- Construct valve structure
- Install 430,000-gallon surge tank
  - 30 feet in diameter & 80 feet high
- Install power & monitoring systems



# Scope of Work – Metropolitan

- Metropolitan Construction
  - Remove & replace valves & blind flanges for pipe access
  - Coordinate shutdown & dewatering of pipelines
- Field inspection & construction management
- Submittal review & technical support
- Administer Project Labor Agreement
- Respond to requests for information
- Environmental monitoring, project management, & contract administration

# Bid Results

## Specifications No. 2040\*

Bids Received	September 28, 2023
No. of Bidders	3
Lowest Responsible Bidder	Steve P. Rados Inc.
Low Bid	\$18,840,000
Range of Other Bids	\$21,113,400 to \$21,285,000
Engineer's Estimate	\$25.4 M
SBE Participation**	26%

\* This contract will be conducted under the terms of Metropolitan's project labor agreement

\*\* SBE (Small Business Enterprise) participation level set at 20%

# Allocation of Funds

## Inland Feeder Badlands Tunnel Surge Protection Facility

### Metropolitan Labor

Owner Costs (Proj. Mgmt., Contract Admin., Envir. Support) \$ 358,000

Construction Inspection & Support 2,000,000

Force Construction 560,000

Submittals Review, Tech. Support, Record Dwgs. 343,000

Materials & Incidentals 135,000

Professional/Technical Services (AECOM) 153,000

### Contract

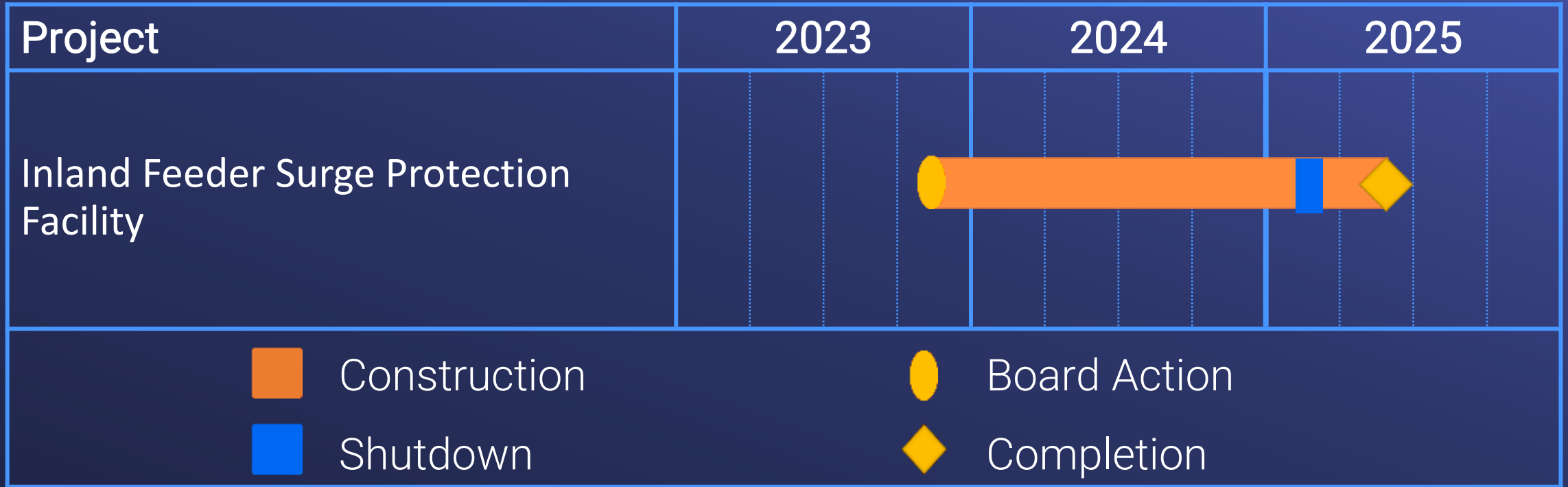
Steve P. Rados Inc. 18,840,000

Remaining Budget 1,411,000

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Total \$  
23,800,000

# Project Schedule





# Board Options

- Option #1

Award a \$18,840,000 contract to Steve P. Rados Inc. to construct a surge protection facility on the Inland Feeder near the Badlands Tunnel. This project is part of water supply reliability improvements in the Rialto Pipeline service area.

- Option #2

Do not proceed with the project at this time.

# Staff Recommendation

- Option #1





● **Board of Directors**  
***Engineering, Operations, and Technology Committee***

11/14/2023 Board Meeting

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**8-2**

**Subject**

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Adopt the CEQA determination that the proposed action was previously addressed in the Mitigated Negative Declaration and award a \$16,055,500 procurement contract to Northwest Pipe Company for steel pipe to rehabilitate a portion of the Lakeview Pipeline

**Executive Summary**

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The Lakeview Pipeline has experienced significant deformation over much of its length since it was placed into service in 1973. The 11-foot-diameter steel pipe has deflected more than four inches at over 660 locations and as much as 12 inches in four locations; this deflection is attributed to subsidence and the original design of the pipe joints in this pipeline. This deflection has caused numerous leaks at pipe joints and loss of mortar lining, which leads to corrosion of the steel pipe. If not rehabilitated, the corrosion and lack of structural integrity could lead to pipeline failure. Rehabilitation of the Lakeview Pipeline by installing a new steel pipe liner with welded joints is proceeding in stages. Stage 1 rehabilitation was completed in 2015 when one mile of the pipe was relined. Staff plans to complete design and award a construction contract by mid-2024 for Stage 2 rehabilitation and recommends awarding a procurement contract for 12,500 feet of steel liner pipe at this time. This procurement contract award will ensure the timely delivery of the pipe for the upcoming Stage 2 construction contract.

**Details**

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**Background**

The Lakeview Pipeline is a 132-inch-diameter, approximately 11.4-mile-long steel pipe that provides water from the East Branch of the State Water Project (SWP) to the Skinner area. The pipeline, placed in service in 1973, receives untreated water from the Department of Water Resources' Santa Ana Valley Pipeline or Lake Perris and conveys it to the San Diego Canal. In combination with the Inland Feeder, Metropolitan uses the Lakeview Pipeline to blend flows from the SWP and the Colorado River Aqueduct for deliveries in the Skinner area. In times of low SWP allocations, the Lakeview Pipeline can also be used to supply Diamond Valley Lake (DVL) water to the Mills plant, providing an alternate delivery route to the plant as a backup to the Santa Ana Valley Pipeline.

The Lakeview Pipeline has been shut down on numerous occasions to repair leaking pipe joints. The leaks are attributable to a combination of local subsidence along the pipeline alignment caused by deficient placement and compaction of the bedding material that surrounds the pipe. The original design of the pipeline which used rubber-gasket bell and spigot pipe joints, as opposed to Metropolitan's current design of fully welded joints, is particularly susceptible to separation of the joints if subsidence occurs in the vicinity of the pipe. Consequently, the competent installation of the backfill around the pipe is essential to ensure the pipeline's integrity. A comprehensive investigation in 2012 revealed both the issues with the pipe backfill material and excessive deflections, as well as out-of-round distortions over much of the pipeline's length. Over time, these deflections have caused cracking and delamination of the pipeline's mortar lining, which exposes the steel to accelerated rates of corrosion and eventual leakage.

The Lakeview Pipeline contains 1,520 steel pipe segments with rubber-gasket bell and spigot joints. To date, 139 of the joints have received remedial repairs to prevent leaks. Furthermore, with the need to increase system flexibility in the event of low SWP water allocations and to deliver DVL water to the Mills plant by way of the

Lakeview Pipeline, there is a need to enable the Lakeview Pipeline to operate at a higher hydraulic grade than originally designed. This will require relining the pipe to be able to accommodate the higher hydraulic grades in addition to accommodating additional deflection due to future subsidence along the alignment.

The planned rehabilitation of the Lakeview Pipeline has been prioritized based on system requirements and is being completed in three stages. In March 2015, the Stage 1 work was completed to enable water deliveries from DVL to the Mills plant and offset reduced SWP water allocations. This work included lining a one-mile portion of the Lakeview Pipeline, known as the Bernasconi Tunnel, with a steel liner with welded steel joints. The Stage 2 work includes lining 3.7 miles of the Lakeview Pipeline between the Inland Feeder's PC-1 control structure and the Perris Control Facility. The future Stage 3 work will include lining the remaining 6.7 miles of the Lakeview Pipeline that extends from PC-1 to the San Diego/Casa Loma Canal junction structure. The steel pipe liner and use of welded steel joints will be sufficient to ensure the long-term resilience and reliability of the newly lined pipeline under the planned future operating conditions.

The planned rehabilitation will enhance reliability of the Lakeview Pipeline, prevent future pipe leaks, and provide an alternate supply path for the Mills plant. These improvements are consistent with Metropolitan's long-term plan for supply reliability for the Mills service area. Staff will return to the Board at a later date for award of Stage 2 construction and for authorization of design of the Stage 3 work.

### **Budget Impact**

In accordance with the April 2022 action on the biennial budget for fiscal years 2022/23 and 2023/24, the General Manager will authorize staff to proceed with procurement of the steel liner to rehabilitate a portion of the Lakeview Pipeline, pending board award of the procurement contract described below. Based on the current Capital Investment Plan (CIP) expenditure forecast, funds for the work to be performed pursuant to the subject contracts during the current biennium are available within the CIP Appropriation for fiscal years 2022/23 and 2023/24 (Appropriation No. 15525). This project anticipates an expenditure of \$17.5 million in capital funds, and approximately \$5 million will be incurred in the current biennium. This project has been reviewed in accordance with Metropolitan's CIP prioritization criteria and was approved by Metropolitan's CIP evaluation team to be included in the Supply Reliability Program.

### **Lakeview Pipeline Relining, Stage 2 – Procurement**

The scope of the procurement contract includes furnishing 12,500 feet of steel liner segments with diameters ranging from 114 inches to 117 inches, including associated fittings and accessories. The pipe will be stored on Metropolitan property located near the downstream portal of the Bernasconi Tunnel. This initial quantity of Metropolitan-furnished pipe will allow the future contractor to quickly start field installation while they procure the remaining pipe for the remainder of the Stage 2 rehabilitation work.

A total of \$17,500,000 is required to perform this work. In addition to the amount of the contract, the allocated funds include \$355,000 for factory fabrication inspection and functional testing; \$89,000 for submittals review, technical support, and responding to manufacturer requests for information; \$205,000 for Metropolitan forces to receive, offload, and place steel pipe for storage; \$380,000 for materials and supplies for pipe storage area; \$130,000 for contract administration and project management; and \$285,500 for remaining budget.

**Attachment 1** provides the allocation of required funds. The total estimated cost to complete Stage 2 of the Lakeview Pipeline Relining, including the amount appropriated to date, funds allocated for the work described in this action, and all future actions, is expected to range between \$46 million and \$50 million.

### ***Award of Procurement Contract (Northwest Pipe Company)***

Specifications No. 2002 for furnishing 12,500 feet of welded steel pipe and fittings to rehabilitate a portion of the Lakeview Pipeline was advertised for bids on September 7, 2023. As shown in **Attachment 2**, two bids were received and opened on October 19, 2023. As a procurement contract, there are no subcontracting opportunities, and a Small Business Enterprise participation level was not established for this contract. The bid from Northwest Pipe Company in the amount of \$16,055,500, complies with the requirements of the specifications. This amount includes all sales and use taxes imposed by the State of California. The budgetary estimate for this material, based on previous procurements, ranged from \$37 million to \$40 million. Metropolitan obtained a better-than-anticipated price for the welded steel pipe as steel prices decreased by over 40 percent from April 2023 to



October 2023. Proceeding with a contract at this time will enable completion of Stage 2 of the Lakeview Pipeline rehabilitation in a timely and cost-effective manner.

This action awards a \$16,055,500 procurement contract to Northwest Pipe Company to furnish 12,500 feet of welded steel pipe and fittings to rehabilitate a portion of the Lakeview Pipeline.

### **Alternatives Considered**

Staff considered having the installation contractor furnish the steel liner as part of their overall construction contract. By including the pipe fabrication in the installation contract, the contractor would be responsible for the quality and delivery schedule of the pipe; however, this would increase the duration of the contract and impact shutdown logistics. The recommended action allows Metropolitan to procure a large portion of the steel pipe and the contractor to start the relining work with the pipe furnished under the procurement contract that is the subject of this action. The installation contractor will be responsible for fabrication of the remaining approximately 7,000 feet of welded steel pipe, which can be used following installation of the Metropolitan-furnished material. This action mitigates against manufacturing or logistical delays which could impact the scheduled shutdown of the Lakeview Pipeline. Procuring liner pipe in advance will also ensure that the pipe is available in the event of future material shortages or to address an unanticipated urgent repair of the pipeline. Early procurement may also hedge against higher material costs in a volatile steel market.

### **Summary**

This action awards a procurement contract to Northwest Pipe Company, in an amount not to exceed \$16,055,500, to furnish 12,500 feet of welded steel pipe and fittings to rehabilitate a portion of the Lakeview Pipeline. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, and **Attachment 3** for the Location Map.

### **Project Milestones**

November 2024 – Board award of steel pipe installation contract

October 2024 – Delivery of steel pipe

### **Policy**

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Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 8140: Competitive Procurement

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 49375, dated April 9, 2013, the Board authorized design of rehabilitation of the Lakeview Pipeline.

By Minute Item 49864, dated August 19, 2014, the Board authorized construction of the Bernasconi Tunnel liner installation.

By Minute Item 50326, dated December 8, 2015, the Board adopted the Mitigated Negative Declaration for the proposed project, adopted the Mitigation Monitoring and Reporting Program, and authorized design of repairs to the Lakeview Pipeline.

By Minute Item 52778, dated April 14, 2022, the Board appropriated a total of \$600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/23 and 2023/24.

### **California Environmental Quality Act (CEQA)**

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#### **CEQA determination for Option #1:**

On December 8, 2015, the Board adopted a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program for the Lakeview Pipeline Repair Project and approved the project. The present board action does not involve any changes to the approved project. Therefore, the environmental documentation previously prepared and adopted in connection with the project fully complies with CEQA and no further environmental analysis or documentation is required.

**CEQA determination for Option #2:**

None required

**Board Options**

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**Option #1**

Adopt CEQA determination that the proposed action was previously addressed in the adopted 2003 Mitigated Negative Declaration, and award a \$16,055,500 contract to Northwest Pipe Company to furnish 12,500 feet of welded steel pipe to rehabilitate a portion of the Lakeview Pipeline.

**Fiscal Impact:** Expenditure of \$17.5 million in capital funds. Approximately \$5 million will be incurred in the current fiscal year and has been previously authorized.

**Business Analysis:** This option will improve the operational reliability of the Lakeview Pipeline.

**Option #2**

Do not proceed with this project at this time.

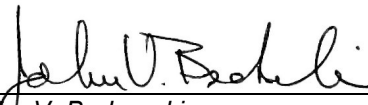

**Fiscal Impact:** None

**Business Analysis:** This option will forego an opportunity to improve the operational reliability of the Lakeview Pipeline, which may lead to unplanned shutdowns and costly urgent repairs.

**Staff Recommendation**

---

Option #1

	10/26/2023
_____ John V. Bednarski Manager/Chief Engineer Engineering Services	Date
	10/30/2023
_____ Adel Hagekhalil General Manager	Date

**Attachment 1 – Allocation of Funds**

**Attachment 2 – Abstract of Bids**

**Attachment 3 – Location Map**

Ref# es12698675



**The Metropolitan Water District of Southern California**

**Abstract of Bids Received on October 19, 2023**

**Specifications No. 2002**

**Furnishing Steel Liner for Lakeview Pipeline Rehabilitation, Stage 2**

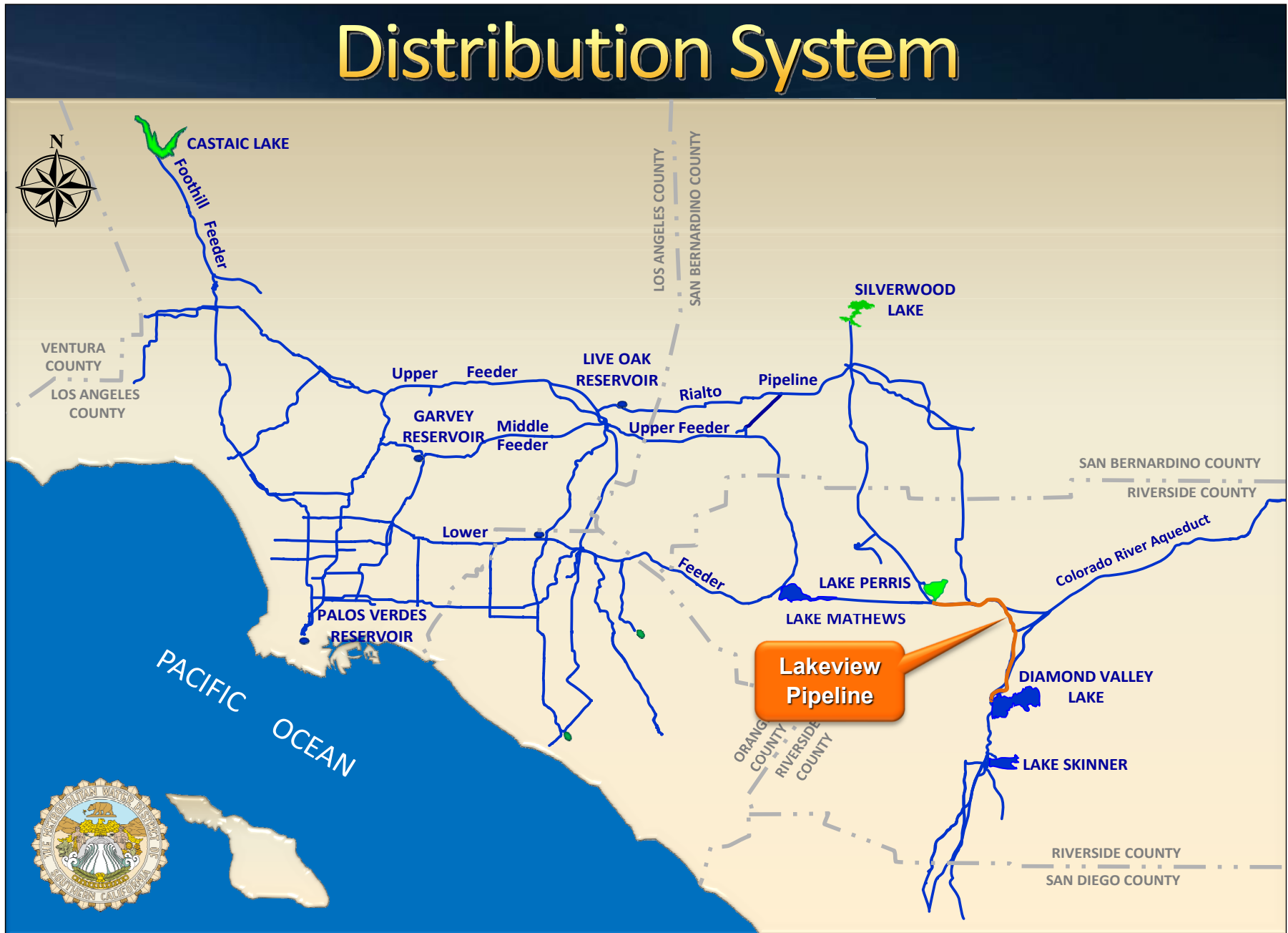
The work consists of furnishing and delivering of 648 feet of 7/8-inch-thick, 114-inch-diameter steel pipe sections and 11,907 feet of 7/8-inch-thick, 117-inch-diameter steel pipe sections.

Budgetary estimate: \$46 million to \$50 million

<b>Bidder and Location</b>	<b>Base Bid Price Total <sup>1,2</sup></b>
<b>Northwest Pipe Company Adelanto, CA</b>	<b>\$16,055,500</b>
Thompson Pipe Group Rialto, CA	\$23,577,905

<sup>1</sup> As a procurement contract, there are no subcontracting opportunities.

<sup>2</sup> Includes sales and use taxes of 10.25 percent imposed by the state of California







Engineering, Operations, & Technology Committee

# Lakeview Pipeline Stage 2 Pipe Procurement

Item 8-2

November 13, 2023

# Item 8-2 Lakeview Pipeline Relining Stage 2 Procurement

## Subject

Award a procurement contract for steel pipe to rehabilitate a portion of the Lakeview Pipeline

## Purpose

Lakeview pipeline is subject to deformation resulting in numerous leaks at pipe joints. Relining the pipeline will eliminate leaks, prevent damage to the pipeline, and facilitate delivery of DVL water to the Mills plant.

## Recommendation and Fiscal Impact

Award a \$16,055,500 procurement contract to Northwest Pipe Company to furnish steel pipe to rehabilitate a portion of the Lakeview Pipeline. Expenditure of \$17.5 million in budgeted capital funds

Budgeted

# Distribution System





# Normal Operation





# Low SWP Water Operation



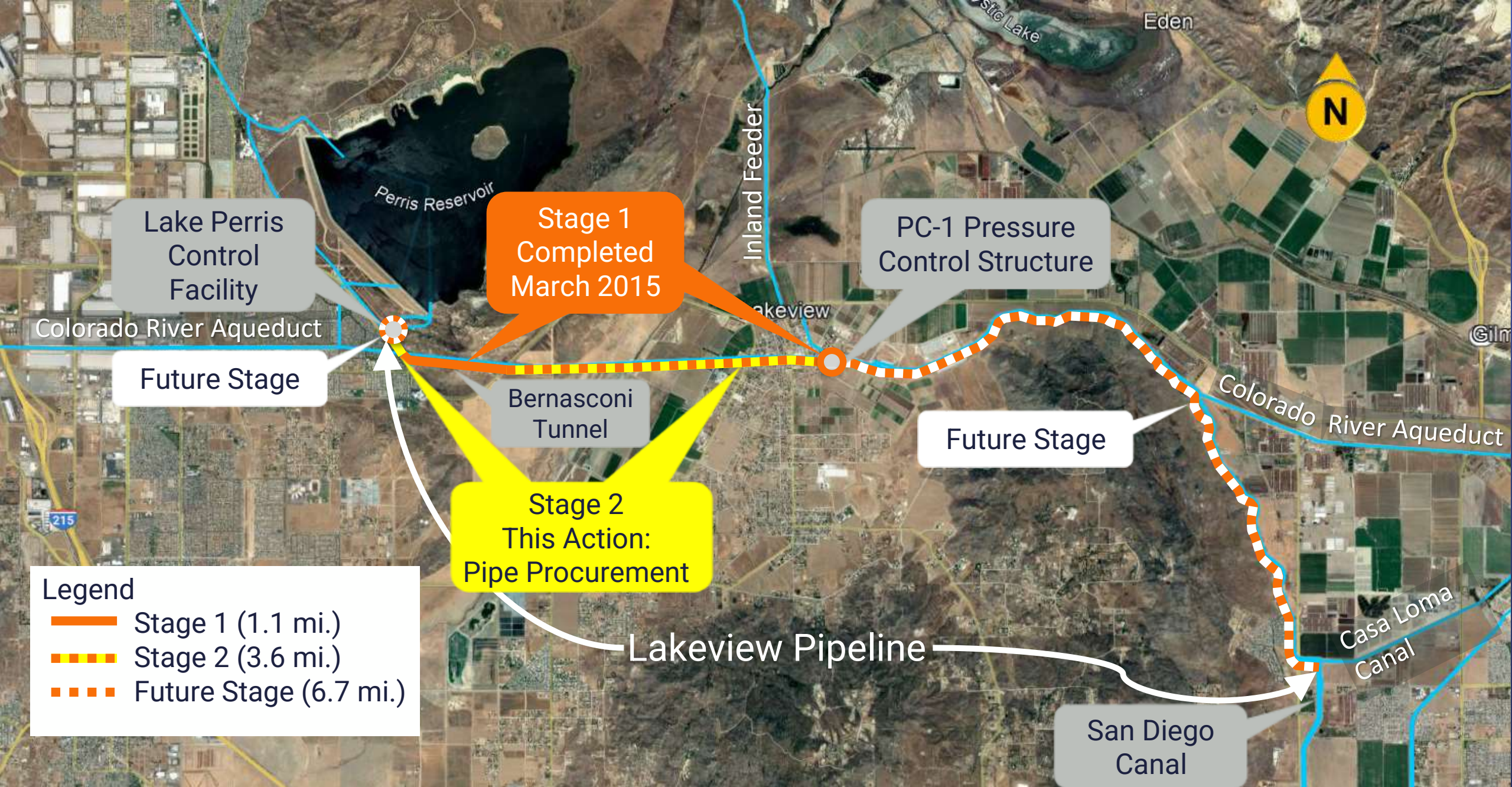
# Background

- In service since 1973
  - 11.4 miles
  - 132-inch diam. welded steel
  - Rubber-gasketed joints
- Pipeline issues
  - Numerous shutdowns to fix leaking joints
  - Portions of pipe are oval rather than circular



Bernasconi Tunnel Lining







# Lakeview Pipeline Relining Stage 2 Procurement



## Alternatives Considered

- Considered Alternative – Installation contractor furnishes all steel liner
  - Increase duration of contract
  - Reduces flexibility to shift shutdowns
- Selected Alternative – Metropolitan procures approximately 2/3 of pipe for Stage 2
  - Ensures ample supply of pipe available to start construction
  - Reduces installation contract lead-time
  - Mitigates against manufacturing or logistical delays impacting scheduled shutdown of the pipeline

# Scope of Work

- Contractor Scope of Work
  - Fabricate 12,500 ft. of 114-inch & 117-inch diameter steel liner
  - Deliver steel liner to storage area near Bernasconi Tunnel
- Metropolitan Scope of Work
  - Submittal review
  - Factory fabrication inspection
  - Offload & store pipe
  - Contract administration & project management

# Bid Results

## Specifications No. 2002

Bids Received	October 19, 2023
No. of Bidders	2
Lowest Responsible Bidder	Northwest Pipe Company
Low Bid	\$16,055,500
Other Bid	\$23,577,905

# Allocation of Funds

## Lakeview Pipeline Relining – Stage 2 Pipe Procurement

### Contract

Northwest Pipe Company \$16,055,500

### Metropolitan Labor

Owner Costs (Program mgmt., contract admin.) 105,000

Submittal review, technical support & responding to RFIs 89,000

Fabrication Inspection 355,000

Met Force Construction 205,000

Materials & Incidentals 405,000

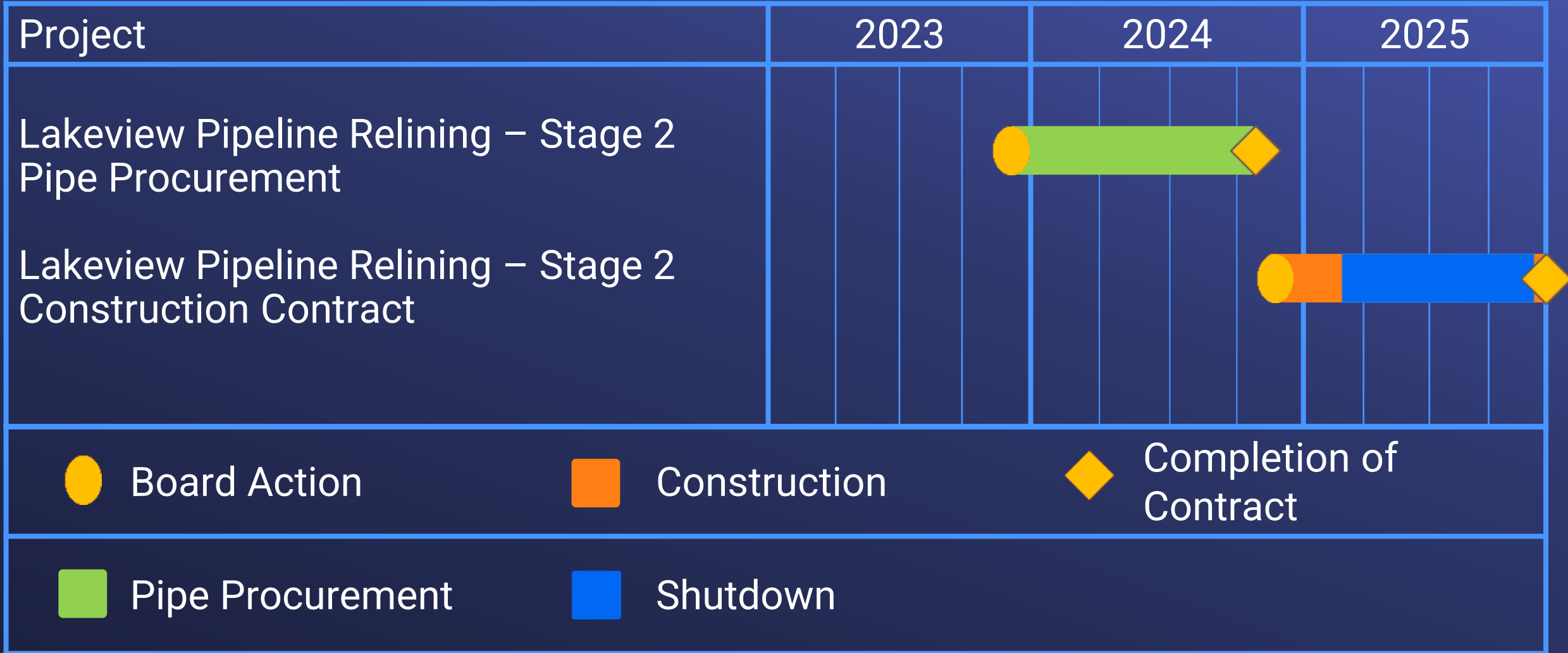
Remaining Budget 285,500

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Total \$17,500,000



# Project Schedule



# Board Options

- Option #1

Adopt CEQA determination that the proposed action was previously addressed in the adopted 2003 Mitigated Negative Declaration, and award a \$16,055,500 contract to Northwest Pipe Company to furnish 12,500 feet of welded steel pipe to rehabilitate a portion of the Lakeview Pipeline.

- Option #2

Do not proceed with this project at this time.

# Staff Recommendation

- Option #1





## ● Project Labor Agreement Annual Report

### Summary

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The attached report provides a summary of actions taken and initial results of Metropolitan's Project Labor Agreement (PLA), adopted in October 2022; the report includes details on contractor implementation associated with the Construction Careers Pipeline, outreach to apprenticeship readiness programs, outreach to the small business community, local and transitional hiring metrics, labor compliance, and reporting on financial impacts of the PLA.

### Purpose

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This report highlights outreach and implementation efforts to support objectives of the Project Labor Agreement (PLA) and to report on the metrics compared to the goals stated in the PLA for employment of local and transitional workers on Metropolitan projects. This is the inaugural annual report and covers the period from October 2022 through September 2023. Below is a summary of board actions that led to the approval of the PLA.

Board Action on March 8, 2022 authorized the General Manager to negotiate a (PLA) pursuant to various terms and guiding principles communicated during previous oral reports and board discussions.

Board Action on October 11, 2022 approved the negotiated PLA to be used as a bid condition on contracts that are listed as part of an attachment to the PLA.

Board Action on October 11, 2022 authorized an agreement with Parsons Constructors, Inc, for the administration of the PLA.

### Attachments

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Project Labor Agreement Inaugural Progress Report November 2023





# Project Labor Agreement Inaugural Annual Report

November 2023





# Contents

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- Section 1 Introduction
- Section 2 Construction Careers Pipeline Program Implementation Update
- Section 3 Apprenticeship Readiness Program Outreach
- Section 4 Local & Transitional Worker Update
- Section 5 Local & Transitional Worker Reporting
- Section 6 SBE & DVBE Outreach
- Section 7 Contractor Outreach & Engagement
- Section 8 Labor Compliance & Wage Monitoring
- Section 9 PLA Financials

Pictured on the cover: Etiwanda Pipeline Relining project to install new steel liners and replace mortar lining with polyurethane for corrosion control.

On this page: At the F.E. Weymouth Water Treatment plant mechanical and structural improvements are part of a rehabilitation program.



# Introduction



Representatives from the signatory Building & Construction Trades Councils are pictured with Metropolitan leadership, holding signed PLA certificates at a ceremony. Dec. 20, 2022.

Welcome to the inaugural progress report for the Metropolitan Water District of Southern California’s landmark Project Labor Agreement (PLA), authorized by our Board of Directors in October 2022. This report, the first in a cycle of annual reports, will look at PLA policies, programs and requirements and highlight the handful of projects that have started construction to date. As the program grows, and more projects begin and PLA statistics gathered, the report will provide more comprehensive data and spotlight even more local and transitional workers.

The PLA was a groundbreaking agreement signed by Metropolitan and the Los Angeles and Orange Counties Building and Construction Trades Council, the San Bernardino-Riverside Counties Building and Construction Trades Council, the San Diego County Building and Construction Trades Council, the Tri-Counties Building and Construction Trades Council, and their signatory construction unions. The PLA includes a 60 percent goal of employing local workers, which is the highest target in the region. It also includes a 15 percent goal of employing transitional workers in PLA projects by focusing on people facing challenges who need some extra help to launch their careers in construction.

Reports often get mired in numbers – which is typically an important quantitative measure of success. We will include those numbers but also want to reflect on the measurements that are less quantifiable but arguably just as important and impactful on a human scale. This PLA promotes programs that can change the trajectory of a person’s life. The Construction Careers Pipeline Program (CCPP) is one of these transformational programs. Important components of the CCPP program are apprenticeship readiness programs (ARPs), which provide training using the North America’s Building Trades Unions’ (NABTU) recognized multi-core craft curriculum (MC3). ARPs, commonly referred to as MC3s promote entry-level opportunities and help to remove barriers to careers in the construction field. The nationally-recognized Helmets to Hardhats Program connects skilled military veterans with opportunities in the construction industry as well, and is a valuable resource.

The PLA includes 34 projects (and counting) identified by Metropolitan to initiate in the five-year term of this agreement. The PLA also applies to all construction related to Metropolitan’s proposed Pure Water Southern California regional recycled water project. Together these projects represent about 90 percent of Metropolitan’s planned Capital Improvement Plan expenditures estimated at nearly \$1 billion. That number could increase. Metropolitan has the option to amend the PLA by adding projects that arise, but are not currently identified. All contractors and subcontractors– union and non-union – will be required to follow certain labor requirements that include the payment of prevailing wages, hiring locally, ensuring worker training, supporting apprenticeship programs, and using a dispute resolution process. As of the writing of this report, there are 8 projects have been awarded by the board.

As signatories to this agreement, we share in the commitment to improve our Southern California communities by widening the pathway and increasing opportunities to work in construction through apprenticeship programs. We want to develop a skilled workforce for today and the future that represents the diversity of our region and expands opportunities to populations that are underrepresented in the construction industry. We hope you follow our progress.

Signed

Adel Hagekhalil

Ernesto Medrano

Slaughter Bradley

Carol Kim

Joshua Medrano





Inside the Etiwanda Pipeline.

S2

# Construction Careers Pipeline Program Implementation Update

Creating a pipeline to reach and assist local and transitional workers interested in starting a career in the construction industry is the cornerstone of the Project Labor Agreement. The Construction Careers Pipeline Program was established by the PLA to coordinate outreach and recruitment with our construction union partners and contractors. The shared goal is to create a pool of workers who will be trained for direct employment with Metropolitan's construction contractors and create opportunities within Metropolitan's own workforce.

Many of these local and transitional workers will be recruited to work on Metropolitan construction projects from ARPs that provide training for a variety of project-specific skills at no or low cost. These programs open a gateway to accessing union building trades' apprenticeship programs. There are currently more than twenty ARPs throughout the Metropolitan service area.

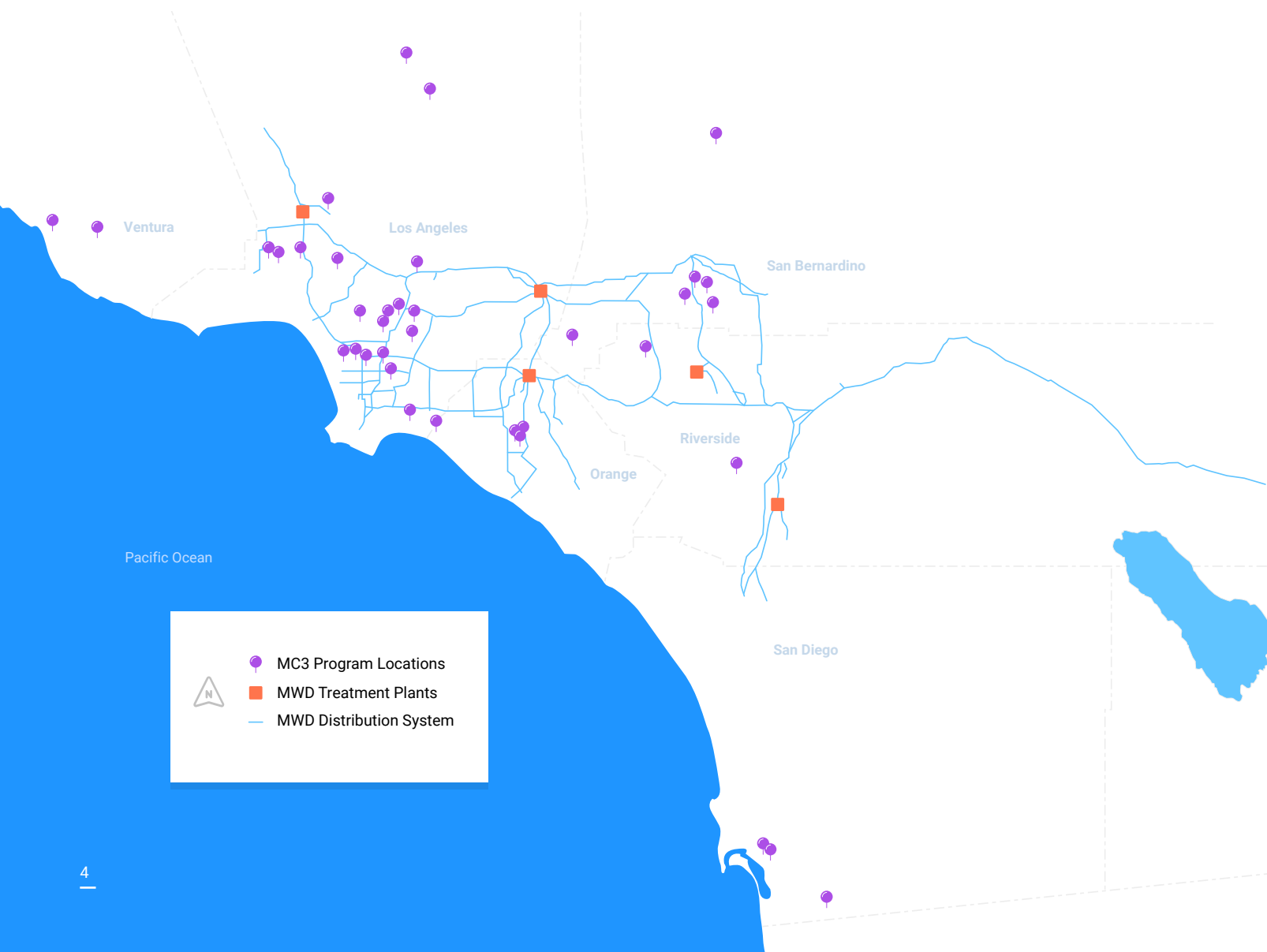
Steps to build the framework for the CCPP are already underway. Metropolitan's Project Labor Coordinator team has been working with contractors, signatory unions and other CCPP stakeholders/partners since the PLA was adopted. The coordinator team can be one or more Metropolitan staff members or a designee responsible for monitoring PLA compliance and helping to develop, implement and administer all agreement policies and programs. The team has held general and individual meetings to establish a relationship with each program and reiterate Metropolitan's commitment to the use of local and transitional workers, understand their operations, review cohort frequency, demographics served, and records of previous MC3 graduates who would like to begin their union construction careers. Metropolitan's team has also met with general contractors and their subcontractors to review workforce needs, review the PLA's CCPP, and collaborate on potential new apprentice placements for PLA-covered projects.



# Apprenticeship Readiness Program Outreach

## Partnership Opportunities

The Construction Careers Pipeline Program benefits from the support of ARP/MC3 programs in Southern California. The map below illustrates all the partnership opportunities for Metropolitan to retain graduates for contractor placement.

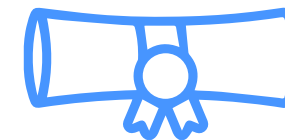


ARP/MC3s are a useful tool for increasing diversity and equity in the construction industry workforce. For example, the Los Angeles/Orange County Building & Construction Trades Council completion rate, placement rate, and demographics are included in the snapshot below, which represents data from 2015 to present.

- Total graduates: 4,005
- Total graduation rate: 85%
- Union apprenticeship placement: 1,305
- Overall placement rate: 33%
- Placement rates by cohort : As high as 82% (e.g., Anti-Recidivism Coalition, or ARC)
- Placement of women: 18%
- Placement of Black, Indigenous, People of Color (BIPOC): 97%

Data obtained from Ben Garcia, Program Director for the LA/OC Building Trades' Apprenticeship Readiness Fund.

Two active apprenticeship programs within the Riverside & San Bernardino County Building & Construction Trades Council are the San Bernardino Community College and Victor Valley College. The data from these programs, including completion rate, placement rate and demographics, are included below from 2020 to present.



- Total graduates: 78
- Total graduation rate: 61%
- Union apprenticeship placement: 2
- Overall placement rate: 81%
- Placement of women: 51%
- Placement of Black, Indigenous, People of Color (BIPOC): 73%

Data obtained from Stacy Garcia, Workforce Development Manager at the San Bernardino Community College District.

Project Labor Coordinator team members met with San Bernardino Community College District MC3 partners at a September 2023 MetWorks networking event. Pictured left to right: Doaa Aboul-Hosn (Metropolitan), Stacy Garcia (SBCCD), Deanna Krehbiel (SBCCD), Thomas Romero (Parsons Corporation).

The Metropolitan Project Labor Coordinator team conducted training with our partners during the first six months of PLA implementation and met with ARP/MC3s in the counties of Los Angeles, Orange, Riverside, and San Bernardino on April 18, 2023. An overview of the PLA, CCPP and the opportunity for attendees to introduce themselves and showcase their individual programs were provided. Metropolitan's team also scheduled separate meetings with ARP/MC3s near the PLA project sites that have the earliest start dates for construction.





## CCPP Partnership Highlights

**May 15, 2023.** Metropolitan's Project Labor Coordination team met with Center for Employment Training (CET) Colton at their facilities to learn about their trade programs, including a welding program and a green building construction program. This meeting produced a list of previous MC3 and veteran graduates for potential placement opportunities. CET Colton has not operated an MC3 program since 2021 but has since started the process of renewing their partnership with the North American Building Trades Union after meeting with Metropolitan.

**May 15, 2023.** The Metropolitan team also met with MC3 programs at San Bernardino Community College (SBCC) and Victor Valley College at the San Bernardino campus for a tour of the facilities. They received lists of recent graduates and discussed MC3 expansion with other schools in the Inland Empire, including College of the Desert in Indio. Metropolitan has been invited to return and speak with each SBCC cohort prior to graduation to spotlight CCPP opportunities.

**May 18, 2023.** Metropolitan's team met with Riverside's Green Construction Academy at Norte Vista High School who provided an overview of their MC3 program and student high school curriculum. The academy targets at-risk students, allowing admittance to those with low attendance or grade point averages and essentially operates as a "school-within-a-school." Students are introduced to all aspects of the construction industry. Instructors identified financial barriers, and working together with other partners within the Riverside and San Bernardino Building and Construction Trades Council, the team began to identify solutions to these barriers such as funding new classroom equipment and facilitating field trips to active construction projects.

**May 30, 2023.** Metropolitan staff, including several Metropolitan construction team managers, toured Women In Non-Traditional Employment Roles, another ARP focused on training women for a union construction career. Program participants normally come from low-income and underserved communities as well of communities of Black, Indigenous and People of Color. Metropolitan staff were able to see training in progress and participated in a question-and-answer period.

**July 14, 2023.** A meeting and tour were conducted at the Maxine Waters Employment Preparation Center, part of the Los Angeles Unified School District Adult and Career Education Division, with ARPs. Four no-cost sessions are offered each academic year and reach participants from underserved populations, including transitioning adults or those looking for a career path into the construction industry. The program has recently struggled to fill all available seats in a session, prompting the exploration of ways Metropolitan can provide support through partnership building and networking with youth workforce development programs.

**August 30, 2023.** The Project Labor Coordinator team visited the West Valley Occupational Center in Woodland Hills, also part of the Los Angeles Unified School District Adult and Career Education Division. This program has an ARP with high community participation and offers a no-cost, 10-week training program. There are several sessions throughout the academic year and Metropolitan is looking at program graduates who could potentially be placed on two current local projects.

**October 7, 2023.** In support of the HireLAX Apprenticeship Readiness Program, a member of the Project Labor Coordinator team attended the five-year program anniversary celebration and shared program information about PLA participation.



Project Labor Coordinator team member Olivia Sanchez (second left) attends the City of Carson and South Bay Workforce Investment Board Construction Job and Apprenticeship Fair. Pictured left to right: Myllex Guadamuz (LA/OC Apprenticeship Readiness Fund), Sanchez (Metropolitan), Carson Mayor Lula Davis-Holmes, Ben Garcia (LA/OC Apprenticeship Readiness Fund) and Armando Pena (Cement Masons).





# Local & Transitional Worker Update

## A Focus on Local Workers

Metropolitan has one of the largest local worker employment goals in Southern California. The PLA establishes a 60 percent goal for employment of local workers, who are defined as Metropolitan service area residents, and allows for preferential hiring of workers living in the communities closest to our construction projects. The program requires that unions and contractors, together with Metropolitan, conduct outreach, recruitment, and offer career opportunities to local workers who are currently underrepresented in the construction industry, which include women, veterans, and Black, Indigenous and People of Color.

## Transitional Worker

The PLA and CCPP were created in part to ensure Metropolitan's investments in water infrastructure have a positive economic impact on the communities we serve. The PLA establishes a 15 percent hiring goal for our community members who may be experiencing barriers to employment, or who need assistance to pursue a construction career. The PLA defines these "transitional workers" as any individual qualifying for one or more of the following categories:

- Veteran
- Apprentice with less than 15 percent of the work hours required for completion of a union apprenticeship program
- No high school diploma or general education diploma
- Homeless now or recently homeless within the past year
- Former foster youth
- Custodial single parent experiencing unemployment (defined as receiving unemployment benefits for at least three months)
- Current recipient of government cash or food assistance benefits with a documented income at or below 100 percent of the Federal Poverty Level
- Formerly incarcerated
- Graduate of an APR/MC3 program

The PLA considers veterans as transitional workers and has a 15 percent hiring goal for transitional workers from our service area communities.



## Supporting Veterans

The PLA recognizes veterans interested in careers in the building and construction industries. In addition to including veterans in the transitional worker category, the PLA promotes the services of Helmets to Hardhats, a non-profit that connects veterans with skilled training and quality career opportunities in the construction industry. The Helmets to Hardhats website (<https://careers.helmetstohardhats.org/>) is the online portal to connect contractors, unions and veteran career seekers. The PLA requires parties to use Helmets to Hardhats, which maintains a database of veterans interested in working on Metropolitan construction projects. This is a proactive approach to veteran outreach, and includes recruitment, interviews, assessments and providing necessary assistance with the application and entrance process for construction apprenticeship programs.

On March 7, 2023, Metropolitan hosted a general meeting with Helmets to Hardhats to discuss the PLA and review the ongoing developments on Helmets to Hardhats' website. Together we developed an engagement strategy for contractors as well as contractor training for using the website. Metropolitan routinely schedules orientation sessions for all general contractors awarded PLA work to meet with Helmets to Hardhats, establish contacts and review their website and job posting features.

The PLA is a top business priority for Metropolitan General Manager Adel Hagekhalil and Engineering Services Group Manager John Bednarski.



**COURAGE. SERVICE. SACRIFICE.**

**Metropolitan is Proud to Support and Work  
Alongside Our Military Veterans.**



**Jason Rollo, U.S. Marine Corps  
Community Relations Program Manager**



**Luis Romero, U.S. Marine Corps  
Graphic Design Team Manager**



**Carmen Zarate, U.S. Marine Corps  
Human Resources Team Manager**



**Joe Beaty, U.S. Army  
Engineer**

**It is our privilege to connect with  
Veteran-owned businesses and rely  
on our military veterans as we work  
hand-in-hand to provide reliable  
water to Southern California.**





# Local & Transitional Worker Reporting

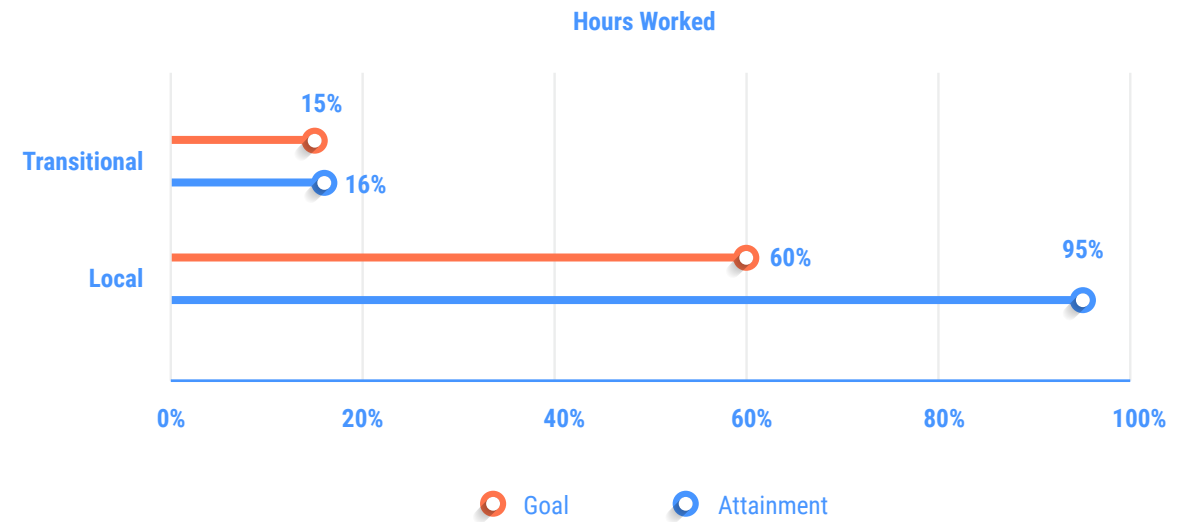
Metropolitan, together with its contractors, union partners and other PLA stakeholders, currently exceed the PLA's goals for local and transitional worker employment as indicated in Figure 5.1 and Figure 5.2. Even with limited hours worked on PLA-covered construction projects, the current data exceeds the goals. The Project Labor Coordinator team generated this report based on information submitted by contractors on their Certified Payroll Records through October 5, 2023. **The table below reports that recorded hours worked on PLA projects are about 95 percent local workers, exceeding the 60 percent goal, and about 16 percent transitional workers exceeding the 15 percent goal.**

**Figure 5.1: Local and Transitional Worker Employment Percentage - Hours Worked**  
**Project:** All PLA Projects  
**Date Range:** 1/1/2023-10/5/2023  
**Local:** Metropolitan  
**Zip:** Service Area

	Hours	Percent
Local	22,580	95%
Transitional	3,785	16%

The Pure Water Southern California regional project, at full-scale, would be one of the world's largest water recycling programs.

**Figure 5.2: Local and Transitional Worker Employment - Goal vs. Actual**



## Key Callouts

- Craft workers received an estimated \$1,941,026 in wages and benefits and worked 23,685 reported hours on Metropolitan PLA projects.
- Local workers received an estimated \$1,868,239 in wages and benefits and worked 22,580 reported hours on Metropolitan PLA projects.
- Transitional workers received an estimated \$263,736 in wages and benefits and worked 3,785 reported hours on Metropolitan PLA projects.
- Note that one can be both a local and transitional worker, and that they are not mutually exclusive.





## Local & Transitional Worker Spotlights

There are goals and numbers and percentages associated with the PLA. But there are also people whose lives are changed. The PLA has a goal of employing 60 percent local workers, the highest of any PLA in the region. There is an additional goal of 15 percent for employing transitional workers on covered projects. To bring these success stories to life, we tell the stories of some local and transitional workers currently employed on PLA covered projects.

The Perris Valley Pipeline brings treated water from Metropolitan's Henry J. Mills Water Treatment Plant in Riverside and delivers water to Eastern and Western Municipal Water Districts. A project to connect two portions of existing pipes, called the Perris Valley Interstate 215 Crossing, will involve construction of a 3,000-foot micro tunnel beneath the I-215 freeway. J.W. Fowler is the prime contractor, performing general labor, mining, heavy equipment operation, concrete testing, fusing of high-density polyethylene and hauling materials. Don H. Mahaffey, a subcontractor to J. W. Fowler, is responsible for the secant pile drilling micro pile concrete construction.



**Nancy Casillas – Los Angeles, CA**  
**James W. Fowler – Operating Engineers Local 12**

A little more than a year ago, Nancy Casillas was working in the field of childrens' mental health. Today she is doing concrete inspections for prime contractor James W. Fowler as a member of Operating Engineers Local 12. Children are still her focus as a mom to an 18 and 10-year-old. The chance for greater opportunities for herself and family pushed Nancy to give construction work some serious thought. "I never in my life thought I was going to get in this industry" she admitted. But the benefits of medical, dental and vision plans, and good pay with growth potential "were worth exploring." "The benefits changed my life completely," she said. "I see myself within the next year or so getting into a new home, versus going from apartment to apartment and I'll be able to give my kids stuff I wish I had as a kid."

"I think at first it was intimidating," she says. "But when I look at the machines I've operated before and the things that I am doing now, I think of myself in a different way." Nancy said she is learning to do things she has never done. She is working with tools she has never touched and interacting with many different people. "Everybody is wanting to help so I appreciate that," she said.

Being a female in a male dominated industry has its challenges, but also brings a sense of empowerment. "I really look forward for other women to join the industry because we always think of this as a male job," she said. "But honestly it's stuff we can do as women; it's something I really believe anyone can do when they put their heart into it."



**Gilbert Salazar – Hemet, CA**  
**Mahaffey Drilling – Operating Engineers Local 12**

Adding a skillset to a growing resume is one of the benefits that Gilbert Salazar will get from his position at Mahaffey Drilling as a member of Operating Engineers Local 12. When his job at a Diamond Bar golf course was coming to an end, he was dispatched to this project. His background was mainly in refinery work but he will be operating a large drill for this project. "This is a really good company that I'm working with," he said, "they are very professional and safe."

Gilbert said he is "blessed" when he comes on jobs like this because of the people. "I've always gotten lucky and learned from different people," he said. Now, Gilbert is learning a different type of drilling, one he is not familiar with. "It makes me more valuable as a driller."



**Rudy Espinoza – Fallbrook, CA**  
**James W. Fowler – Laborers Local 1184**

Since he was 17 years old, Rudy Espinoza has worked in construction and with James W. Fowler as a member of Laborers Local 1184 for about two years. His primary interest is in pipeline construction, an area he calls "career construction."

"This is something I have always wanted to pursue and I'm glad I am," Rudy said that this job is trade specific and will involve a new skillset in mining.

He says, "This was the perfect foothold to learn – especially in underground mining." The training will prepare Rudy to successfully apply for future pipeline projects. "This is a unique opportunity. This is exactly what I was waiting for. It makes me indispensable."





## SBE & DVBE Outreach

Since the inception of Metropolitan’s Business Outreach Program (BOP) more than two decades ago – one of the first such initiatives in the state – more than \$1.5 billion has been invested in Southern California’s Small Business Enterprises and Disabled Veteran Business Enterprises (SBEs/DVBEs) with the mission to help them grow and thrive. Metropolitan’s BOP team works with business owners to put them on a path to success, advocates on their behalf, hosts educational and networking events, and brings relevant contracting opportunities to their attention.

The PLA was designed to complement the BOP by providing flexibility and construction workforce solutions to SBEs/DVBEs. Through the MetWorks Program – our established networking avenue – we promote greater awareness of the PLA and training opportunities available for SBEs/DVBEs. Outreach includes information about Metropolitan’s standards of construction, strict compliance procedures and deadlines, specification and submittal requirements and notification of upcoming construction projects and schedules for PLA-covered projects, as well as non-PLA work.

Project Labor Coordinator team member Rick Duarte (Metropolitan) at the Contractor Academy briefs attendees about many topics including upcoming project work, the SBE/DVBE, and how to take advantage of resources provided through Metropolitan’s PLA to grow their company.

To expand outreach and meet PLA goals, the PLA requires the signatory unions to provide lists of any known union-signatory contractors that may be SBE or DVBE. To date, more than **500 DVBE, SBE, WBE, MBE** and other targeted groups union-signatory contractors have been identified.

**In the early stages of PLA implementation, SBE/DVBEs are already involved, including the following contractors currently working on PLA-covered projects:**

- Concrete Coring Co.
- Crosstown Electrical & Data
- Dean’s Certified Welding
- Don H. Mahaffey Drilling Co.
- Hudson Safe-T-Lite
- Smithson Electric

Union-signatory contractors and non-union contractors are able to pursue work under the PLA. Today, 54 union-signatory contractors and 10 non-union contractors have been identified as performing work on PLA projects. Metropolitan’s outreach with the signatory unions has helped to identify six of these SBEs as union-signatory. Overall, 84% of the contractors are union-signatory and 16% are non-union contractors based on information provided through October 2023.



## Creating Flexibility for SBE/DVBE Contractors

Metropolitan's PLA allows core employee flexibility for certain qualifying SBE/ DVBE contractors. For companies with 25 or less employees at the time they are awarded a Covered Contract, they can first employ three core employees per craft on each Covered Project prior to hiring through the appropriate Union hiring hall. This arrangement differs from the typical core employee provision that requires every other worker be a dispatch from the Union hiring hall. Dinamic Modular Construction, has already made use of this provision on the Perris Valley Pipeline Interstate 215 Crossing contract.

Because the PLA targets large, complex contracts above \$5 million in the covered project list, there are still significant opportunities for SBEs/DVBEs to bid on projects that do not fall under the PLA. Metropolitan works to ensure that the PLA is not a barrier to SBE/DVBE participation with dedicated team members available to support contractors.

There are many opportunities to interact with Metropolitan staff. We host several small contractor outreach events and offer training to prepare small contractors to successfully bid on public works projects. These events include MetWorks Industry Days, MetWorks Connect Days, Small Business Development Center events, and Small Contractor Academy training sessions as discussed below:

### MetWorks Industry Day – Carson, CA 2/2/2023:

Metropolitan showcased the Pure Water Southern California Program and our Capital Investment Plan to more than 300 small contractors and small businesses that provide services and materials. The event also served to announce the projects that would contain the PLA. The Project Labor Coordinator was onsite as an exhibitor to answer questions in person.

### MetWorks Connects Day – Moreno Valley, CA 3/22/2023:

In partnership with the Small Business Development Center (SBDC) and Emerald Cities Collaborative (ECC), Metropolitan conducted a contractor outreach and training day to showcase our Capital Investment Plan and train contractors on PLA terms and requirements. Metropolitan highlighted the benefits to small contractors and the capacity-building resources provided by the SBDC and ECC.

**State Procurement and Access to Capital Conference – Irvine, CA 4/28/2023:** Metropolitan was one of ten state agency participants and conducted a contractor outreach and training day in Moreno Valley to showcase our Capital Investment Plan, and to train contractors on the terms, requirements, and benefits to small contractors of the PLA.

**Networks Event – Moreno Valley, CA 9/14/2023:** The spotlight at this event was on future Metropolitan projects and local projects presented by three Metropolitan member agencies: the Inland Empire Utilities Agency, Western Municipal Water District and Eastern Municipal Water District. MC3 centers also were invited to showcase their work encouraging union membership for local labor and Metropolitan job opportunities.

### Small Contractor Academy – Moreno Valley, CA 9/13/2023 – 10/4/2023:

The Small Contractor Academy created awareness about Metropolitan's Capital Investment Plan opportunities. The Academy strengthens long-term relationships with small contractors, improves the competitive capacity of small contractors to bid on Metropolitan work, and establishes a framework for future partnerships. The Academy hosts four weekly seminars and is supported by Metropolitan's partnership with the SBDC and ECC. Here is the four-week curriculum:

- Seminar I Overview of Project Forecast
- Seminar II Bonding, Labor Compliance and PLA
- Seminar III Introduction to Project Delivery Methods
- Seminar IV How to Bid on Project Work

### Los Angeles Community College Small Contractor Boot Camp - Los Angeles, CA 10/10/2023

The Metropolitan Business Outreach Program team partnered with the Los Angeles Community College District's Small Contractor Boot Camp Program to expand awareness of Metropolitan's commitment to small businesses, share how to conduct business with Metropolitan, and provide an overview of upcoming Capital Investment Program projects. We discussed how small contractors can use the PLA to grow their company. This partnership is a resource to expand Metropolitan's pool of qualified, competitive contractors.

At a September 2023 Networks event in Moreno Valley, the Project Labor Coordinator team networked with nearly 300 participants interested in presentations by Metropolitan along with the Inland Empire Utilities Agency, Western Municipal Water District and Eastern Municipal Water District about the PLA and upcoming bid opportunities and projects.





# Contractor Onboarding & Engagement

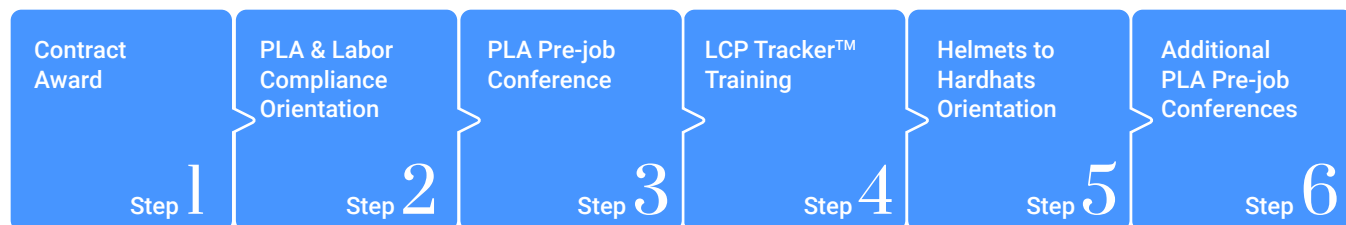
Article 21 of the PLA requires contractors to engage with Helmets to Hardhats to network and employ veterans. Following the PLA pre-job conference, the Project Labor Coordinator team facilitates an introduction between the general contractor and Helmets to Hardhats where the parties can learn about each other's needs and potential opportunities for veteran employment.

Contractors performing work under the PLA are required to submit payroll and compliance documents through the online payroll system LCPTracker™ and will receive an orientation to the system from the Project Labor Coordinator team. The team will show how to submit contractually required electronic documents, how to assign subcontractors and employees, and how to submit Certified Payroll Records.

The communication does not end here. The Project Labor Coordinator team will maintain communication with the contractors through the life of contract. This includes scheduling subsequent PLA pre-job conferences for additional subcontractors as necessary. The PLA requires each contractor to assign their work at a PLA pre-job conference before they start contract work. The first PLA pre-job conference will often include the general contractor and their first set of subcontractors. Additional PLA pre-job conferences become necessary when a general contractor or their subcontractors bring new subcontractors under contract.

The Project Labor Coordinator team works with contractors from the first step of awarding a contract throughout the life of the project. The team engages with the general contractor and their subcontractors to review the PLA requirements, facilitate introductions with union and training partners, and coordinate PLA pre-job conferences. The timeline is illustrated in Figure 7.1 and a log of training and orientation is documented in Figure 7.2.

Figure 7.1: Contractor Orientation & Facilitation of Pre-Job Conferences



There are several milestones in the process between contract award and pre-job conferences. First, Metropolitan issues a Notice of Award. At that stage, the Project Labor Coordinator team will engage with the awarded general contractor and schedule an initial PLA and labor compliance orientation to review all expectations and requirements established by the PLA and State Labor Code.

Article 15 of the PLA requires contractors to detail craft manpower needs, their schedule of work, project rules, and to propose union work assignments at a PLA pre-job conference. The contractor and their subcontractors will declare the work they will perform under contract and share their proposed union work assignments.

The PLA requires this conference to be held prior to starting any contract work. The Project Labor Coordinator team will work with the general contractor to schedule this meeting and prepare them to conduct it with Metropolitan's signatory union partners. This is the immediate priority after the initial PLA and labor compliance orientation.

Figure 7.2: Training & Orientation Log

Project	Contractor	PLA & Labor Compliance Training	LCPTracker Training	Helmets to Hardhats Orientation	PLA Pre-job Conferences
Perris Valley Pipeline Interstate 215 Crossing	James W. Fowler Co.	2/16/2023	Not Requested	3/16/2023	3/8/2023 3/30/2023 4/27/2023 6/29/2023
Second Lower Feeder PCCP Rehabilitation - Reach 3B	J.F. Shea Construction	2/16/2023	4/19/2023	5/8/2023	4/20/2023 7/17/2023
Wadsworth Pumping Plant Eastside Pipeline Intertie	Steve P. Rados, Inc.	2/9/2023	Not Requested	5/1/2023	4/26/2023
Foothill Hydroelectric Power Plant Seismic Upgrade	West Valley Investment Group	5/4/2023	6/22/2023	5/31/2023	5/23/2023
Colorado River Aqueduct Conduit Structural Protection	Granite Construction	6/20/2023	Not Requested	Pending	8/2/2023
Hinds, Eagle Mountain, and Iron Mountain Pumping Plants Storage Buildings	J.F. Shea Construction	8/22/2023	Pending	Pending	Pending
Inland Feeder Rialto Pipeline Intertie	Steve P. Rados, Inc.	10/19/2023	Pending	Pending	Pending





# Labor Compliance & Prevailing Wage Monitoring

Metropolitan's Project Labor Coordinator team adheres to an increased Prevailing Wage compliance effort that goes beyond what is required by the California State Labor Code. Metropolitan, along with the signatory unions, assists contractors in meeting these Prevailing Wage requirements established by the PLA, which requires contractors to pay workers in accordance with the current Prevailing Wage Determination. This differs from the State Prevailing Wage requirements, which require the contractor to use the rates effective based on a contract's bid advertisement date. **This PLA provision enshrines Metropolitan's commitment to wage equity and positive economic impact for all craft workers.**

Metropolitan implemented the use of an online payroll reporting software LCPTTracker™ for all contracts covered by the PLA. This software replaced the previous practice of collecting physical copies of contractors' payroll records. The LCPTTracker™ system links a project to the applicable Prevailing Wage Determination set by the State of California's Department of Industrial Relations. The system is useful for Metropolitan's contractors and can immediately verify a contractor's payroll information and notify them of any potential violations. The Project Labor Coordinator team, and Alliant Consulting conduct regular project site visits to observe activities and interview workers. The Project Labor Coordinator team then reviews the information gathered during site visits and compares it to the information reported on Certified Payroll Records.

The Project Labor Coordinator team conducts LCPTTracker™ training for contractors who are not familiar with the online system that includes demonstrations on how to submit contractually required e-Documents, how to assign subcontractors and employees, and how to submit Certified Payroll Records.

James W. Fowler Co. and subcontractors continue work at the Perris Valley Pipeline Interstate 215 Crossing project site.



The LCPTracker™ system is a useful resource for Metropolitan's Project Labor Coordinator team, offering the ability to extract payroll data for review and reporting. Metropolitan can run reports and analyze data, demonstrating contractor performance with deference to local & transitional worker hiring goals, craft worker payment, and hours worked under contract. This system allows the comprehensive review of worker payment and program-specific economic impact.

The Project Labor Coordinator team also provided LCPTracker™ training for key Metropolitan staff who now are able to efficiently sort and view electronic certified payroll. Metropolitan's success with contractor payroll records for PLA projects has resulted in the consideration of adopting LCPTracker™ as the payroll system for all future Public Works contracts.

The Project Labor Coordinator team conducts routine site visits at all covered projects. These site visits include random Prevailing Wage interviews with craft workers, verification of Prevailing Wage postings, as well as transitional worker interviews.

Project Labor Coordinator team meets with labor compliance consultant Alliant Consulting at the Perris Valley Pipeline Interstate 215 Crossing project. Pictured left to right Thomas Romero (Parsons Corporation), Kiara Salto, Troy Baggott and Diego Anaya (Alliant Consulting).



Improvements at the Foothill Pump Station are part of a capital improvement project that will allow pumping of water from Diamond Valley Lake to the Rialto Feeder giving the delivery system much greater flexibility when State Water Project supplies are limited.



# PLA Financials

Metropolitan has issued many public works contracts covered by the PLA that are currently in various stages of development or construction. A summary of these contracts is below.

## PLA Administration Cost

Analysis of Metropolitan expenditures by our PLA Administration Consultant as well as expenditures by in-house staff indicates that PLA Administration costs are approximately 1.5% of total construction cost through October 2023. These costs include direct administration, and robust outreach and training to apprenticeship readiness programs and the small business community. Prior to negotiating the PLA, an administration cost of 1% minimum was presented to the Metropolitan board.

## Contractor Costs

Queries of potential bidders who acquired plans for three of the covered projects indicate that the PLA has not affected most contractors decision to bid, however, most contractors that downloaded plans were union contractors. Only one non-union contractor who responded to our query indicated that they would not bid a PLA project. Additionally, the contractors we queried indicated that they did not raise their bid because of the presence of a PLA.

## Ongoing Projects

### PERRIS VALLEY PIPELINE 215 CROSSING

**Start Date:** February 9, 2023

**Prime Contractor:** James W. Fowler Co.

**Contract Value:** \$59,489,720

**Small Business Enterprise Goal:** 10%

**Duration:** 500 working days

**Project Scope:** Project consists of installing four shafts located near the March Air Museum, approximately 3000 linear feet of 97-inch diameter welded steel pipe constructed by a combination of micro-tunneling and cut and cover methods.

**Location:** Riverside County

**Progress to Date:** The project is 21% complete as of September 2023.

### SECOND LOWER FEEDER PCCP REHABILITATION REACH 3B

**Start Date:** February 2, 2023

**Prime Contractor:** J.F. Shea Construction, Inc.

**Contract Value:** \$68,847,000

**Small Business Enterprise Goal:** 10%

**Duration:** 650 working days

**Project Scope:** The project consists of rehabilitation of approximately 19,000 linear feet of prestressed concrete cylinder pipe (PCCP) including excavation, access portals and removing portions of existing PCCP; installing Metropolitan and contractor furnished steel liner pipe, and modifying pipeline appurtenant structures; rehabilitating three existing isolation valve structures and two service connections; and installing and removing Palos Verdes Reservoir temporary bypass lines.

**Location:** Various locations in Los Angeles County

**Progress to Date:** The project is 25% complete as of September 2023.

### WADSWORTH PUMPING PLANT EASTSIDE PIPELINE INTERTIE

**Start Date:** February 2, 2023

**Prime Contractor:** Steve P. Rados, Inc.

**Contract Value:** \$18,200,000

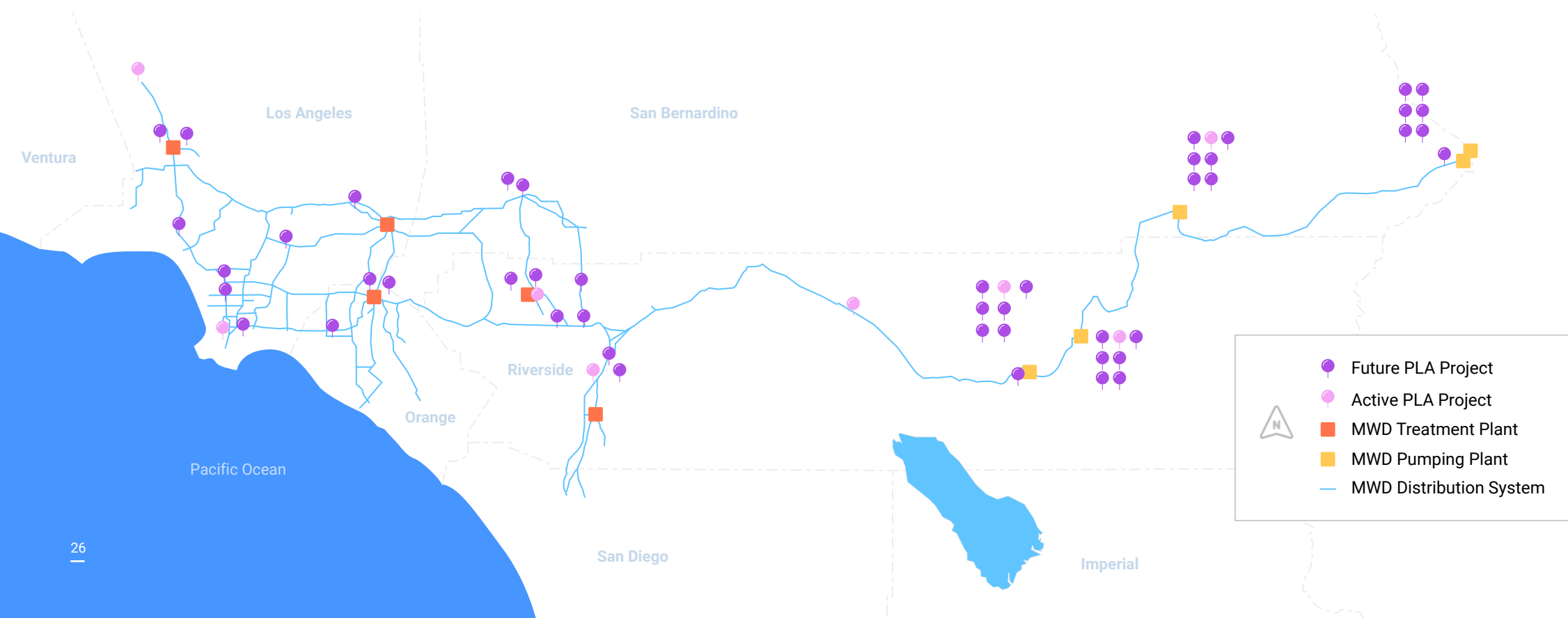
**Small Business Enterprise Goal:** 20%

**Duration:** 350 working days

**Project Scope:** The work consists of installation of approximately 600 linear feet of 96-inch-diameter pipeline, construction of a valve structure, relocation of transformer and switchgear, and other appurtenant work.

**Location:** Hemet, Riverside County

**Progress to Date:** The project is 15% complete as of September 2023.



**COLORADO RIVER AQUEDUCT (CRA) CONDUIT STRUCTURAL PROTECTION**

**Start Date:** May 11, 2023

**Prime Contractor:** Granite Construction Company

**Contract Value:** \$8,656,568

**Small Business Enterprise Goal:** 25%

**Duration:** 340 working days

**Project Scope:** The project consists of work at multiple locations across approximately 60 miles, installing new reinforced concrete slab protection crossings over the CRA, crushed aggregate base pads, segmental concrete retaining walls, realigning dirt access roads, grading, drainage improvements, hydroseeding, signage, and performing all appurtenant work.

**Location:** San Bernardino and Riverside Counties

**Progress to Date:** The project is 21% complete as of September 2023.

**FOOTHILL HYDROELECTRIC POWER PLANT SEISMIC UPGRADE**

**Start Date:** April 27, 2023

**Prime Contractor:** West Valley Investment Group

**Contract Value:** \$6,174,000

**Small Business Enterprise Goal:** 25%

**Duration:** 360 working days

**Project Scope:** The project consists of seismic retrofit of hydroelectric power plan, including upgrades to lighting, HVAC system, and roofing.

**Location:** Castaic, Los Angeles County

**Progress to Date:** The project is 9% complete as of September 2023.

**HINDS, EAGLE MOUNTAIN, AND IRON PUMPING PLANTS STORAGE BUILDINGS**

**Start Date:** July 31, 2023

**Prime Contractor:** J.F. Shea Construction, Inc.

**Contract Value:** \$16,490,000

**Small Business Enterprise Goal:** 25%

**Duration:** 550 working days

**Project Scope:** The project consists of replacing sheds at Hinds, Eagle Mountain, and Iron Mountain Pumping Plants with new storage buildings that are insulated and include enhanced features.

**Location:** Colorado River Aqueduct Pumping Plants across San Bernardino and Riverside Counties

**Progress to Date:** Notice to Proceed was issued in July, 2023. The contractor is transmitting submittals for review.

**SEPULVEDA PUMP STATIONS – PROGRESSIVE DESIGN BUILD (PDB)**

**Prime Contractor & Designer:** J.F. Shea Construction, Inc. & Tetra Tech, Inc.

**Project Delivery Method:** Progressive Design Build

**Contract Value Estimate:** \$9,800,000 (NTE for Phase 1); Total Contract Estimate: \$80M - \$90M

**Small Business Enterprise Goal:** 25%

**Duration:** Summer 2024 (Milestone for Phase 1); Estimated Construction Completion Date: Summer 2026

**Project Scope:** This project consists of building two 30-cfs pump stations, conveyance pipelines, and associated supporting infrastructure at the Metropolitan-owned Venice and Sepulveda sites to reverse the flow of water and bypass the existing pressure control facilities.

**Location:** Los Angeles County

**Progress to Date:** Notice of Award and Notice-to-Proceed issued in September 2023 for Phase 1.

**INLAND FEEDER – RIALTO PIPELINE INTERTIE**

**Award Date:** September 2023

**Prime Contractor:** Steve P. Rados, Inc.

**Contract Value:** \$15,681

**Small Business Enterprise Goal:** 20%

**Duration:** 410 working days

**Project Scope:** The project consists of furnishing and installing approximately 250 linear feet of 96-inch diameter welded steel pipe; construction of a valve structure; installation of Metropolitan-furnished valves; removal and disposal of pipe coating material containing PCBs, and other appurtenant work as specified and shown on the drawings.

**Location:** Riverside County

**Progress to Date:** Notice of Award was issued in September 2023, Notice to Proceed issued in October 2023.

**INLAND FEEDER BADLANDS TUNNEL SURGE PROTECTION**

**Facility Anticipated Award Date:** November 2023

**Prime Contractor:** Steve P. Rados, Inc.

**Contract Value:** \$18,840,000

**Small Business Enterprise Goal:** 20%

**Duration:** 370 working days

**Project Scope:** The project consists of constructing approximately 200 linear feet of 8-foot diameter steel pipe, an approximately 430,000-gallon surge tank, 84-inch diameter Metropolitan-furnished butterfly valve, control system, various electrical improvements, and other appurtenant work.

**Location:** Riverside County

**Progress to Date:** Anticipated Board Award in November 2023.



J.F. Shea contract work at Palos Verdes Reservoir, originally constructed in 1939, will bring the reservoir back into service to provide supply redundancy to Metropolitan's delivery system during shutdown or emergency situations.





THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

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Engineering, Operations & Technology Committee

# Project Labor Agreement Inaugural Annual Report

Item 6a

November 13, 2023

# Item 6a

## Project Labor Agreement Inaugural Annual Report

### Subject

Update on Project Labor Agreement Annual Report

### Purpose

This item provides an overview of the inaugural annual report on Metropolitan's Project Labor Agreement

### Next Steps

Next annual report – November 2024

# Project Labor Agreement Inaugural Annual Report



# Background of Metropolitan's Project Labor Agreement

- Adopted in October 2022
- Initial five-year term
- Currently 34 projects
- Covers 90% of planned CIP expenditures
- Signed between Metropolitan and Building and Trades Council Representatives





## Major Provisions of Metropolitan's Project Labor Agreement

- 60% goal for employment of local workers
- 15% goal for employment of transitional workers
- Unique core small business carveout
- Workforce development benefits, including:
  - ✓ Multi-Core Craft Curriculum (MC3) Apprenticeship Readiness Programs (ARP)
  - ✓ Helmets to Hardhats
  - ✓ Construction Careers Pipeline Program
- Preserves the integrity of MWD's Small Business Program
- Ability to add projects in the future

# PLA Administration Process



# Awarded PLA Construction Contracts

1	Second Lower Feeder PCCP Rehabilitation – Reach 3B	\$68.8M
2	Perris Valley Pipeline I-215 Crossing	\$59.5M
3	Hinds, Eagle Mountain, and Iron Mountain Pumping Plants Storage Buildings	\$16.5M
4	Inland Feeder – Rialto Pipeline Intertie	\$15.7M
5	Wadsworth Pumping Plant Eastside Pipeline Intertie	\$14.8M
6	Sepulveda Pump Stations (Phase 1 Prog. Design Build)	\$9.8M
7	CRA Conduit Structural Protection	\$8.7M
8	Foothill Hydroelectric Plant Seismic Upgrades	\$6.2M
	<b>Total</b>	<b>\$200M</b>

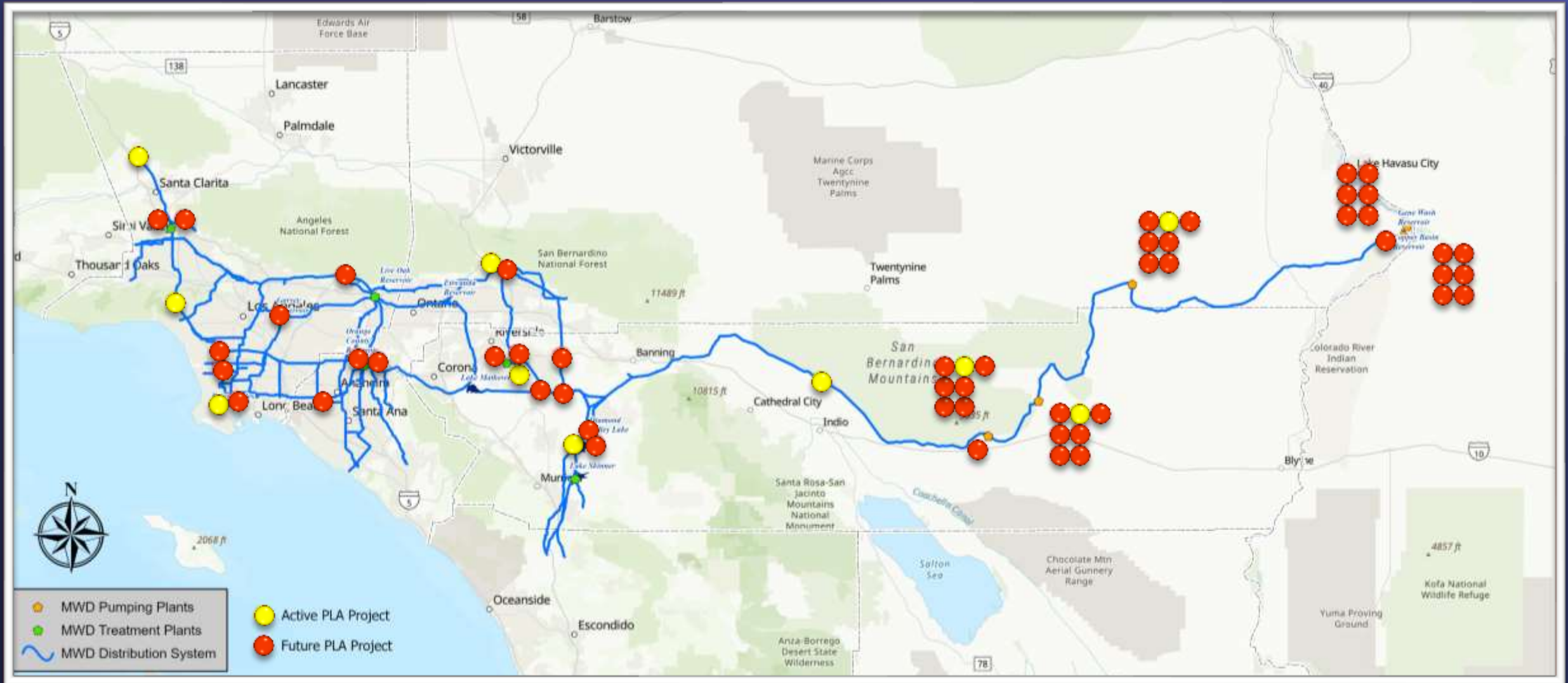


Second Lower Feeder PCCP Rehabilitation



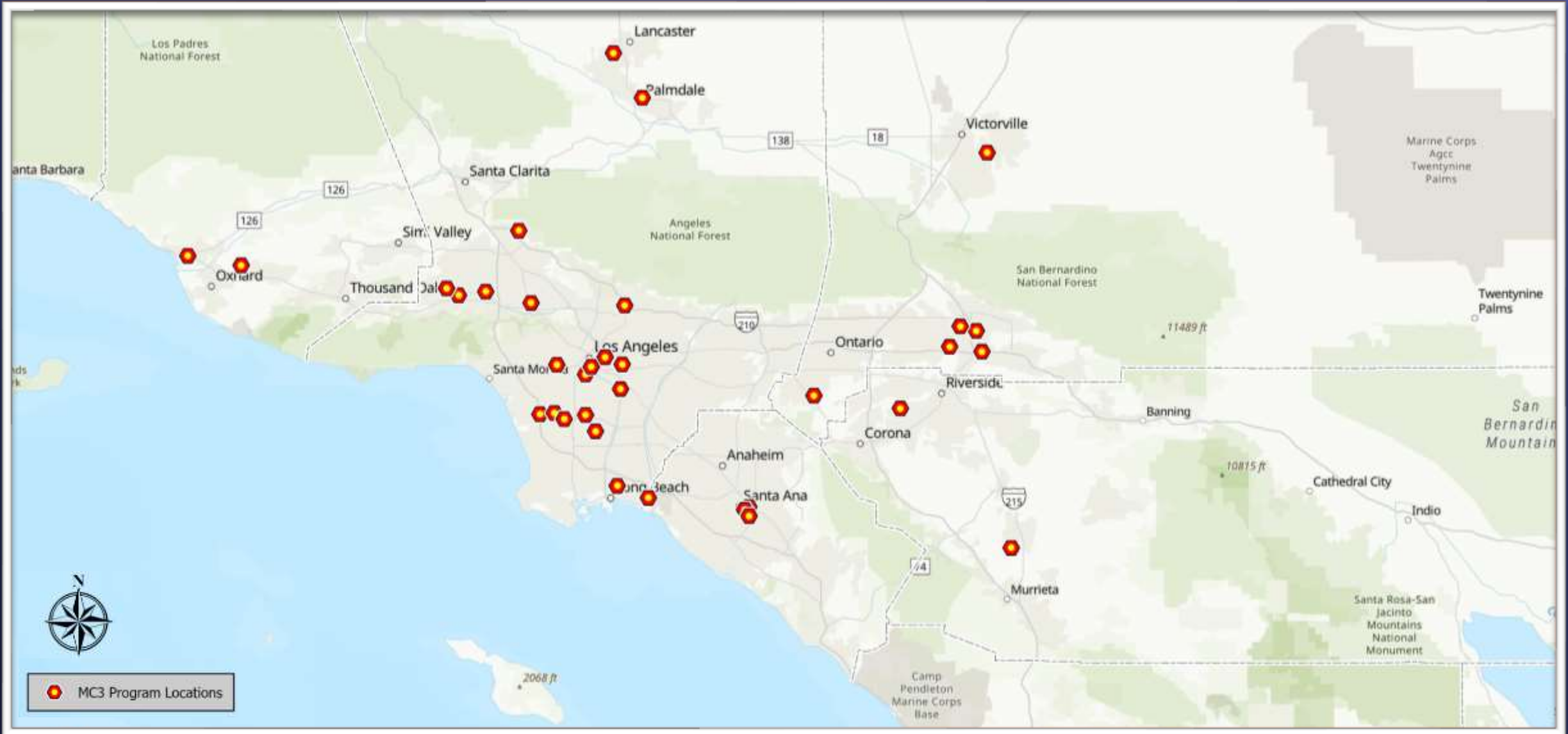
CRA Conduit Structural Protection

# Active and Planned PLA Projects





# Apprenticeship Readiness Programs/MC3 Locations

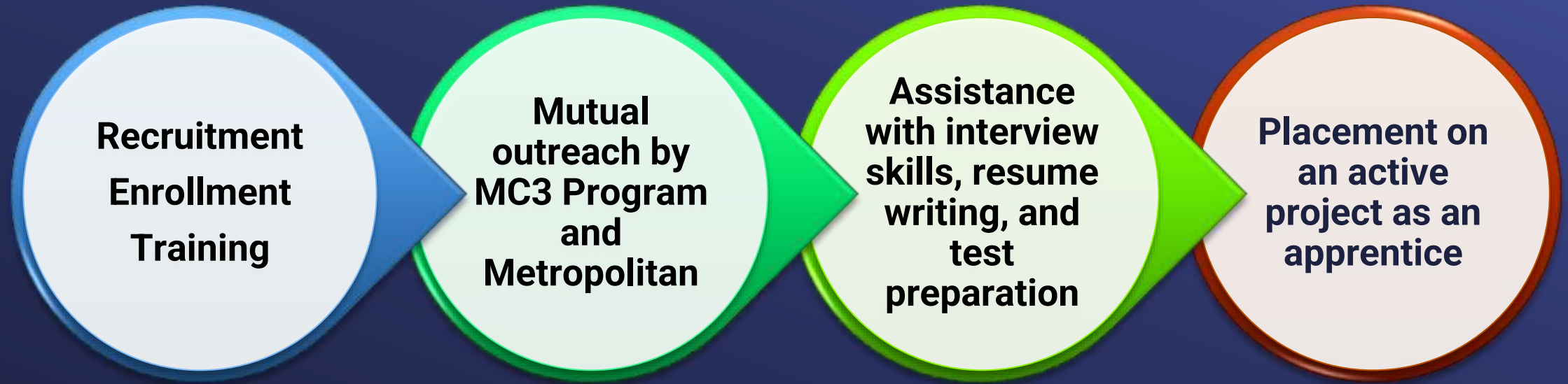


# Apprenticeship Readiness Program/MC3 Outreach

- Outreach networking efforts to:
  - Center for Employment Training (CET) in Colton
  - MC3 programs at San Bernardino Community College and Victor Valley College
  - Green Construction Academy at Norte Vista High School in Riverside
  - Women In Non-Traditional Employment Roles (WINTER)
  - Maxine Waters Employment Preparation Center
  - West Valley Occupational Center in Woodland Hills



# Typical Pathway for MC3 Graduates to Union Apprenticeship



# Typical Pathway from Apprenticeship to Skilled Craft Journeyperson





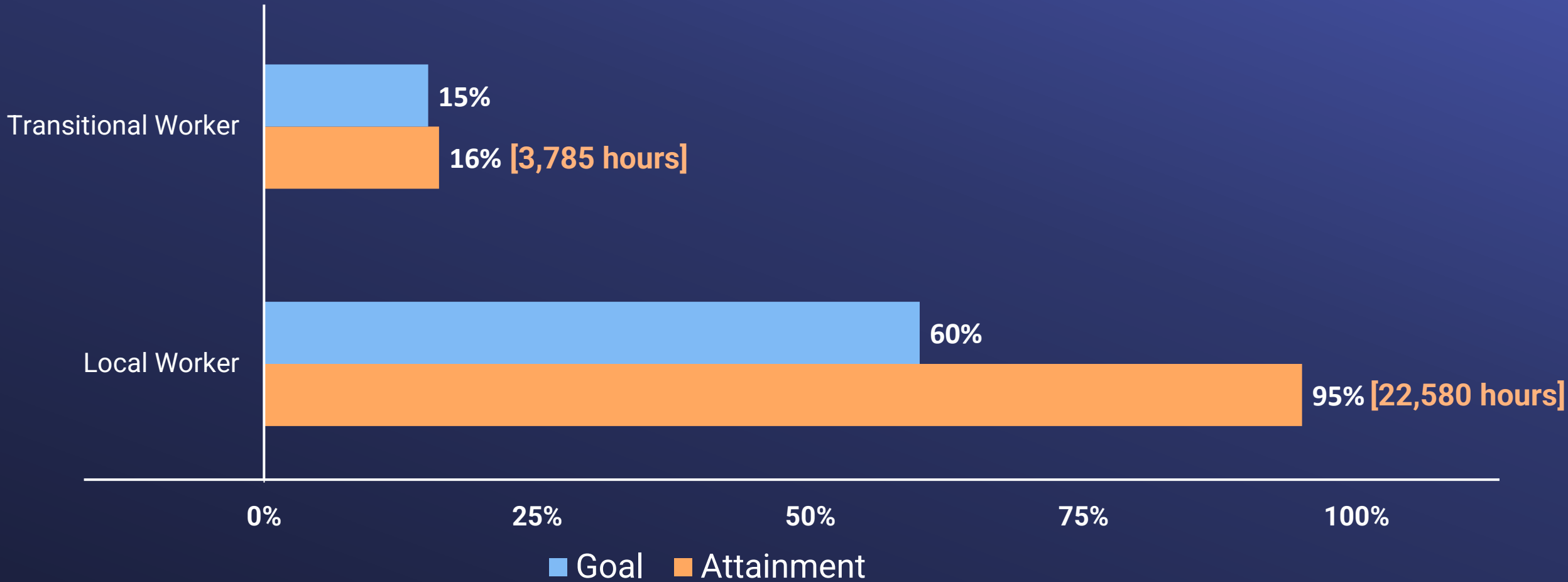
# Metropolitan Small Business Outreach

- Over 500 DVBE, SBE, WBE, MBE, and other targeted groups union-signatory contractors identified
- 54 union-signatory contractors and 10 non-union contractors performing work on PLA projects
- Core employee carveout used on Perris Valley Pipeline I-215 Project
- Outreach events including MetWorks



# Local & Transitional Worker Reporting

## Goal vs. Actual by Hours Worked



# PLA Financials & Contractor Feedback

- PLA administration costs
  - 1.5% of total contract earnings incurred to date
  - Includes start up costs
- Contractor feedback
  - Generally did not affect decision to bid
  - No indication of increased contract costs



Perris Valley Pipeline I-215 Project



# Local & Transitional Worker Spotlights



**Rudy Espinoza – Fallbrook, CA**  
James W. Fowler  
Laborers Local 1184



**Nancy Casillas – Los Angeles, CA**  
James W. Fowler  
Operating Engineers Local 12



**Gilbert Salazar – Hemet, CA**  
Mahaffey Drilling  
Operating Engineers Local 12



## Next Steps

- Continue engaging with ARPs/MC3s near PLA covered projects
- Continue outreach with SBE contractors
- Evaluate upcoming projects and begin process of adding them to the PLA covered list
- Continue to monitor ongoing contracts for PLA compliance
- Next annual report – November 2024





Engineering, Operations, & Technology Committee

# Nitrification Management

Item 6b

November 13, 2023

## Item 6b

# Nitrification Management

### Subject

Update on nitrification in the treated water distribution system

### Purpose

Provide background information on causes of nitrification, details of the summer 2023 nitrification event, and actions to reduce nitrite concentrations in the distribution system

### Next Steps

Assess actions and opportunities for improved nitrification management and control in the future

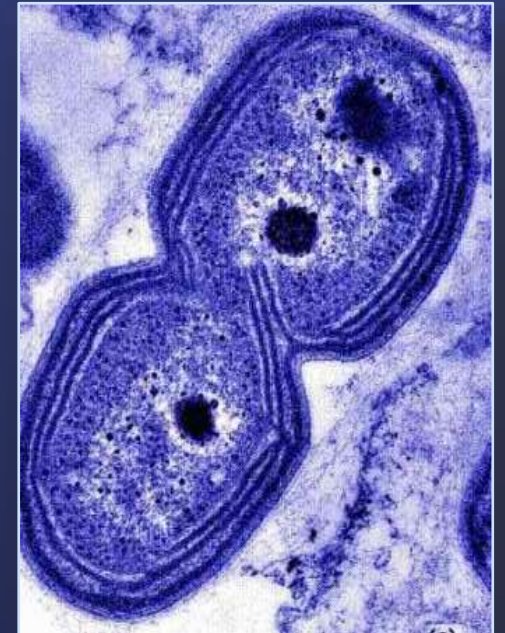


# Nitrification Introduction

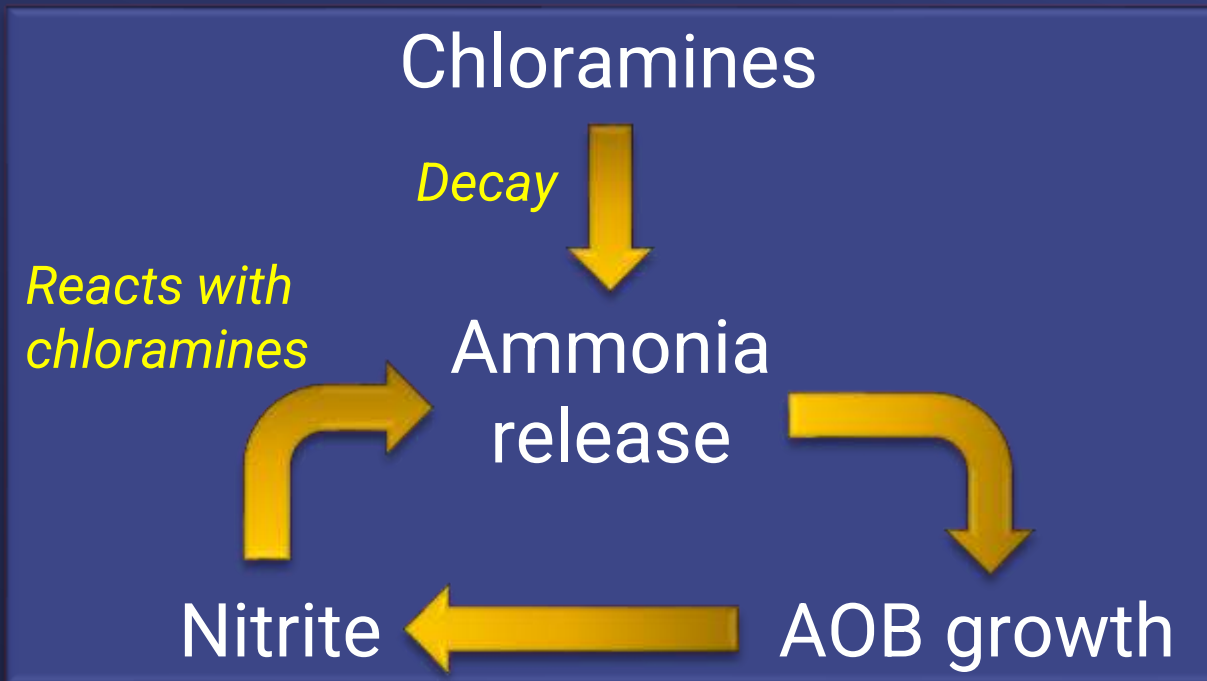
- *Naturally occurring bacteria*
- *Not contaminants, not pathogens*
- *Normally present in aquatic systems*

## Background

- Nitrifying bacteria are always present in chloraminated systems
  - Sequentially convert ammonia to nitrite and nitrate
- Conditions that influence nitrification
  - Long detention times
  - Warm water
  - Excess free ammonia
  - Low or no disinfectant
  - Dead-end configurations
  - Poor circulation in reservoirs
  - Biofilm on pipe surfaces



# Potential Impacts of Nitrification on Water Quality

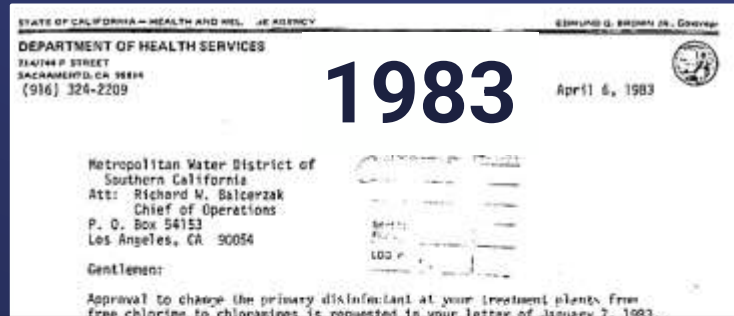


- Nitrite accumulation in the distribution system
- Chloramine decay
- Increase in bacterial growth (potentially coliforms)

*AOB = Ammonia oxidizing bacteria*



# Introduction of Chloramines at Metropolitan



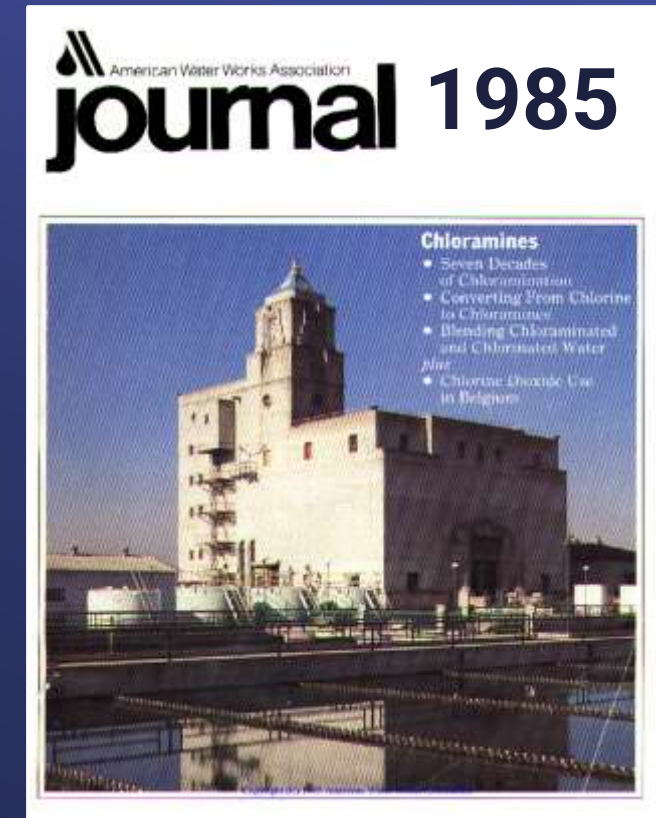
Approval to change the primary disinfectant at your treatment plants from free chlorine to chloramines

implementation. This change in your treatment operation will be included in the permit for your system. The primary permit draft is now being reviewed by your personnel.

...will significantly lower the trihalomethane levels in your supply and enable your member agencies to meet the trihalomethane standard.

Sincerely,

*John N. Gaston*  
John N. Gaston, Chief  
Sanitary Engineering Branch

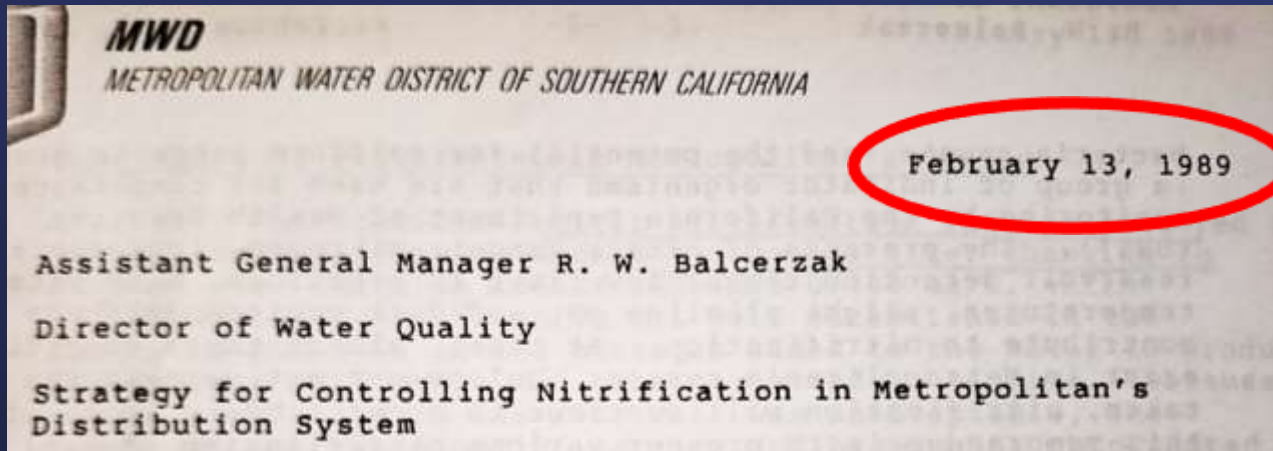


Metropolitan switched from free chlorine to chloramines as the primary disinfectant in June 1985

# Nitrification is Not a New Phenomenon at Metropolitan

GM Report, January 1989

Nitrification. Staff will initiate a detailed investigation into the occurrence of nitrification in member agencies'/subagencies' systems. It is estimated that two to three months will be required to complete this investigation.



Periodic nitrification episodes led to optimizing chloramine dosing over 13 years

	Chlorine residual	Cl <sub>2</sub> to NH <sub>3</sub> ratio
1985	1.5 mg/L	3:1
1989	1.5 mg/L	5:1
1994	1.7 mg/L	5:1
1998	2.5 mg/L	5:1



# Early Research on Chloramines and Nitrification

RESEARCH ARTICLE | NOVEMBER 1988

## Nitrifying Bacteria in a Chloraminated Drinking Water System

N. R. Ike; R. L. Wolfe; E. G. Means

Water Sci Technol (1988) 20 (11-12): 441-444.

## Optimizing Chloramine Disinfection for the Control of Nitrification

N. I. Lieu, R. L. Wolfe, E. Means • Published 1 February 1993 • Chemistry • Journal American Water Works Association

Previous studies have shown that nitrification of chloraminated drinking water can have deleterious effects on water quality. These studies also showed that the cause of nitrification is the oxidation of ammonia (used to form

## Ammonia-Oxidizing Bacteria in a Chloraminated Distribution System: Seasonal Occurrence, Distribution, and Disinfection Resistance

ROY L. WOLFE,\* NANCY I. LIEU, GEORGE IZAGUIRRE, AND EDWARD G. MEANS

*Metropolitan Water District of Southern California, 700 Moreno Avenue, La Verne, California 91750*



## Nitrification Control Strategies

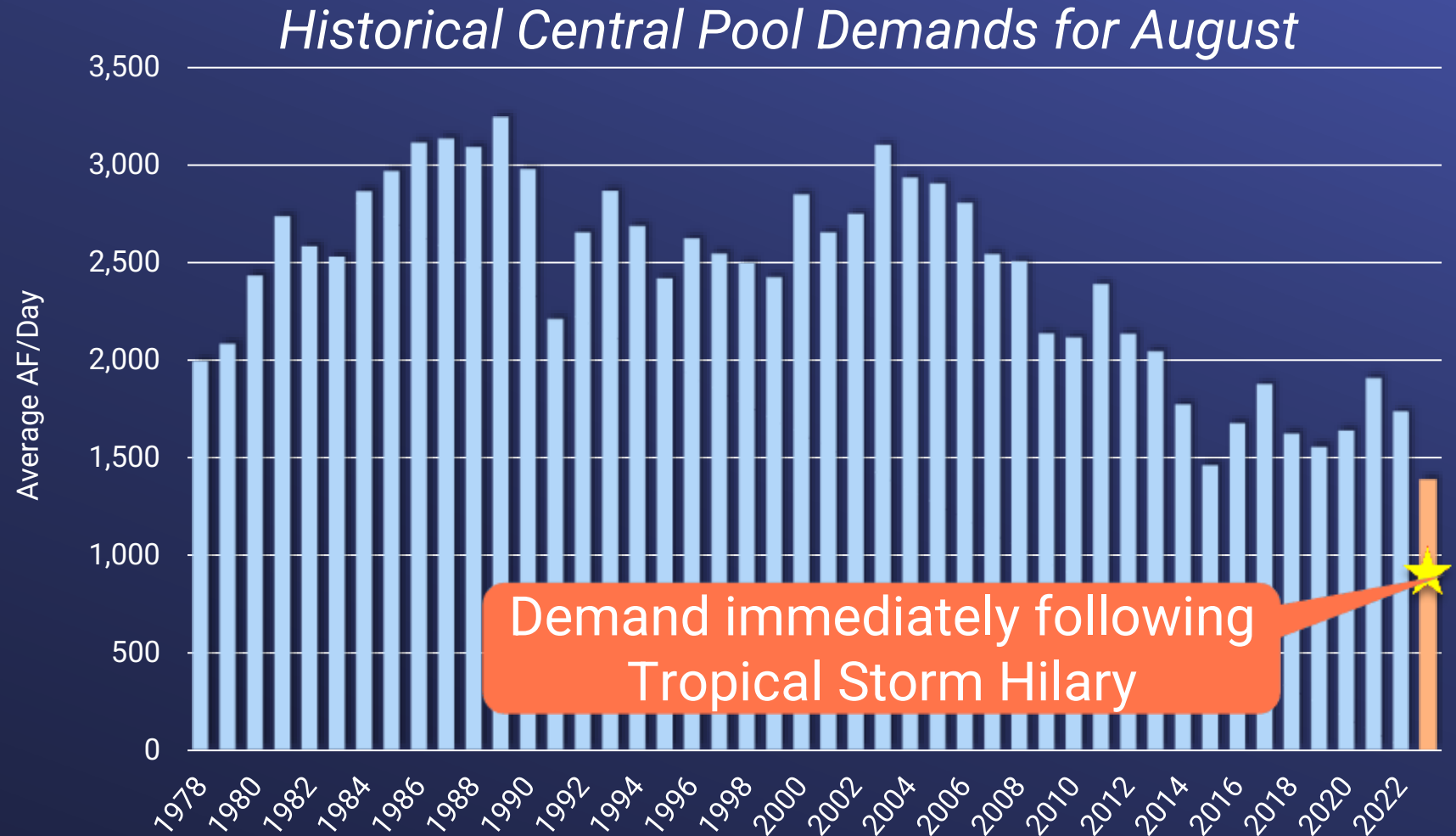
# Preventing and Managing Nitrification

- Minimize free ammonia in the distribution system
- Maintain disinfectant residual throughout the distribution system
- Decrease water detention time
- Minimize stagnant or low-flowing water
- Flush impacted areas of the distribution system
- Shut down and disinfect impacted areas of distribution system
- Temporarily convert system to free chlorine

# Record Low August Demands

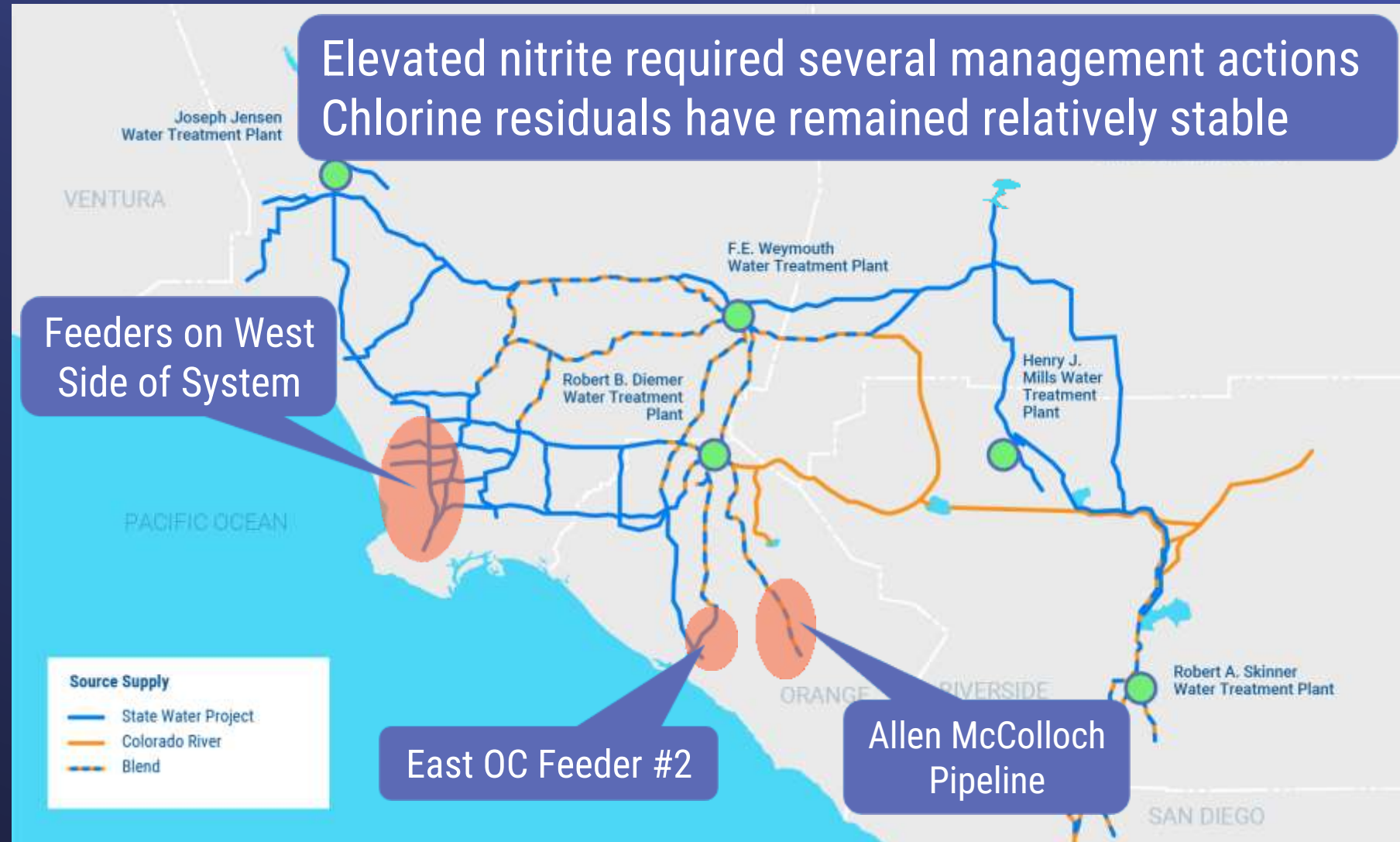
## System Demand

*2023 August summer demand was lower than average February winter demands prior to 2014*



# Affected Areas in LA and Orange Counties

## Nitrification Summer/Fall 2023







# Extensive Routine Monitoring

- Plant effluent and distribution system sites
  - Chlorine, Ammonia, Nitrite

Nitrite Action Level 1\*

0.01 mg/L

Nitrite Action Level 2\*

0.02 mg/L

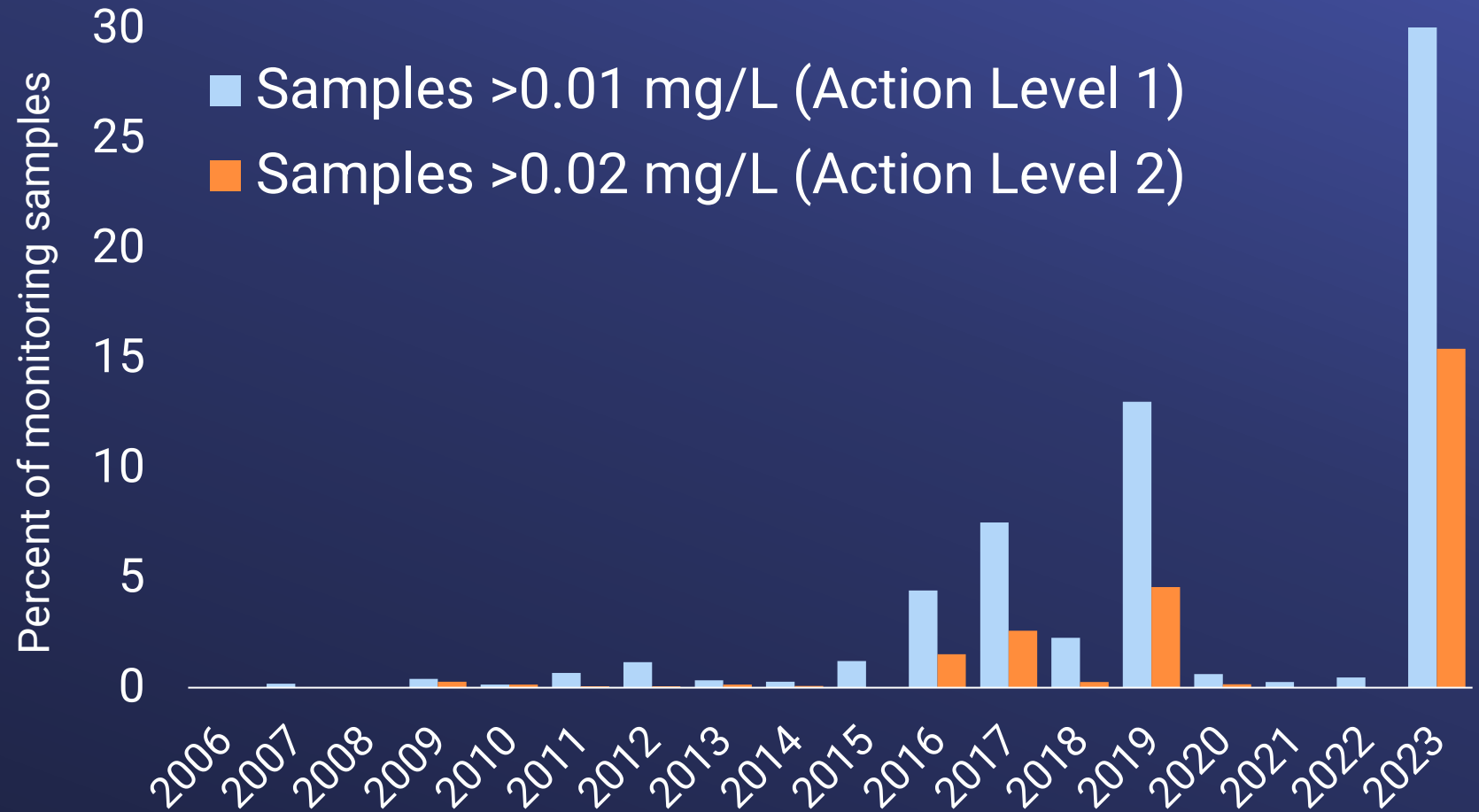
*\* Internal operational action levels, not regulatory limits*

- Low demand and higher temperatures during summer months led to elevated nitrite at various locations
- Tropical Storm Hilary on August 20 exacerbated nitrification event

# Nitrite Monitoring



## Historical Nitrification Events



50 sample locations  
>1,700 samples

~100 staff  
>21,000 hours

24 flushing locations  
~14,000 AF



## Multiple Nitrification Management and Control Actions

- Daily meetings of multiple teams to coordinate response and monitoring operations
- Operational changes to increase flow in affected areas
- Daily monitoring of water quality throughout the system
- Flushing pipelines starting
  - August 22 in west LA County
  - August 23 in Orange County



# Multiple Nitrification Management and Control Actions

## Nitrification Response



- Minimized free ammonia leaving treatment plants
- Increased pH at treatment plant effluents
- Reduced State Water Project blend from 80 percent to 25 percent at the Diemer plant
- Turned off ozone at Diemer Plant







THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

## Infrastructure Maintenance Activities in Your Community

### ABOUT THE PROJECT

The Metropolitan Water District of Southern California is performing maintenance and flushing on one of our regional drinking water delivery pipelines in your community. This work will continue for the next few days to ensure we're providing high-quality, reliable water supplies.

### SCHEDULE

Work is expected to continue through Friday, September 1.

Thank you for  
your patience.

### PROJECT LOCATION

Work is occurring on Manhattan Beach Blvd. between Aviation Blvd and Redondo Ave.

### WHAT TO EXPECT

You may notice the following:

- Water flowing on streets and localized flooding
- Metropolitan crews, vehicles, and equipment.

**WATER SUPPLY TO RESIDENCES AND  
BUSINESSES WILL NOT BE IMPACTED.**

### FOR MORE INFORMATION

✉ [CommunityRelations@mwdh2o.com](mailto:CommunityRelations@mwdh2o.com)  
☎ Rupam Sorli: (213) 217-7262  
Community Relations Team Manager  
🌐 [www.mwdh2o.com](http://www.mwdh2o.com)

# Frequent Communications

- Member Agency Managers Meeting
- General Manager update to Board
- Regular updates to affected Member Agencies
- Periodic updates to the SWRCB Division of Drinking Water
- Targeted outreach in impacted communities

nextdoor

**R** Metropolitan Water District of Southern California  
Community Relations Team Manager Rupam Sorli • 25 Aug

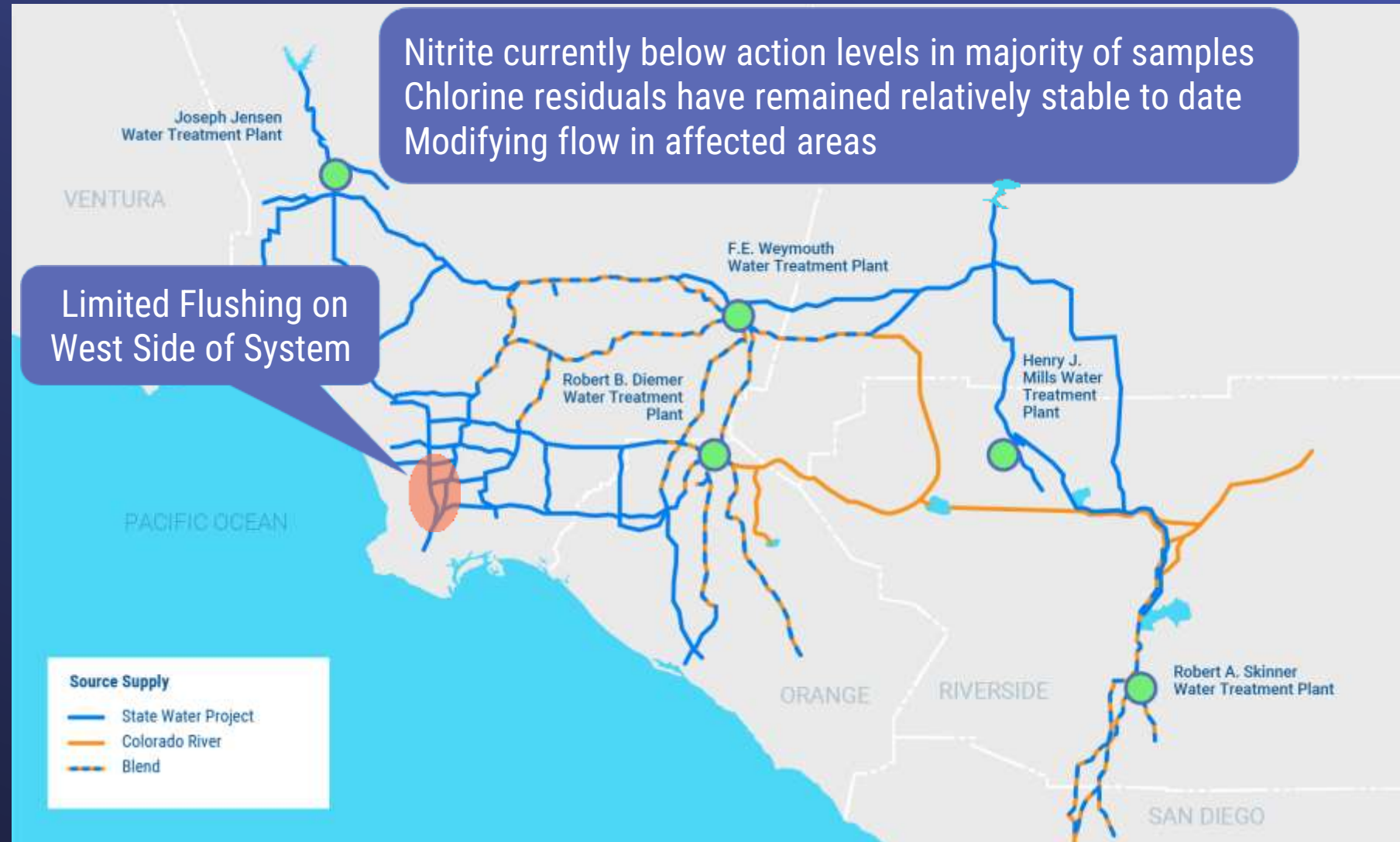
Hi Neighbors,

You may have noticed flooding at the intersection of El Segundo Blvd. and Isis Ave. This is because The Metropolitan Water District of Southern California is flushing one of our large regional drinking water delivery pipes in this area. This flushing will continue for the next few days to ensure we're providing high-quality reliable water supplies. Our crews are onsite to monitor this work. Please note that water supply to residences and businesses will not be impacted as we complete this work. If you have any questions, please feel free to e-mail [communityrelations@mwdh2o.com](mailto:communityrelations@mwdh2o.com) or call [213-217-7262](tel:213-217-7262).

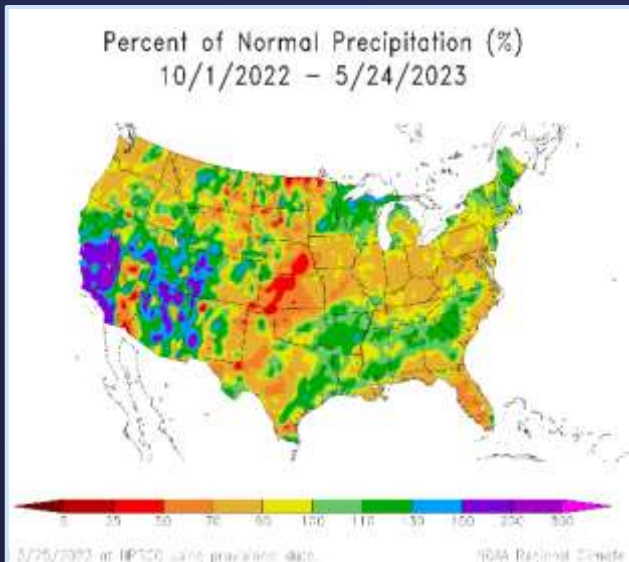
Thank you for your patience!

# Conditions Continue to Improve

## Ongoing Response Actions



# Long-Term Nitrification Outlook



## New Challenges May Lead to More Frequent Nitrification Events

- More frequent swings between wet and drought
  - More variable demand
  - Changes in source water quality
- Extended periods of warmer weather promote nitrification
- Longer detention times due to lower system demand promote nitrification
- Metropolitan's facilities and pipelines designed for large volume, high flow conditions

# Long-Term Nitrification Management & Control

## Future Actions and Considerations

- Nitrification Taskforce
  - Develop a more proactive rather than reactive approach to nitrification control
  - Improved monitoring tools (e.g., online WQ monitoring, distribution system hydraulic modeling)
- Potential infrastructure improvements
  - Assess options and locations for chlorine booster stations in distribution system
  - Assess feasibility of reducing dead legs in system and opportunities for treated water recirculation
- Improved flushing operations
  - Evaluate feasibility of alternative flushing locations
  - Assess opportunities for alternative uses of flushed water



# Nitrification 2023



## Summary

- Nitrification is not a new phenomenon
- Nitrification may become a more frequent issue when low demand coincides with warm weather
- Current event shows significant improvement with limited flushing at a few locations
- Staff working to develop long-term approaches to further control nitrification
- Continued coordination with Member Agencies





Engineering, Operations, & Technology Committee

# Management Announcements and Highlights

Item 7a

November 13, 2023

**Item 7a**  
Management  
Announcements  
and Highlights

## Subject

Update on Engineering Services, Information Technology, and Water System Operations activities for the month of November

## Purpose

Provide updates on Engineering Services, Information Technology, and Water System Operations activities

## Next Steps

Update the board in January 2024



# Engineering Services

# 2023 EOT Inspection Trip

- Revised Date:
  - Thursday - November 16, 2023
- Locations to be visited:
  - La Verne
    - Water Quality Laboratory
    - Weymouth Water Treatment Plant
  - La Verne Shops
  - Lake Mathews
  - Perris Valley Pipeline project



2022 Inspection Trip

# USBR Large-Scale Water Reuse Grant Funding for Pure Water Southern California

- USBR initially making \$180M available in first phase of process
  - \$450M total set aside
- Developing grant application
  - Securing letters of support
  - Requesting approximately \$100M to \$125M
  - Will require a 3:1 MWD match of grant funds
  - Future board approval of grant fund acceptance required
- Grant application due Nov. 21, 2023
- Notification of acceptance by mid-2024
- Grant funds must be spent by Nov-2026



# SCE Method of Service Request Application for Pure Water

- SCE can provide power for Pure Water on requested timeline
- Method of Service request (MOS) will establish project criteria, power supply needs/timing, and costs for subsequent SCE engineering studies
  - Metropolitan submitting multiple scenarios for SCE to study
  - \$150,000 deposit required to start process
  - Expected duration of these studies: 6-9 months
- SCE design of electrical power components can commence following Metropolitan approval of a selected operational scenario
  - Selected operational scenario will determine scope and cost of modifications made to SCE's system



# Metropolitan Staff Participation in WaterReuse California Conference 2023 – November 5-7, 2023

- Award Winner
  - Rupam Soni – Recycled Water Advocate of the Year
- Technical Presenters
  - Joyce Lehman (two presentations)
  - Gloria Lai-Bluml
- Panelists
  - Adel Hagekhalil
  - Deven Upadhyay
  - Heather Collins
  - Terri Slifko

# Water System Operations

# Managing Surplus Conditions

## Current Operational Conditions



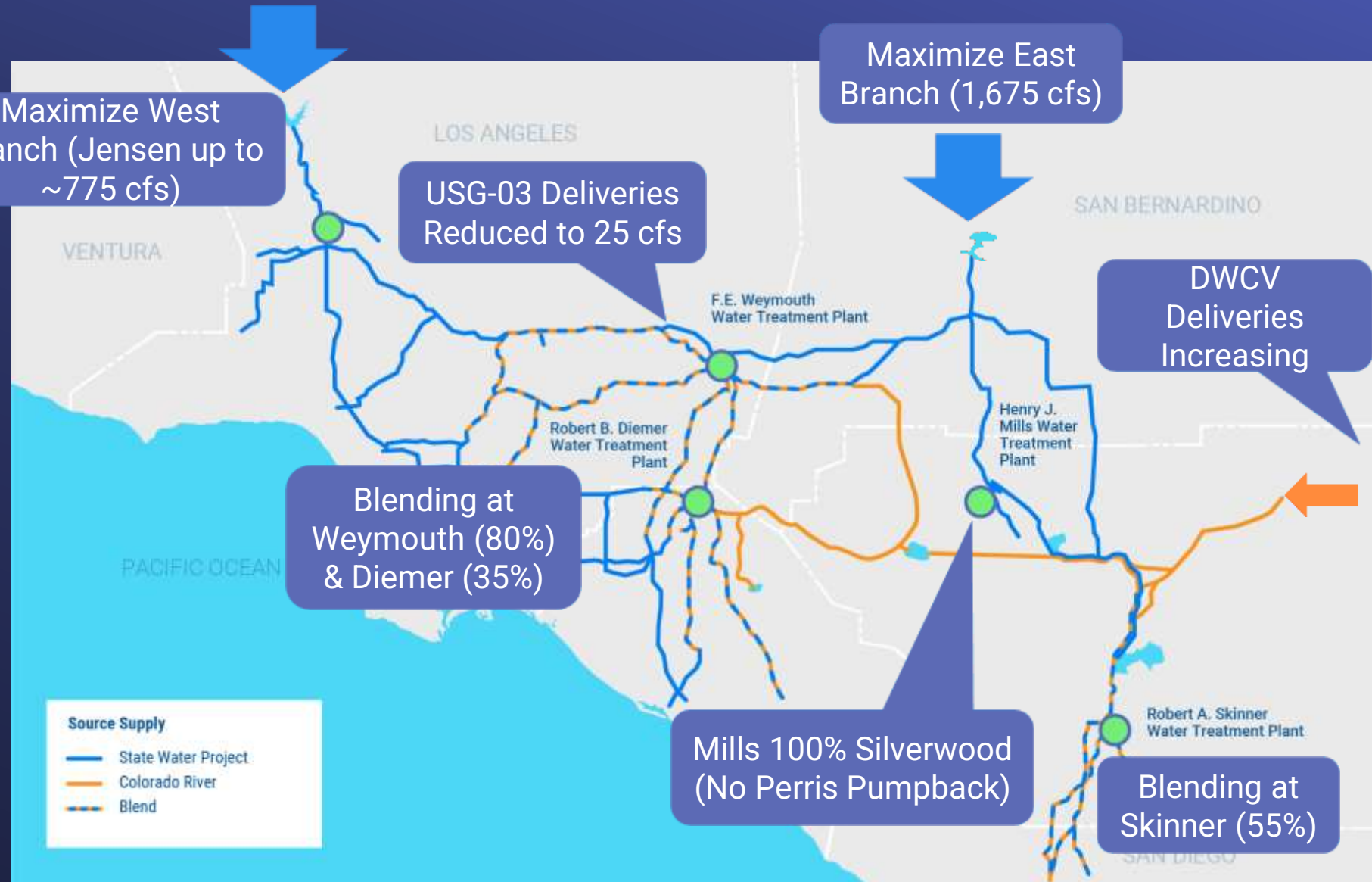
Whitewater Channel Repair

- 2023 SWP Allocation at 100%
- CRA at 5-pump flow
- Deliveries to DWCV at 550 cfs and increasing after channel repair
- SWP blend targets are 80% at Weymouth, 35% at Diemer, and 55% at Skinner
- October 2023 deliveries of 128 TAF were 29 TAF lower than October 2022

# Maximizing SWP Supplies

## Current Surplus Operations

Balancing water supply, quality, and system constraints

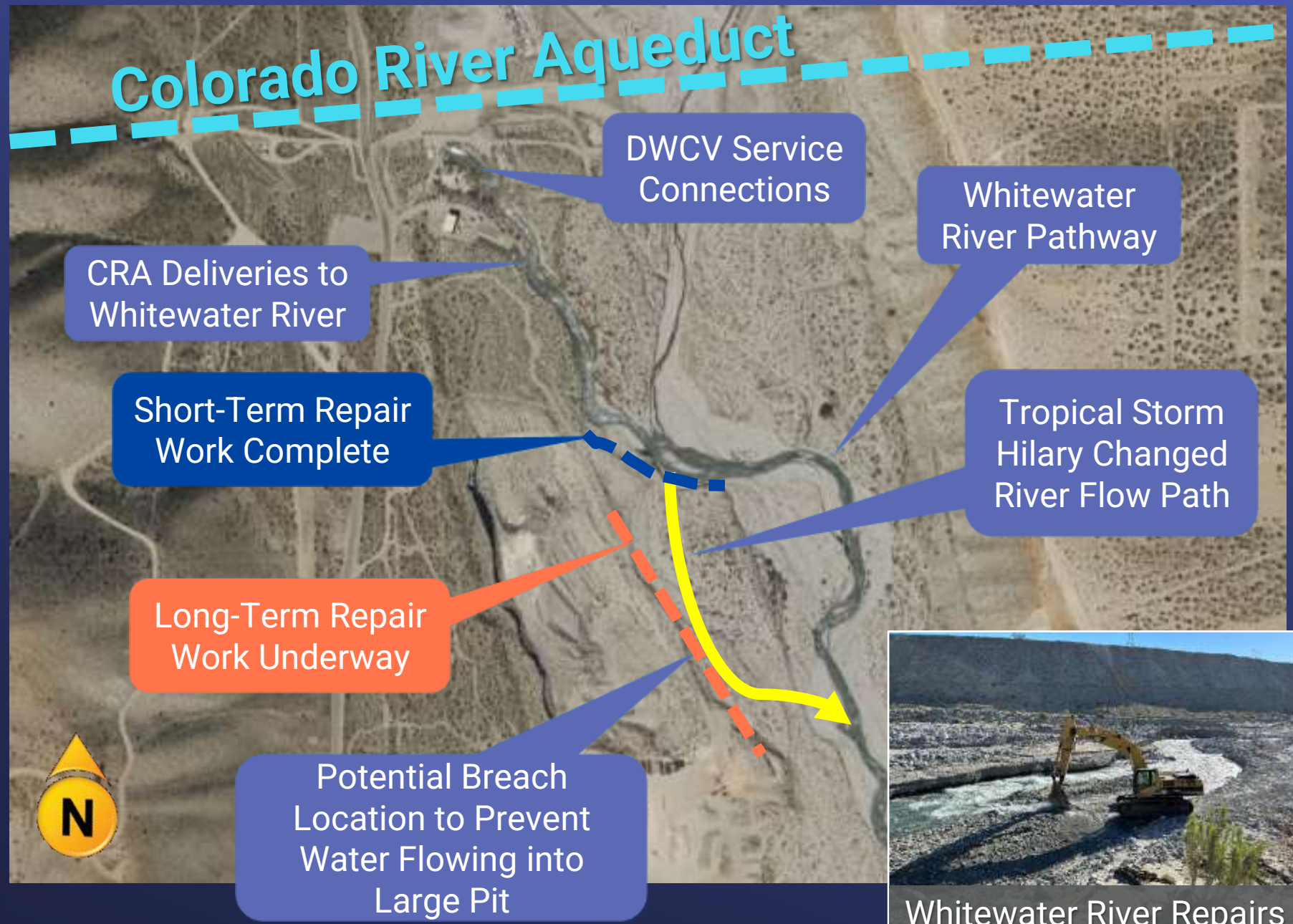




# Whitewater River Repairs



Southerly View of Potential Breach Location



Colorado River Aqueduct

DWCV Service Connections

Whitewater River Pathway

CRA Deliveries to Whitewater River

Short-Term Repair Work Complete

Tropical Storm Hilary Changed River Flow Path

Long-Term Repair Work Underway

Potential Breach Location to Prevent Water Flowing into Large Pit



Whitewater River Repairs



# Ensuring Continued System Reliability

**Santa Monica Feeder**  
Replace Valves  
Nov. 6 – 12, 2023

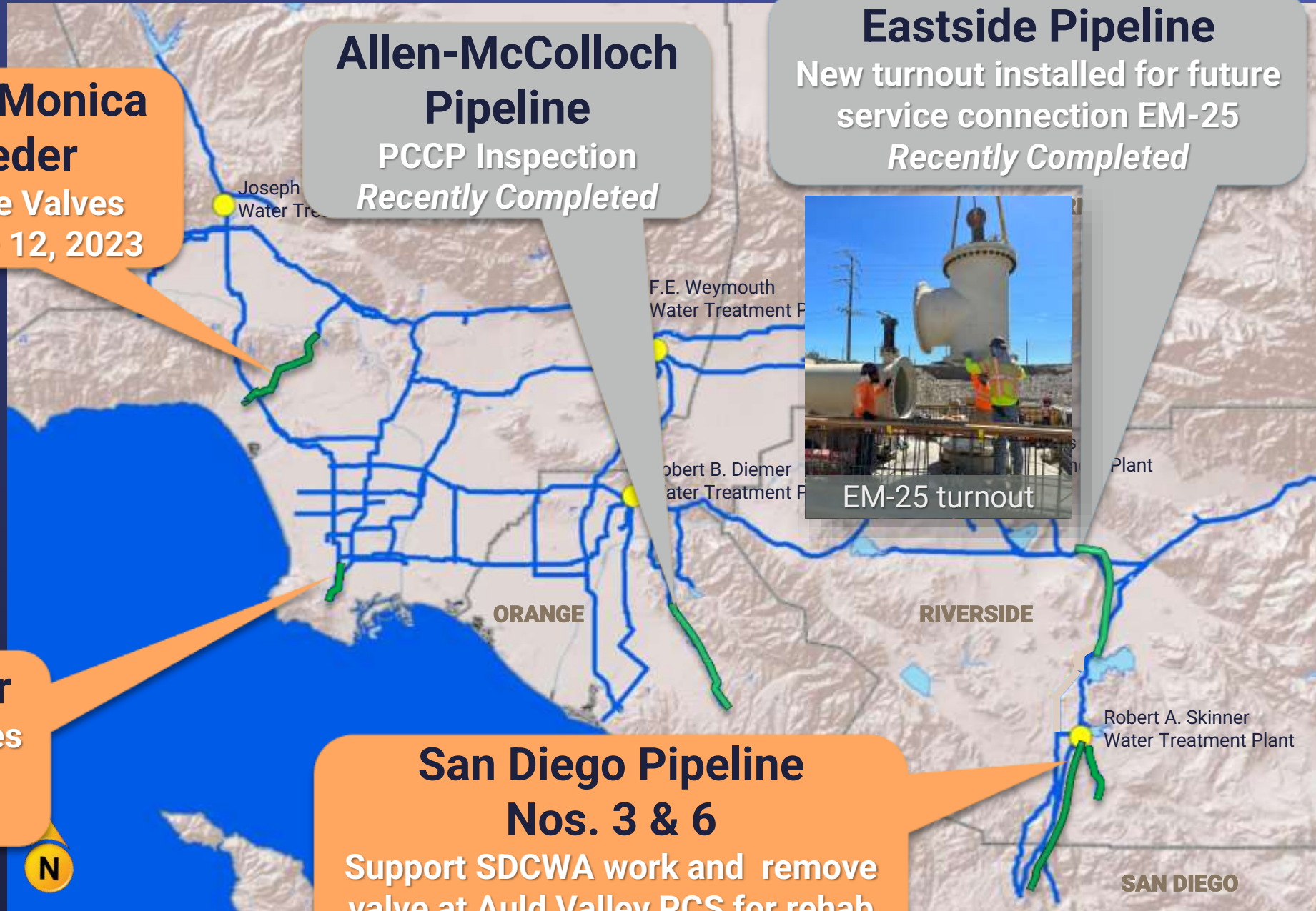
**Allen-McColloch Pipeline**  
PCCP Inspection  
Recently Completed

**Eastside Pipeline**  
New turnout installed for future service connection EM-25  
Recently Completed



**Second Lower Feeder**  
Tie in temporary Palos Verdes Reservoir Bypass Line  
Nov. 2 – 9, 2023

**San Diego Pipeline Nos. 3 & 6**  
Support SDCWA work and remove valve at Auld Valley PCS for rehab  
Nov. 1 – 14, 2023



# Highland Fire



*As of 11/3, ~2,500 acres burned; 50% contained*

## Partnering with Emergency Management Agencies

- Wildfire in southern Riverside County about 15 miles southeast of Lake Skinner; **no impact to Metropolitan operations**
- DVL recreation area used as Fire Unified Command Post
- Metropolitan's Eastern C&D Incident Command Post activated; staff participated at Fire Command Post
- Alert sent to Metropolitan employees for potential local unhealthy air quality
- Effective communications throughout event



# Revisions to DPR Draft Criteria

## Direct Potable Reuse Regulations



*Panel at SWRCB public hearing on proposed DPR regulations*

- Significant public comments during initial 45-day public comment period
- Metropolitan and LACSD submitted joint comment letter
- DDW released revised criteria on October 17 with additional 15-day comment period
- Metropolitan submitted additional joint comment letter with LACSD on revised criteria on November 3



# Direct Potable Reuse Regulations



## Key Revisions Improve DPR Criteria

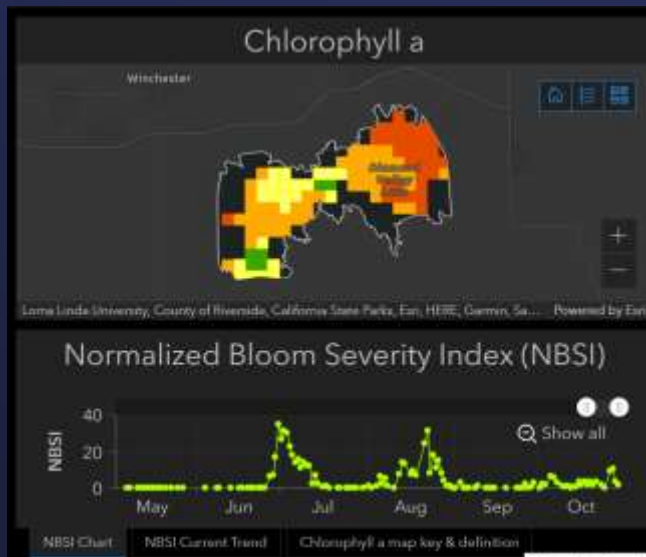
- ✓ Flexibility for Pathogen Control allows pathway for new treatment mechanisms and technologies
- ✓ Flexibility added for TOC dilution in reservoir
- ✓ Streamlining authority for source control program
- Joint comment letter requests:
  - Broad Alternatives clause
  - Standardized online monitoring technology
  - Establishment of CEC Science Advisory Panel
  - Enhanced flexibility in governance and compliance
  - Practical monitoring and reporting provisions

# Award-Winning Lake Explorer Dashboard

## Partnership between Water Quality and Information Technology

Metropolitan's automated tool for using satellite-based data to monitor lake conditions recognized by a Government Experience Award from the Center for Digital Government

# Monitoring Cyanobacterial Blooms



Seyoum Gebremariam, Jonathan Houck, Seth Potter

# Information Technology

Center for  
Digital  
Government's  
Experience  
Project Winner

## Overview of Lake Explorer Dashboard

- Using satellite imagery, the team created a water quality dashboard to monitor the levels of chlorophyll and cyanobacteria in all of the Metropolitan managed reservoirs in near real-time
- The dashboard contains the conditions of the lakes/reservoirs since 2016 so users can select the month/day/year and see the conditions on those dates
- The dashboard compares the change in cyanobacteria using the NCDI (Normalized Cyanobacteria Database Index) Trend and compares the change in chlorophyll using the NBSI trend (Normalized Bloom Severity Index)
- This automated process uses technology to optimize and improve the water quality monitoring that is vital to the health and wellbeing of our 19 million customers



