THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

BOARD ACTION

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

1/10/2023 Board Meeting

7-2

Subject

Review and consider Addendum No. 5 to the certified 2017 Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program; award a $68,847,000 contract to J.F. Shea Construction, Inc. to rehabilitate Reach 3B of the Second Lower Feeder; and authorize an access and permitting agreement with city of Lomita in an amount not to exceed $310,000

Executive Summary

The Second Lower Feeder is the initial pipeline to be addressed under Metropolitan's Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Program. This pipeline has been in continuous service for over 50 years and has required several urgent repairs to its PCCP segments. Due to the shorter-than-expected service life of PCCP, all PCCP within the Second Lower Feeder will be lined with new steel liner pipe or replaced. This action represents the fifth major contract to reline the PCCP sections within the Second Lower Feeder under this program. This action awards a construction contract to install approximately 19,500 feet of welded steel liner pipe and replaces three sectionalizing valves within the Second Lower Feeder in the cities of Lomita, Los Angeles, and Torrance. This action also authorizes a $310,000 access and permitting agreement with the city of Lomita. This contract will be conducted under the terms of Metropolitan's project labor agreement (PLA).

Details

Background

In September 2011, Metropolitan's Board authorized the initiation of the PCCP Rehabilitation Program to develop a comprehensive, long-term plan for the replacement or relining of Metropolitan's at-risk PCCP lines. Metropolitan's strategy for maintaining PCCP reliability consists of four coordinated elements: (1) continued assessment and monitoring of PCCP lines; (2) monitoring of stray currents and installation of cathodic protection; (3) near-term repair of distressed PCCP segments; and (4) long-term rehabilitation.

Assessments of Metropolitan's 27 PCCP feeders led to five lines being identified as priority lines to be addressed under the PCCP Rehabilitation Program. These priority lines include: (1) the Allen-McColloch Pipeline; (2) the Calabasas Feeder; (3) the Rialto Pipeline; (4) the Second Lower Feeder; and (5) the Sepulveda Feeder. A proactive, long-term program to rehabilitate these five feeders has been incorporated into Metropolitan's Capital Investment Plan (CIP). Background information on the program is included in **Attachment 2**, along with the status of activities within each of the four aforementioned PCCP Rehabilitation Program elements.

In January 2017, Metropolitan's Board certified the Final Programmatic Environmental Impact Report (Final PEIR) for the PCCP Rehabilitation Program for the purpose of compliance with the California Environmental Quality Act (CEQA). The inclusion of all five lines within a single programmatic CEQA document provides flexibility to adjust construction sequencing by enabling the rehabilitation of specific reaches of PCCP to move forward based on the most up-to-date condition assessments and priorities.

The Second Lower Feeder delivers treated water from the Robert B. Diemer Water Treatment Plant in the city of Yorba Linda to Palos Verdes Reservoir in the city of Rolling Hills Estates. This pipeline was completed in 1970 and is 39 miles long, with diameters ranging from 78 inches to 84 inches. The pipeline originally contained approximately 30 miles of PCCP, with the remainder constructed of welded steel pipe. The Second Lower Feeder operates at pressures up to 300 pounds per square inch and crosses through a dense urban area.

The Second Lower Feeder is the initial PCCP pipeline to be addressed under the PCCP Rehabilitation Program due to its condition, its history of repairs, the presence of corrosive soils and third-party stray currents, and its high internal operating pressure. Rehabilitation of 14 of the original 30 miles of PCCP has been completed to date. In May 2019, Metropolitan's Board also authorized procurement of 12,150 feet of welded steel liner pipe for current and future Second Lower Feeder PCCP relining projects. Approximately 6,660 feet of that pipe is being utilized for relining work currently underway under the Second Lower Feeder Reach 3A rehabilitation. The remaining 5,490 feet of liner will be utilized for the relining work to be performed by the contractor under the subject construction contract. The contractor will then procure the remaining amounts of steel liner under this contract to complete the project. The use of the pre-purchased steel liner will allow the contractor to expedite the start of the lining work while the remaining liner is being fabricated.

Final design for the rehabilitation of 19,500 feet of PCCP portions of the Second Lower Feeder within the cities of Lomita, Los Angeles, and Torrance was completed in September 2022. Specifications for this work have been advertised, and bids received as discussed below, and staff recommends moving forward with construction at this time. Rehabilitation of the remaining 15.8 miles of PCCP within the Second Lower Feeder will be the subject of future actions over several years, with multiple construction and procurement contracts.

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 the actions described below, pending board award of the construction contract. Based on the current CIP expenditure forecast, funds for the work to be performed pursuant to this action during the current biennium are available within the CIP Appropriation for Fiscal Years 2022/23 and 2023/24 (Appropriation No. 15525). Funds required for work to be performed pursuant to the subject contract after fiscal year 2023/24 will be budgeted within the CIP appropriation for fiscal years 2024/25 and 2025/26. 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 PCCP Reliability Program.

Second Lower Feeder PCCP Rehabilitation, Reach 3B – Construction

The scope of the contract includes lining approximately 19,500 feet of existing PCCP segments along the southwestern portion of the Second Lower Feeder traversing the cities of Los Angeles, Torrance, and Lomita. The existing pipes will be lined with smaller diameter steel liner sections that will accommodate full internal and external pressures on the pipeline. The work also includes replacing three 42-inch sectionalizing valves with three new 48-inch sectionalizing valves; enlarging four existing maintenance holes and constructing seven additional ones for safer egress; construction and removal of a temporary bypass line at Palos Verdes Reservoir to enable Metropolitan to sustain minimal member agency water demands during project shutdowns; and relocation of eight air release and vacuum valves from below grade to above grade to reduce the risk of cross contamination of the pipeline's potable water supply.

To minimize above-ground impacts during construction, seven access shafts will be excavated to allow for installation of the new steel liners. This project will be completed over three shutdown periods scheduled during cooler months to minimize water supply impacts to member agencies. The planned shutdowns for the construction contract extend nearly five months, from early December 2023 through late April 2024, and from early December 2024 through late April 2025. A final two-week shutdown is required in January 2026 for Metropolitan forces to remove temporary isolation bulkheads and piping at the Palos Verdes Reservoir.

Metropolitan forces will perform pipeline shutdown work, including isolation and dewatering of portions of the Second Lower Feeder, Sepulveda Feeder, Palos Verdes Feeder, Palos Verdes Reservoir, and various member agency service connections in preparation for the contractor's work. The first shutdown will isolate approximately five miles of the Second Lower Feeder and the terminus of the Palos Verdes Feeder. The second shutdown includes the same facilities as the first plus an additional four miles of the Second Lower Feeder plus three miles of the southern portion of the Sepulveda Feeder. The third and final shutdown will impact the southern 1.1 miles of the Second Lower Feeder from the Oak Street Pressure Control Structure to the Palos Verdes Reservoir.

A total of $93.8 million is required for this work. In addition to the amount of the contract described below, other funds to be allocated include $8,400,000 for construction management and inspection; $6,422,000 for Metropolitan force work as described above; $3,310,000 for contract administration, environmental support,

project management, and temporary accommodations for impacted residents; and $1,971,000 for submittal review and preparation of record drawings. Professional services include $510,000 for technical support during construction by Black and Veatch, Inc.; $500,000 for PLA administration services with Parsons Constructors, Inc.; $220,000 for environmental monitoring and reporting by Helix Group Inc.; and $150,000 for community outreach services by Water System Consulting, all under existing board-authorized agreements. Right-of-way and permitting costs include $450,000 for land lease fees payable to Los Angeles Community College District for storage of Metropolitan-furnished liner pipe (approximately $290,000 of which will be payable under an existing board-authorized agreement that expires in January 2025 and the remaining $160,000 under a future agreement that will start in February 2025 and may be the subject of a future board action); $310,000 for an access and permitting agreement with the city of Lomita; $250,000 for a median and landscaping restoration agreement with the Los Angeles Conservation Corps, to be awarded under the General Manager's Administrative Code authority to award contracts of $250,000 or less; and $75,000 for a land lease agreement with the city of Torrance for the temporary storage of valves and construction equipment, to be awarded under the General Manager's Administrative Code authority to award contracts of $250,000 or less. Funds allocated for remaining funds are $2,385,000.

The total amount expended to date for PCCP rehabilitation of Second Lower Feeder Reach 3B is approximately $14.2 million, including design and liner pipe procurement. The total estimated cost to complete the Reach 3B rehabilitation, including the amount appropriated to date and funds allocated for the work described in this action, is approximately $108 million.

Award of Construction Contract (J.F. Shea Construction, Inc.)

Specifications No. 2026 for the rehabilitation of PCCP segments within the Second Lower Feeder was advertised for bids on September 21, 2022. As shown in **Attachment 3**, three bids were received and opened on December 8, 2022. The low bid from J.F. Shea Construction, Inc. in the amount of $68,847,000 complies with the requirements of the specifications. The other bids ranged from $87,991,972 to $112,206,766, while the engineer's estimate was $72 million. For this contract, Metropolitan established a Small Business Enterprise participation level of at least ten percent of the bid amount. J.F. Shea Construction, Inc. has committed to meet this level of participation. The subcontractors for this contract are listed in **Attachment 4**. This contract will be conducted under the terms of Metropolitan's PLA.

As described above, Metropolitan staff will perform construction management and inspection with assistance from a specialty welding inspection consultant. Engineering Services' performance metric target range for construction management and inspection of projects with construction greater than $3 million is 9 to 12 percent. For this project, the performance metric goal for inspection is 9.8 percent of the total construction cost. The total cost of construction for this project is $85,659,000, which includes the cost of the contract ($68,847,000), Metropolitan force construction and supplies ($6,422,000), three large diameter valves ($5,324,000), steel liner pipe ($4,816,000), and street median restoration ($250,000).

Access and Permitting Agreement (City of Lomita) – New Agreement

This action authorizes an access and permitting agreement with the city of Lomita in an amount not to exceed $310,000. This amount includes $235,850.47 for permit fees during the planned construction duration, and an option to extend the permit on a month-to-month basis for an additional six months at a rate of $11,609 per month. Work is not expected to extend beyond the planned construction duration, but the standard city of Lomita contract language requires a six-month deposit for any extension of the work duration, with unused funds to be reimbursed to Metropolitan.

Alternatives Considered

Staff evaluated two alternatives to rehabilitating the southernmost reach of the PCCP portions of the Second Lower Feeder, which consist of 26,000 feet of PCCP and three sectionalizing valves. The first alternative would perform all work under one construction contract. However, this alternative would have required an 8-month shutdown of the pipeline. This reach of the Second Lower Feeder is the only source of water supply to member agencies in this area, and the affected service connections cannot tolerate a shutdown greater than a few weeks during the low-demand winter season, and much less during peak demand periods.

The selected alternative instead splits the work into two contracts (Reaches 3A and 3B). The first contract (Reach 3A), which relines approximately 6,500 feet of PCCP, was awarded by the Board in May 2022 and is currently underway. The second contract (Reach 3B), which is the subject of this action, will complete the remaining 19,500 feet of the southernmost reach of the PCCP portions of the Second Lower Feeder. Utilizing two contracts allows for greater lead time to procure temporary bypass piping and reduces schedule and materials procurement risks associated with longer shutdowns.

The selected alternative is a cost-effective approach which manages the risks associated with relatively short shutdowns on the Second Lower Feeder and minimizes service interruptions to member agencies. This alternative is consistent with the objectives of Metropolitan's PCCP Rehabilitation Program and will enhance the reliability of Metropolitan's distribution system.

Summary

This action awards a $68,847,000 construction contract to J.F. Shea Construction, Inc. to rehabilitate Reach 3B of the Second Lower Feeder. This action also authorizes a $310,000 access and permitting agreement with the city of Lomita. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Background and Program Status, **Attachment 3** for the Abstract of Bids, **Attachment 4** for the listing of Subcontractors for Low Bidder, **Attachment 5** for the Location Map, **Attachment 6** for Addendum No. 5 to the Final PEIR for the PCCP Rehabilitation Program, **Attachment 7** for the Final PEIR for the Second Lower Feeder Vol 1, and **Attachment 8** for Final PEIR Vol 2 Findings of Fact, Mitigation Monitoring, and Statement of Overriding Considerations.

Project Milestone

January 2026 – Completion of construction

Policy

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

By Minute Item 50009, dated January 13, 2015, the Board authorized the first phase of final design to rehabilitate the PCCP portions of the Second Lower Feeder.

By Minute Item 50699, dated January 10, 2017, the Board certified the Final Programmatic Environmental Impact Report for the PCCP Rehabilitation Program, and approved the program for the Second Lower Feeder, Sepulveda Feeder, Calabasas Feeder, Rialto Pipeline, and Allen-McColloch Pipeline for the purposes of CEQA.

By Minute Item 51597, dated May 14, 2019, the Board awarded a contract to construct and procure materials for the rehabilitation of portions of the Second Lower Feeder.

By Minute Item 51860, dated January 14, 2020, the Board authorized a lease agreement with Los Angeles Community College in an amount not to exceed $850,000 for a five-year term for property to be used for construction staging and storage of steel liner pipe.

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.

By Minute Item 52828, dated May 10, 2022, the Board awarded a contract to procure materials and perform construction for the rehabilitation of portions of the Second Lower Feeder.

By Minute Item 53004, dated October 11, 2022, the Board authorized an agreement with Parsons Constructors, Inc. in an amount not to exceed $5,750,000 to administer the Project Labor Agreement.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

Metropolitan's Board certified the PCCP Rehabilitation Program's Final PEIR on January 10, 2017. At that time, the Board also adopted the Findings, the SOC, the MMRP, and the program itself. On January 19, 2022, Addendum No. 5 to the Final PEIR was prepared to document the proposed minor modifications to the approved project as described in this letter. CEQA and the State CEQA Guidelines require the preparation of an addendum to a previously certified PEIR if changes or additions are necessary, but none of the conditions calling for the preparation of a subsequent EIR have occurred (Section 15164 of the State CEQA Guidelines). Instead, the proposed modifications require only minor changes or additions to the evaluation in the certified Final PEIR to make it adequate under CEQA. None of the proposed modifications would result in significant adverse impacts beyond those impacts already disclosed in the Final PEIR.

CEQA determination for Option #2:

None required

Board Options

Option #1

Review and consider Addendum No. 5 to the certified 2017 Programmatic Environmental Impact Report for the Prestressed Concrete Cylinder Pipe Rehabilitation Program, and

a. Award a $68,847,000 contract to J.F. Shea Construction, Inc. to rehabilitate Reach 3B of the Second Lower Feeder; and
b. Authorize an access and permitting agreement with the city of Lomita in an amount not to exceed $310,000.

Fiscal Impact: Expenditure of $93.8 million in capital funds. Approximately $50 million will be incurred in the current biennium and has been previously authorized. The remaining funds from this action and the future construction costs will be accounted for and appropriated under the next biennial budget.

Business Analysis: This option would increase the reliability of Metropolitan's distribution system consistent with the goals identified for the PCCP Rehabilitation Program.

Option #2

Do not move forward to rehabilitate Reach 3B of the Second Lower Feeder at this time.

Fiscal Impact: None

Business Analysis: This option would likely increase the risk of pipe failures, unplanned shutdowns, and costly repairs over time.

Staff Recommendation

Option #1

12/21/2022

John V. Bednarski *Date*
Manager/Chief Engineer
Engineering Services

12/22/2022

Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Background and Program Status

Attachment 3 – Abstract of Bids

Attachment 4 – Subcontractors for the Low Bidder

Attachment 5 – Location Map

Attachment 6 – Addendum No. 5 to Final PEIR

Attachment 7 – Final PEIR

Attachment 8 – Final PEIR Vol 2 Findings-MMRP-SOC

Ref# ES12691471

Allocation of Funds for Second Lower Feeder PCCP Rehabilitation Reach 3B

	Current Board Action (Jan. 2023)
Labor	
Studies & Investigations	$ -
Final Design	-
Owner Costs (Program mgmt., contract admin, envir. monitoring)	3,050,000
Submittals Review & Record Drwgs.	1,971,000
Construction Inspection & Support	8,400,000
Metropolitan Force Construction	5,977,000
Materials & Supplies	445,000
Incidental Expenses	260,000
Professional/Technical Services	
Black & Veatch, Inc.	510,000
Parsons Constructors, Inc.	500,000
Helix Group, Inc.	220,000
Water Systems Consulting	150,000
Right-of-Way	
City of Lomita	310,000
City of Torrance	75,000
Los Angeles Community College	450,000
Equipment Use	-
Contracts	
J.F. Shea Construction, Inc.	68,847,000
Los Angeles Conservation Corps	250,000
Remaining Budget	2,385,000
Total	**$ 93,800,000**

The total amount expended to date for PCCP rehabilitation of Second Lower Feeder Reach 3B is approximately $14.2 million. The total estimated cost to complete the Reach 3B rehabilitation, including the amount appropriated to date and funds allocated for the work described in this action, is approximately $108 million.

PCCP REHABILITATION PROGRAM
BACKGROUND AND PROGRAM STATUS

Metropolitan's water delivery system includes approximately 830 miles of large-diameter pipelines. There are prestressed concrete cylinder pipe (PCCP) reaches within 27 feeders, with diameters ranging from 54 to 201 inches. These PCCP lines are located in both dense urban regions and remote areas and were installed between 1965 and 1985. The total original length of PCCP was 163 miles.

Over the last several decades, water agencies throughout the United States and other countries have found that under certain conditions, PCCP lines may have a reduced service life and elevated risk of failure versus other types of pipe. PCCP failures can be catastrophic and may occur without warning. A PCCP failure may compromise system reliability and result in significant costs due to interruption of service, unplanned major repairs, and potential third-party damages.

In September 2011, as a proactive measure to maintain overall system reliability, Metropolitan initiated a comprehensive program to inspect, manage, and rehabilitate its PCCP feeders. This effort included preparation of a risk analysis to assess the need and priority for rehabilitation of individual PCCP lines. Through this process, five of Metropolitan's 27 PCCP lines were identified to have experienced a disproportionate share of all prestressing wire breaks, repair length to date, and cost of repairs. The five priority lines are: (1) Allen-McColloch Pipeline, (2) Calabasas Feeder, (3) Rialto Pipeline, (4) Second Lower Feeder, and (5) Sepulveda Feeder. The PCCP within these five lines is expected to continue to deteriorate, as indicated by a progression of prestressing wire breaks over time. While Metropolitan's other PCCP feeders contain prestressing wire breaks in some pipe segments, they do not exhibit the same trend of increasing wire breaks over time. These other feeders may eventually need to be rehabilitated but appear to be stable at present. Their condition will be reevaluated on a regular basis, and adjustments will be made to the program if additional feeders are determined to be at risk in the future.

In January 2015, final design commenced to rehabilitate the initial pipeline: Second Lower Feeder. In January 2017, Metropolitan's Board certified the Final Programmatic Environmental Impact Report (Final PEIR) for the entire PCCP Rehabilitation Program and approved the program for all five priority lines for the purpose of compliance with the California Environmental Quality Act (CEQA). The inclusion of all five lines within a single programmatic CEQA document provides flexibility to adjust construction sequencing by enabling the rehabilitation of specific reaches of PCCP to move forward based on up-to-date condition assessments and priorities.

The comprehensive strategy for managing Metropolitan's PCCP lines and maintaining their reliability is comprised of four coordinated elements. The following describes these elements and summarizes the status of activities for each:

No.	Element	Status
1	**Continued Assessment and Monitoring of PCCP Lines –** Metropolitan currently inspects all PCCP lines within the distribution system every three to seven years. In order to increase knowledge of the pipelines' baseline condition to track prestressing wire breaks over time, and to identify distressed PCCP segments, staff will continue to aggressively inspect PCCP lines using state-of-the-art inspection techniques.	At present, electromagnetic inspection continues to be the industry's primary technique for identification of wire breaks. A complete cycle of inspections of Metropolitan's feeders takes approximately five to seven years to complete. To date, four cycles of electromagnetic inspections have been performed on most of the PCCP feeders. In August 2022, the Board approved a new agreement for pipe inspection services. This season, a portion of the Sepulveda Feeder has already been inspected. Other planned inspections for 2022/23 include 10.3 miles of Sepulveda Feeder in February 2023.

No.	Element	Status
2	**Monitoring of Stray Currents and Installation of Cathodic Protection** – Metropolitan will continue to perform corrosion surveys and monitor stray currents on a one to two-year cycle. Where indicated by corrosion monitoring, staff will install stray current drain stations or impressed current systems to minimize continued deterioration from stray current interference, which is a major cause of corrosion damage.	To date, stray current protection has been installed in 31.5 miles of PCCP lines. This protection includes both current drain stations and impressed current systems. A CIP project to install three more stray current drain stations on the Sepulveda Feeder is scheduled for next year.
3	**Near-Term Repair of Distressed PCCP Segments** – Metropolitan will continue to prioritize and repair PCCP segments with elevated numbers of prestressing wire breaks, broken-back cracks, or other indications of risk or distress. During the course of the PCCP Rehabilitation Program, individual PCCP segments may be identified as distressed prior to the scheduled rehabilitation of an entire feeder. If needed, staff will recommend moving forward with near-term repairs to those individual PCCP segments.	To date, approximately 4.5 miles of distressed PCCP segments have been repaired. Most recently, urgent repairs were completed on the Allen-McColloch Pipeline in 2021.
4	**Long-Term Rehabilitation –** The goal of this element is to complete the rehabilitation or replacement of all PCCP segments within the five priority lines.	For the Second Lower Feeder, the following is a summary of work to date: • Preliminary Design – Reach 9, which crosses the Newport-Inglewood Fault zone: Geotechnical investigations and seismic studies are underway. • Final Design – Reach 3B: Final design is complete. Award of a construction contract is the subject of this action. • Procurement – Procurement of 13 large-diameter conical plug isolation valves is underway. Three 48-inch diameter valves have been delivered and are currently in storage at Lake Mathews and the La Verne Facility awaiting installation. Two 54-inch diameter valves have been fabricated and delivered to Lake Mathews. Two additional 54-inch valves are under fabrication and expected to be delivered in mid-2023. The final three 54-inch valves are expected to be delivered in 2024. • Construction – relining of the following reaches is complete: – Reach 1 (23,100 feet) – Reach 2 (26,900 feet) – Reach 4 (10,000 feet) – Reach 8 (2,900 feet) • Construction – relining of the following reaches is currently underway: – Reach 3A (6,500 feet)

No.	Element	Status
		For the Sepulveda Feeder, the following is a summary of work to date: • Preliminary Design – South Reach: Preliminary design is complete; final design is ongoing – North Reach: Design effort is ongoing. • Final Design of South Reach – Reach 1: Design in progress – Reach 2: Design in progress Work on the Sepulveda Feeder North Reach has been accelerated to support addition of pumping capacity to enhance drought resiliency. For the Allen-McColloch Pipeline, Calabasas Feeder, and Rialto Pipeline, the following is a summary of work to date: • Preliminary design activities are underway. For all five at-risk pipelines, the following is a summary of work to date: • Outreach – Currently underway with member agencies to address construction phasing, service connection outages, shutdown durations, and water quality-related issues. – Currently underway with local agencies and communities to minimize traffic and other potential impacts to the public.

The goal of this comprehensive strategy for managing PCCP lines is to maintain reliable deliveries to Metropolitan's member agencies while optimizing the remaining useful life of PCCP lines. The effort includes development of a multi-year schedule and conceptual-level cost estimates with a long-term rehabilitation and replacement plan for the five priority PCCP lines. The overall schedule, cost estimates, and sequencing of work will be reassessed regularly during the development of Metropolitan's biennial capital budget.

System-wide hydraulic analyses are underway to assess hydraulic impacts of the PCCP rehabilitation work on Metropolitan's distribution system. The results of the analyses have been used to develop alternatives to minimize the loss of hydraulic capacity, to evaluate impacts of extended shutdowns on individual service connections, and to identify options for maintaining deliveries. The replacement of smaller-diameter sectionalizing valves and meters with larger units is an example of an approach for maintaining feeder hydraulic capacity.

The strategy for the priority feeders is to complete preliminary design of the rehabilitation work for the entire length of each feeder at an early stage of the program. This approach will provide flexibility to adjust construction sequencing of individual reaches if priorities change. The sequencing for rehabilitation will be determined by several factors, including: (1) updated assessments of risk; (2) Metropolitan's water supply availability and the operational needs for specific feeders; (3) impacts to member agency service connections; and (4) readiness for construction. The priority and sequencing for PCCP rehabilitation will be reevaluated periodically throughout the life of the program.

The Metropolitan Water District of Southern California

Abstract of Bids Received on December 8, 2022, at 2:00 P.M.

Specifications No. 2026
Second Lower Feeder PCCP Rehabilitation Reach 3B

The work includes rehabilitation of approximately 19,000 linear feet of prestressed concrete cylinder pipe (PCCP), including excavating access portals and removing portions of existing PCCP, installing Metropolitan-furnished and Contractor-furnished steel liner pipe, expanding and welding the steel liner pipe, grouting the annular space, cement mortar lining, and modifying pipeline appurtenant structures, rehabilitating three existing isolation valve structures, rehabilitating two service connections, installing and removing Palos Verdes Reservoir temporary bypass lines, disinfecting the pipeline, controlling traffic, and abating hazardous materials.

Engineer's estimate: $72 million

Bidder and Location	Total	SBE $	SBE %	Met SBE[1]
J.F. Shea Construction, Inc. Walnut, CA	**$68,847,000**	**$7,133,273**	**10.36%**	**Yes**
PCCP Rehabilitation Joint Venture Dallas, OR	$87,991,972	-	-	-
Michels Trenchless, Inc. Brownsville, WI	$112,206,766	-	-	-

[1] Small Business Enterprise (SBE) participation level established at 10% for this contract.

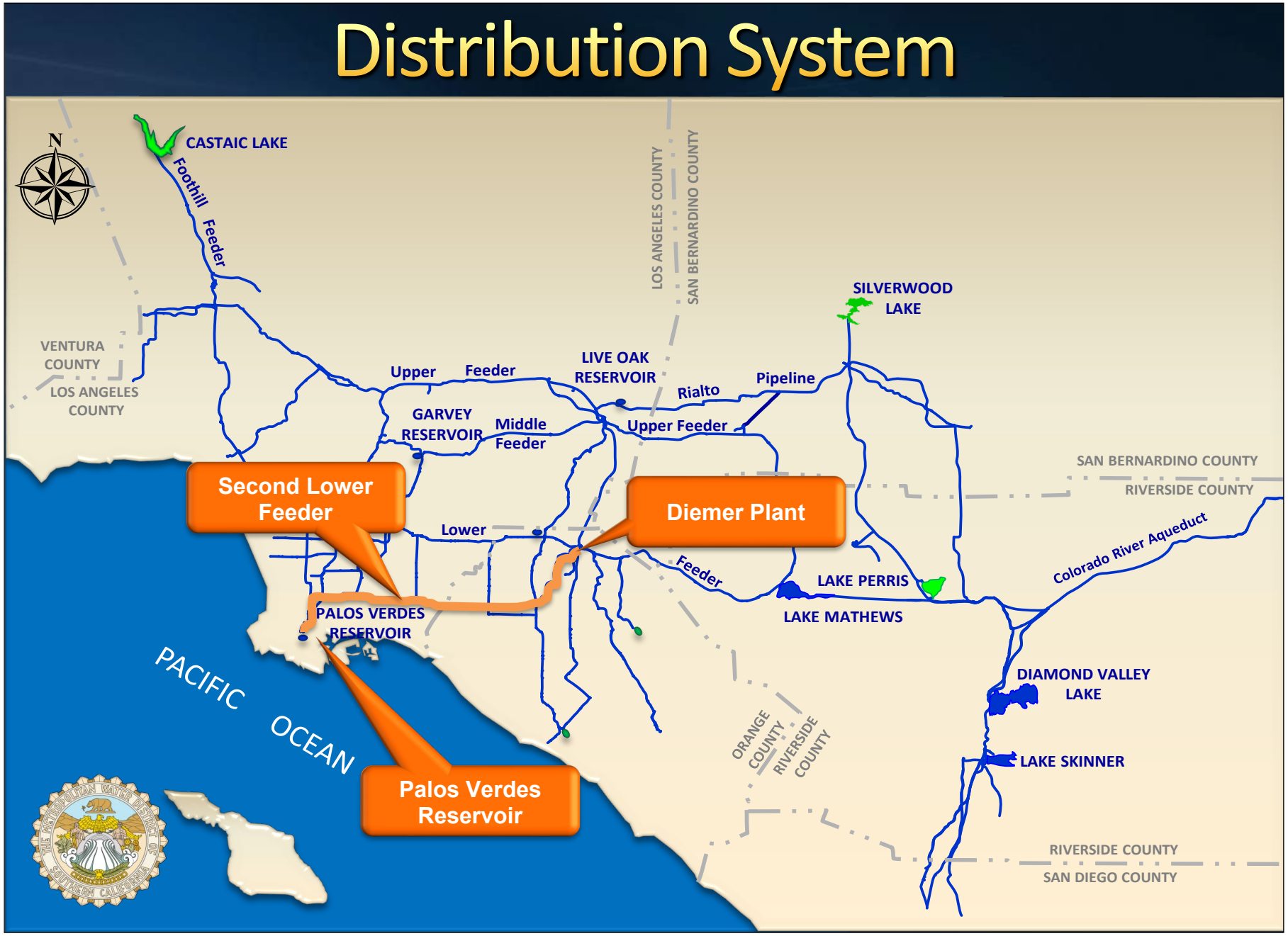
The Metropolitan Water District of Southern California

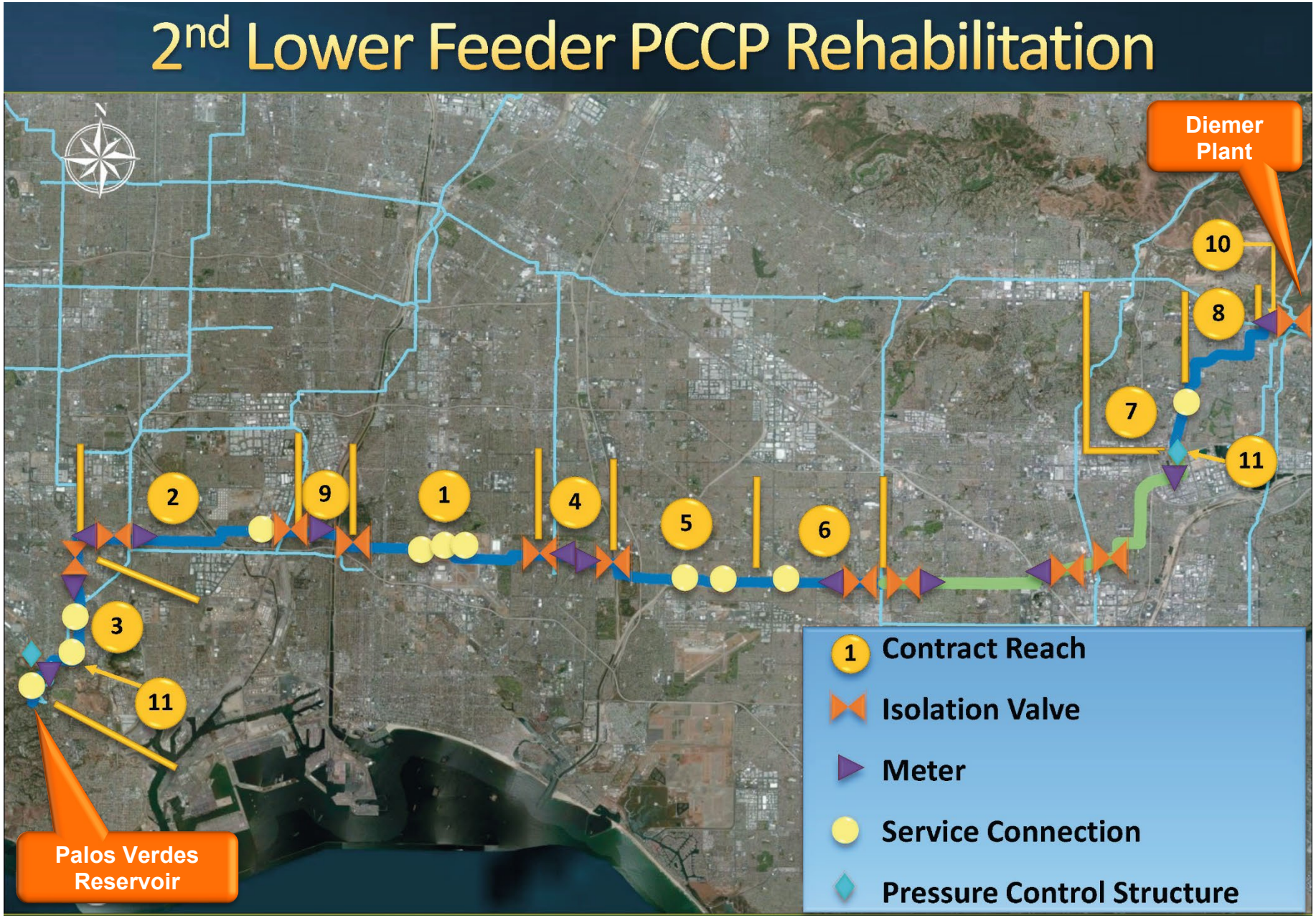
Subcontractors for Low Bidder

Specifications No. 2026
Second Lower Feeder PCCP Rehabilitation Reach 3B

Low bidder: J.F. Shea Construction, Inc.

Subcontractor and Location
Cell-Crete Monrovia, CA
Crosstown Electrical & Data, Inc. Irwindale, CA
Dean's Certified Welding, Inc, Temecula, CA
Environmental Construction Group, Inc Signal Hill, CA
Hardy & Harper, Inc. Lake Forest, CA
Layfield USA Corporation Lakeside, CA
Southern Contracting Company San Marcos, CA


Distribution System
N
CASTAIC LAKE
Foothill Feeder
VENTURA COUNTY
LOS ANGELES COUNTY
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
SILVERWOOD LAKE
Upper Feeder
LIVE OAK RESERVOIR
Rialto Pipeline
GARVEY RESERVOIR
Middle Feeder
Upper Feeder
Second Lower Feeder
Diemer Plant
Lower Feeder
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
Colorado River Aqueduct
LAKE PERRIS
LAKE MATHEWS
PALOS VERDES RESERVOIR
PACIFIC OCEAN
DIAMOND VALLEY LAKE
ORANGE COUNTY
RIVERSIDE COUNTY
LAKE SKINNER
Palos Verdes Reservoir
RIVERSIDE COUNTY
SAN DIEGO COUNTY


2nd Lower Feeder PCCP Rehabilitation
N
Diemer Plant
Palos Verdes Reservoir
1
2
3
4
5
6
7
8
9
10
11
Contract Reach
Isolation Valve
Meter
Service Connection
Pressure Control Structure