THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

MWD MEETING AGENDA

E&O Committee
T. Smith, Chair
Vacant, Vice Chair
R. Apodaca
S. Blois
M. Camacho
D. De Jesus
L. Dick
S. Faessel
R. Lefevre
J. Morris
G. Peterson
H. Repenning
H. Williams

Engineering and Operations Committee

Meeting with Board of Directors *

March 7, 2022

8:30 a.m.

Monday, March 7, 2022 Meeting Schedule
08:30 am - E&O
10:00 am - WP&S
12:30 pm - Break
01:00 pm - C&L
02:00 pm - F&I

Teleconference meetings will continue until further notice. Live streaming is available for all board and committee meetings on mwdh2o.com (Click Here)

A listen only phone line is also available at 1-800-603-9516; enter code: 2176868#. Members of the public may present their comments to the Board on matters within their jurisdiction as listed on the agenda via teleconference only. To participate call (404) 400-0335 and enter Code: 9601962.

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

* 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 and Operations Committee held February 7, 2022 — **21-925**

Attachments: 03072022 EO 2A minutes.pdf

3. CONSENT CALENDAR ITEMS - ACTION

Zoom Online

7-1 Authorize the General Manager to negotiate a Project Labor Agreement for application on construction contracts with a value of $5 million or greater within Metropolitan's Capital Investment Plan; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-880**

Attachments: 03082022 EO 7-1 B-L.pdf
03082022 EO 7-1 Presentation.pdf

7-2 Authorize two professional services agreements to support radial gates replacement projects: (1) an agreement with Hazen and Sawyer in an amount not to exceed $890,000; and (2) an agreement with LEE + RO, Inc. in an amount not to exceed $904,000; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-881**

Attachments: 03082022 EO 7-2 B-L.pdf
03082022 EO 7-2 Presentation.pdf

7-3 Adopt CEQA determination that the proposed action was previously addressed in the certified 2020 Program Environmental Impact Report and related CEQA actions; and award $677,898 contract to Jeremy Harris Construction, Inc. to construct erosion control improvements for three sites in the Western San Bernardino County region **21-882**

Attachments: 03082022 EO 7-3 B-L.pdf
03082022 EO 7-3 Presentation.pdf

7-4 Authorize a professional services agreement with HDR Engineering, Inc. in an amount not to exceed $2,800,000 for preliminary design services in support of erosion control improvements along the Colorado River Aqueduct; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **21-883**

Attachments: 03082022 EO 7-4 B-L.pdf
03082022 EO 7-4 Presentation.pdf

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

4. OTHER BOARD ITEMS - ACTION

NONE

5. BOARD INFORMATION ITEMS

NONE

6. COMMITTEE ITEMS

a. Regional Recycled Water Program Update **21-895**

Attachments: 03072022 EO 6a Presentation.pdf

b. Proposed Capital Investment Plan Biennial Budget **21-896**

Attachments: 03072022 EO 6b Report.pdf
03072022 EO 6b Presentation.pdf

7. MANAGEMENT REPORTS

a. Water System Operations Manager's Report **21-926**

Attachments: 03072022 EO 7a Presentation.pdf

b. Engineering Services Manager's Report **21-927**

Attachments: 03072022 EO 7b Presentation.pdf

8. FOLLOW-UP ITEMS

NONE

9. FUTURE AGENDA ITEMS

10. 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. Agendas for the meeting of the Board of Directors may be obtained from the Board Executive Secretary. 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 http://www.mwdh2o.com.

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 AND OPERATIONS COMMITTEE

February 7, 2022

Chair Smith called the teleconference meeting to order at 10:36 a.m.

Members present: Chair Smith, Directors Blois, Camacho, De Jesus, Dick, Faessel, Lefevre, Morris, Peterson (entered after roll call), Williams

Members absent: Directors Apodaca, Repenning

Other Board members present: Directors Abdo, Dennstedt, Erdman, Fellow, Fong-Sakai, Goldberg, Gray, Hawkins, Jung, Kurtz, McCoy, Miller, Record, Sutley, Tamaribuchi

Committee staff present: Bednarski, Chapman, Hagekhalil, Parsons, Scully, Upadhyay, and Yamasaki

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

None

CONSENT CALENDAR ITEMS --ACTION

2. CONSENT CALENDAR OTHER ITEMS ACTION

A. Approval of the Minutes of the Meeting of the Engineering and Operations Committee held January 10, 2022

3. CONSENT CALENDAR ITEMS ACTION

7-2 Subject: Award three professional services agreements to support rehabilitation projects at the Colorado River Aqueduct pumping plants: (1) an agreement with Parsons Transportation Group Inc. in an amount not to exceed $2,650,000; (2) an agreement with Jacobs Engineering Group Inc. in an amount not to exceed $650,000; and (3) an agreement with Tetra Tech, Inc. in an amount not to exceed $650,000; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Motion: a. Authorize an agreement with Parsons Transportation Group Inc. for a not-to-exceed amount of $2,650,000 for design to replace the utilities at Iron Mountain and Gene pumping plants.

b. Authorize an agreement with Jacobs Engineering Group Inc. for a not-to-exceed amount of $650,000 for preliminary design to improve physical security at the CRA pumping plants.

c. Authorize an agreement with Tetra Tech, Inc. in an amount not to exceed $650,000 for preliminary design to rehabilitate the station power and lighting switchrack at the Iron Mountain pumping plant

7-3 Subject: Authorize an agreement with La Cañada Design Group, Inc., in an amount not to exceed $4,400,000 for preliminary design to upgrade Metropolitan's Water Quality Laboratory, and an agreement with Rincon Consultants, Inc., in an amount not to exceed $550,000 for environmental support services; the General Manager has determined that this proposed action is exempt or otherwise not subject to CEQA

Motion:

a. Authorize an agreement with La Cañada Design Group, Inc. for a not-to-exceed amount of $4,400,000 to provide preliminary design to upgrade the functional capabilities of Metropolitan's Water Quality Laboratory at the La Verne site.

b. Authorize an agreement with Rincon Consultants, Inc. for a not-to-exceed amount of $550,000 to provide environmental support services for the planned facility upgrades at the La Verne site

7-4 Subject: Amend the Capital Investment Plan for fiscal years 2020/2021 and 2021/2022 to include planning and implementation of infrastructure projects to improve water supply reliability for the west service area and authorize an agreement with Carollo Engineers, Inc. in an amount not to exceed $300,000 for professional services; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Motion:

a. Amend the current CIP to include planning and implementation of infrastructure projects to improve water supply reliability for the western service area; and

b. Authorize a new agreement with Carollo Engineers, Inc. in an amount not to exceed $300,000 for technical investigations

7-5 Subject: Review and consider Addendum No. 4 to the certified 2017 Programmatic Environmental Impact Report; and award $4,759,000 contract to Facility Builders & Erectors, Inc. for construction of a valve and equipment storage building at the Lake Mathews Reservoir site to support the Prestressed Concrete Cylinder Pipe Rehabilitation Program

Motion:	Review and consider Addendum No. 4 to the 2017 Programmatic Environmental Impact Report; and Award $4,759,000 contract to Facility Builders & Erectors, Inc. for construction of the PCCP Rehabilitation Valve and Equipment Storage Building

No presentations were given, Director Morris made a motion, seconded by Director Lefevre to approve the consent calendar consisting of items 2A, 7-2, 7-3, 7-4, and 7-5.

The vote was:

Ayes:	Directors Blois, Camacho, DeJesus, Dick, Faessel, Lefevre, Morris, Smith, Williams
Noes:	None
Abstentions:	None
Absent:	Directors Apodaca, Peterson, and Repenning

The motion for Items 2A, 7-2, 7-3, 7-4, and 7-5 passed by a vote of 9 ayes, 0 noes, 0 abstentions, and 3 absent

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

Director Peterson entered the meeting.

4. OTHER BOARD ITEMS ACTION

NONE

5. BOARD INFORMATION ITEMS

NONE

6. COMMITTEE ITEMS

a. Subject: Metropolitan's Health and Safety Program Update

Presented by: Dan Guillory, Section Manager, Water System Operations

Mr. Guillory reported on the following:

- Management commitment to safety through a collaborative approach between management, employees, bargaining unit leadership, and regulators
- 2021 Initiatives Update
  - Enhancing Metropolitan's Safety Culture
  - Furthering partnership between Safety and Engineering
  - Improved emphasis on leading indicator performance goals

    - Strengthen partnership with employees and bargaining units
    - Conducting third-party safety program assessments
- Continued Tracking of COVID-19 regulations
- 2022 Key Focus Areas
    - Reduce Injuries
    - Complete the National Safety Council Review
    - Ensure Safe Return to USHQ and other facilities
    - Focus on Safety Staff succession planning

The following Directors provided comments or asked questions:

1. Director Peterson
2. Director Blois

Staff responded to the Directors' comments or questions.

b. Subject: Source Water Protection Update

Presented by: Mauricio Santos, Engineer, Water System Operations

Mr. Santos reported on the following:

- Safeguarding the public's drinking water with a multi-barrier approach
- Review of water quality challenges in imported water supplies
- Perchlorate regulatory update
- Chromium-6 remediation
- Salinity Management
- Lower Colorado River Water Quality Partnership
- Metropolitan's continuing actions to protect source water

The following Directors provided comments or asked questions:

1. Director Peterson

Staff responded to the Directors' comments or questions.

7. MANAGEMENT REPORTS

a. Subject: Water System Operations Manager's report

Presented by: Brent Yamasaki, Water System Operations, Group Manager

Mr. Yamasaki reported on the following:

- Highlights on the Colorado River Aqueduct and Second Lower Feeder shutdowns
- Responding to high wind events

b. Subject: Engineering Services Manager's report

Presented by: John Bednarski, Engineering Services Group, Chief Engineer and Group Manager

Mr. Bednarski reported on the following:

- 2022 CRA Shutdown CIP projects

8. FOLLOW-UP ITEMS

Director Peterson asked for an update on the Perchlorate remediation at Henderson NV.

9. FUTURE AGENDA ITEMS

None

The next meeting will be held on March 7, 2022.

Meeting adjourned at 11:32 a.m.

Tim Smith
Chair

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

3/8/2022 Board Meeting

7-1

Subject

Authorize the General Manager to negotiate a Project Labor Agreement for application on construction contracts with a value of $5 million or greater within Metropolitan's Capital Investment Plan; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

A Project Labor Agreement (PLA) is a collective bargaining agreement between a construction contractor and local trade unions. It may serve many purposes, including prevention of work stoppages throughout the construction period, ensuring the supply of highly trained craft workers to the project, enforcement of prevailing wage requirements, requiring participants to engage in a dispute resolution process, supporting the development of crafts through apprenticeship programs, encouraging participation by minorities, women, and other underrepresented demographics, and facilitating the hiring of workers from local labor pools. This cooperative approach provided labor stability on previous Metropolitan projects, including the Diamond Valley Lake, Inland Feeder, and Skinner improvement programs. This action authorizes the General Manager to negotiate a PLA that would cover construction contracts with a value of $5 million or greater within Metropolitan's Capital Investment Plan (CIP). Specific terms and conditions of the PLA would be brought back to the Board for approval once negotiated.

Details

Background

A PLA is a contract between a contractor and a set of labor unions. PLAs maintain project continuity by preventing employee strikes and employer lockouts. They also include a process for dispute resolution to ensure all partners can address concerns in a uniform manner. Under a typical PLA, unions agree to provide qualified and trained craft labor to projects covered by a PLA. PLAs typically include wage and benefit requirements, development and enforcement of apprenticeship programs, and local workforce hiring provisions. PLAs are open to both union and non-union contractors and support existing anti-discrimination and harassment contract provisions and existing contractor safety programs.

Metropolitan has prior experience with PLAs. Project-specific PLAs were successfully utilized for the Diamond Valley Lake, Inland Feeder, and Skinner improvements programs in the late-1990s and early 2000s. This cooperative approach between the contractor, labor, and the owner or owner's PLA administrator proved successful in contributing to the stability and positive work environment on these projects. Metropolitan is not currently utilizing PLAs. However, the Board asked staff to explore the use of PLAs for current projects to determine if they would be beneficial to Metropolitan. Staff made two presentations to the Board as outlined herein. The feedback from the Board guided staff in developing the recommendation proposed in this board letter.

Metropolitan currently constructs CIP projects utilizing the traditional design-bid-build delivery approach. Contracts are awarded to the lowest responsive and responsible bidder, and the work is performed by a mix of union and non-union contractors. All contractors on Metropolitan projects are required to comply with the California Labor Code, which includes payment of prevailing wages and employment of apprentices.

Since 2001, Metropolitan has established and maintained a highly successful Small Business Enterprise (SBE) Program that works in conjunction with these construction projects.

In April and October 2021, staff presented informational items on PLAs to the Engineering and Operations (E&O) Committee. These items provided a broad overview of PLAs, including potential benefits to Metropolitan, approaches to identifying projects to be covered by a PLA, a list of other comparable agencies that are utilizing PLAs, and a discussion of how PLAs would coexist with Metropolitan's SBE program. Potential benefits of PLAs to Metropolitan include avoidance of work stoppages and labor disputes, greater assurances of a consistent supply of skilled labor, consistent work schedules among trades, and an efficient labor dispute resolution process. Staff also described how the implementation of PLAs could potentially provide a pathway for Metropolitan to hire from pre-apprenticeship programs. In these informational board items, staff also addressed how Metropolitan's SBE program would be enhanced to ensure that small contractors are informed on how to conduct business under PLA contracts. Finally, staff discussed several potential approaches on how Metropolitan could identify suitable projects for PLA coverage, while continuing to meet the goals of Metropolitan's successful SBE Program.

Following both presentations, staff addressed questions and provided additional information to the Committee members. Based on the materials and information provided, as well as the feedback received from the E&O Committee members, staff recommends the use of a PLA for construction contracts with a value of $5 million or greater within Metropolitan's CIP.

Recommended Approach

Staff recommends that the Board authorize the General Manager to negotiate a PLA that would cover construction contracts with a value of $5 million or greater within Metropolitan's CIP. Once negotiated, the specific PLA terms and conditions would be brought to the Board for approval. Following board approval of PLA terms and conditions, the PLA would become a condition precedent for bidding on contracts for covered projects. The PLA would initially be in effect for a three-year period of time to allow for an assessment of its impact on project costs as well as Metropolitan's SBE program.

Staff has examined the planned and upcoming capital projects with construction values of $5 million or greater. These projects constitute approximately 90 percent of the estimated CIP construction contract expenditures over the upcoming two-year budget cycle. This trend is expected to continue into future budget cycles. This level of capital expenditures covered by the PLA strikes a balance between covering a substantial portion of Metropolitan's CIP construction contracts with a PLA, while providing contracting opportunities outside of a PLA for small contractors that typically bid on lower value construction contracts. Analysis of SBE contract data shows that most contracts with SBEs fall below the $5 million contract value.

If the Board approves the terms and conditions of the PLA, it would be possible for the General Manager to determine that a specific project with a contract value above the $5 million threshold may not be conducive to work under the PLA. In this case, the General Manager would need to bring a request for an exemption for the specific project to the Board for approval. The request would need to include the criteria the General Manager used to support this request, including factors such as the amount of the construction contract, construction duration, complexity of construction, project urgency and potential project risks, number of subcontractors and number of trades on a project, as well as opportunities for apprenticeship and workforce development during the life of the contract.

PLA implementation is a multi-step process. Staff has already issued a Request for Proposals for consultant services related to the negotiation of a PLA template. This template will be used as the basis for project-specific PLAs. Once negotiations of this PLA template are complete, the specific PLA terms and conditions will be brought to the Board for approval. Staff is also in the process of selecting a qualified consultant to serve as PLA administrator. The PLA administrator will serve a key role in working directly with the contractors and labor unions to ensure that the terms of PLAs are achieved for each project. That consultant will also be responsible for preparing regular reports that document results, outcomes, and findings of a Metropolitan PLA for each project. Staff recommends this approach initially due to the specialized knowledge required to perform the needed functions, knowledge which is not currently available from in-house staff. Approval of a contract with a PLA administrator will be brought back to the Board for approval. Future planned actions in the summer of 2022 include board approval of PLA terms and conditions, board approval of the imposition of a PLA as a bid

condition on future covered contracts, and approval of a new professional services agreement to administer a PLA.

With assistance from the PLA administrator, staff plans on providing enhanced training and education to SBE contractors so that they can successfully work in a PLA environment. Additionally, staff will return to the Board on an annual basis to report on PLA implementation and accomplishments, addressing achievements related to goals and objectives of a PLA over the previous 12 months (e.g., results of contracts covered by PLA projects, apprenticeship involvement, local/regional worker involvement).

Staff recommends the Board authorize moving forward with PLA negotiations at this time.

Project Milestones

Summer 2022 – Board action to approve PLA terms and conditions and approve professional services agreement for PLA administration

Fall 2022 – PLA included in bid documents for covered construction contracts

Policy

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

Metropolitan Water District Administrative Code Section 8140: Competitive Procurement

California Environmental Quality Act (CEQA)

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 the proposed action will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment and involves continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed action is not defined as a project under CEQA because it involves the creation of government funding mechanisms or other government fiscal activities which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Authorize the General Manager to negotiate a Project Labor Agreement for application on construction contracts with a value of $5 million or greater within Metropolitan's Capital Investment Plan

Fiscal Impact: Incidental costs will be incurred to develop, administer, and maintain a PLA when compared to current practices

Business Analysis: This option would provide significant construction-related benefits for construction contracts covered by a PLA. This action would also benefit the regional workforce through use of union-related apprenticeship programs and associated hiring of a locally diverse and transitional workforce.

Option #2

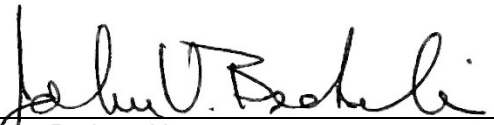
Do not authorize the General Manager to negotiate a Project Labor Agreement at this time.

Fiscal Impact: None

Business Analysis: This option would prevent or delay development of a PLA, foregoing opportunities to provide significant construction contract-related benefits, such as ensuring avoidance of work stoppages and/or labor disputes, ensuring consistent use of skilled labor, enforcement of comprehensive labor compliance, and facilitating contractor/union dispute resolution.

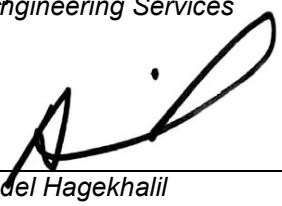
Staff Recommendation

Option # 1



2/24/2022

John Bednarski *Date*
Manager/Chief Engineer
Engineering Services



2/24/2022

Adel Hagekhalil *Date*
General Manager

Ref# es03152022

Authorize Negotiation of PLA for Contracts $5M and Greater

Engineering & Operations Committee
Item 7-1
March 7, 2022

April & October 2021 E&O Presentations

- Overview of PLAs
- Potential Benefits, Costs, and Challenges
- Answered questions and provided additional information
- Staff committed to return to the Board to recommend options for PLA implementation

Overview of PLAs

- Special union collective bargaining agreement between unions and contractors, and approved by owner
  - Includes wage and benefit requirements
  - Provides for labor harmony (no strikes or craft disputes)
  - Includes diversity, equity, and inclusion provisions
  - Open to both union and non-union contractors
  - Supports existing anti-discrimination and harassment contract provisions
  - Unions agree to provide qualified and trained craft labor
  - Efficient contract dispute resolution procedures
  - Complements safety programs and drug/alcohol testing policies

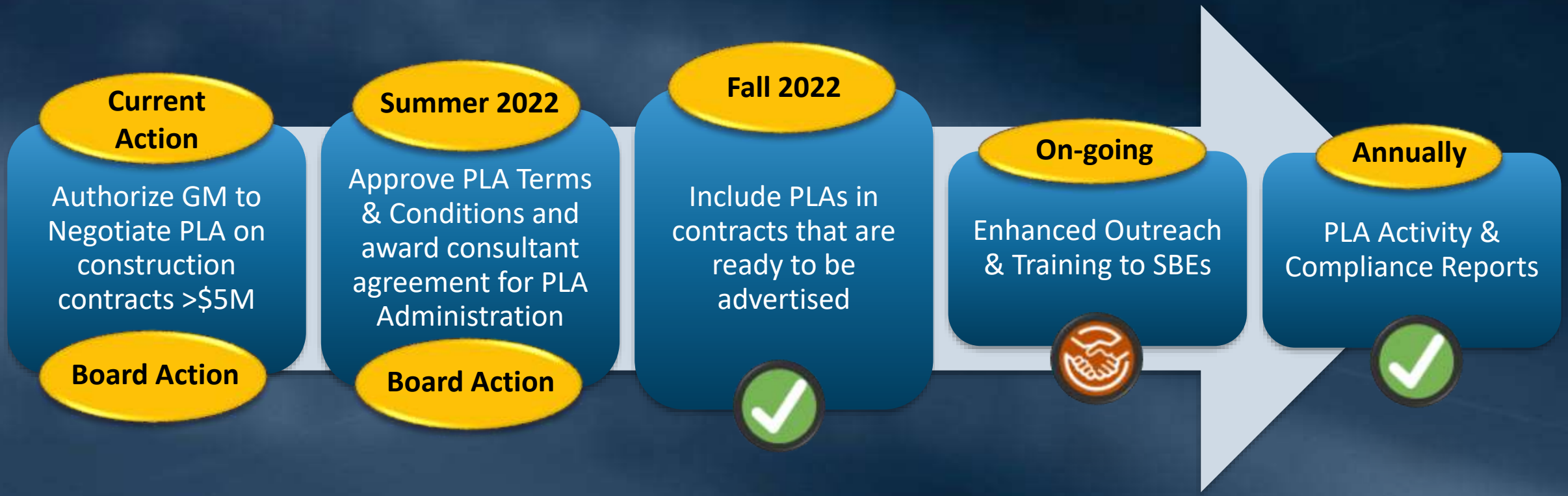
PLA Benefits and Challenges

- Benefits
  - Use of union apprenticeship programs
  - Utilization of a more diverse workforce and emphasis on local hiring
  - Reliable supply of skilled labor
  - Avoidance of work stoppages and labor disputes and efficient labor dispute resolution process
- Challenges
  - Multi-county agreement with labor unions
  - Added cost to administer PLA
  - Potential challenge to educate SBE and non-union contractors to bid PLA contracts
  - Additional Metropolitan staff for oversight, outreach and SBE education

Key Questions

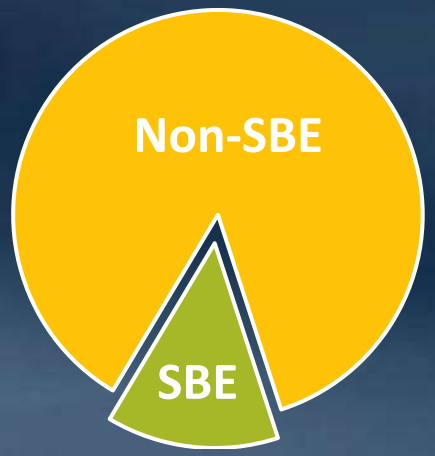
- What is the potential impact(s) of PLAs on Metropolitan's existing SBE Program?
- What is the most appropriate approach to implement a PLA?
  - Dollar threshold subject to exceptions with board approval
- How will program be administered?
  - Staff and consultant efforts
- What are Metropolitan's anticipated costs to utilize PLAs?
- What is the recommended process leading to Board approval and utilization of PLAs?

Proposed Timeline for PLA Implementation



SBE Participation Trends

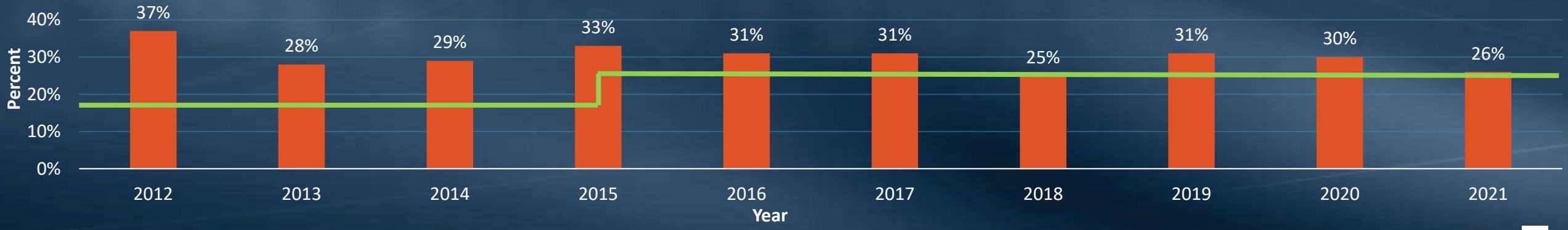
By Dollar Value



14% of total cumulative contract value is by a SBE Prime

- SBEs are awarded a significant number of construction contracts and 14% of construction funds are expended by contracts with SBE primes.
- SBE Subcontractor Participation is above 25% consistently

SBE Utilization of Prime and Subcontractors



Continued Focus on the SBE Program

- Staff commitment to work to maintain successful SBE program
- Staff and PLA administrator will conduct outreach and training
  - Ensure SBE firms can successfully participate in PLA projects
- Regular assessments and reporting on SBE participation
  - PLA projects
  - Non-PLA projects

Examples of Potential Expanded Outreach Opportunities

- MetWorks quarterly meetings
- Business Outreach seminars
- Informational documents
- Virtual bid-phase presentations
- “Doing Business with Metropolitan” website enhancements regarding PLA

Potential Cost Impacts of PLAs

- Internal administrative costs: approximately 1 FTE
- PLA administrator: approximately 1% of contract value
- Cost impacts to construction contracts highly debated:
  - Various studies over last 25 years are contradictory on cost impacts
  - Discussions with prime contractors and public agencies: little or no financial impact

Administration of the PLA(s)

- RFP currently being advertised for PLA negotiator
  - Agreement value anticipated within GM authority
  - Will negotiate template PLA with labor
- Developing RFP for PLA administrator
  - Summer 2022 board authorization of agreement
  - Will administer PLA & work directly with labor and contractors
- Staff will provide:
  - Oversight and administration of consultant agreement
  - Internal coordination efforts between staff and PLA administrator

Recommended Approach for PLA Implementation

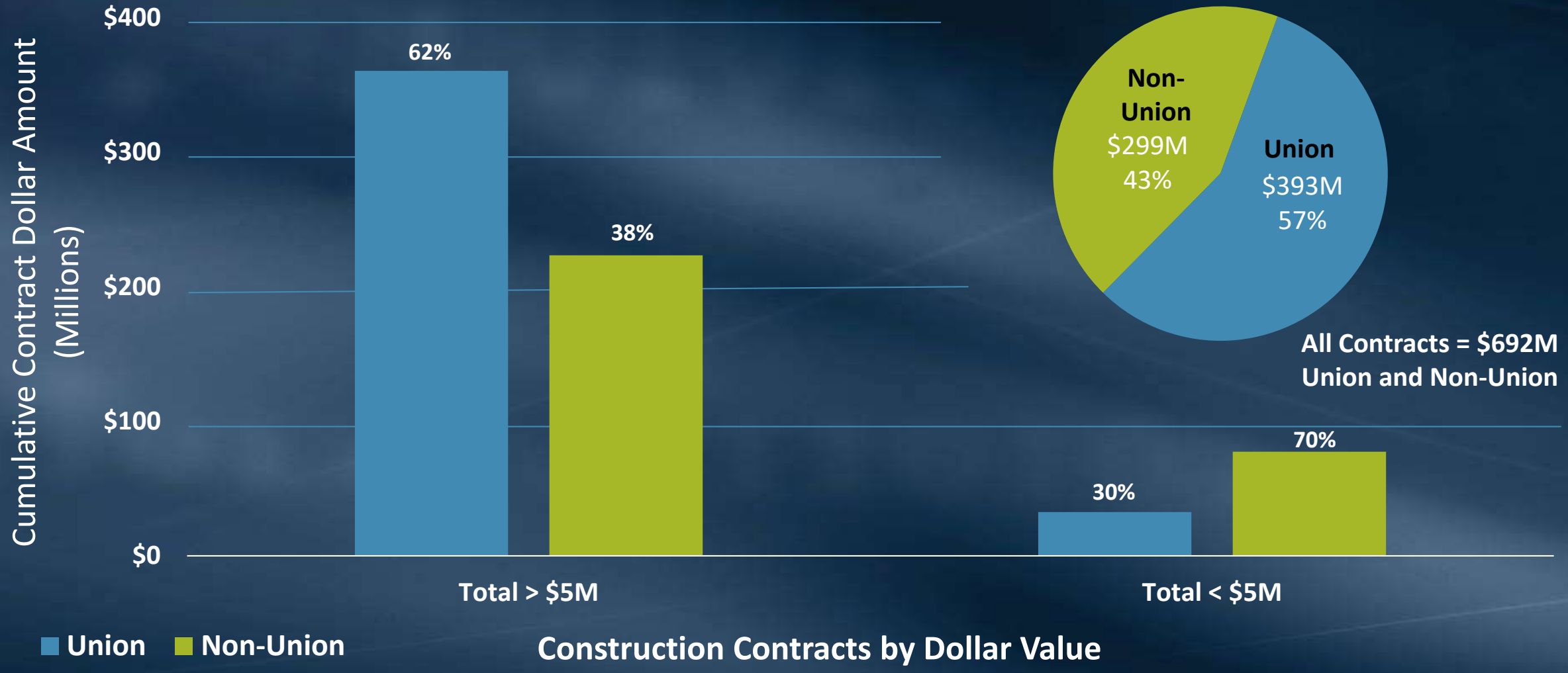
- March 2022 Board Action
  - Authorize the GM to negotiate a PLA
  - PLA applies to contracts $5M and greater
- Summer 2022 Board Action
  - Approve implementation of PLA template on construction contracts
- Utilize PLAs for an initial 3-year duration with option to add additional time
- Assess progress and make needed adjustments for success
- Regular reporting to Board

Background for the $5M Contract Threshold

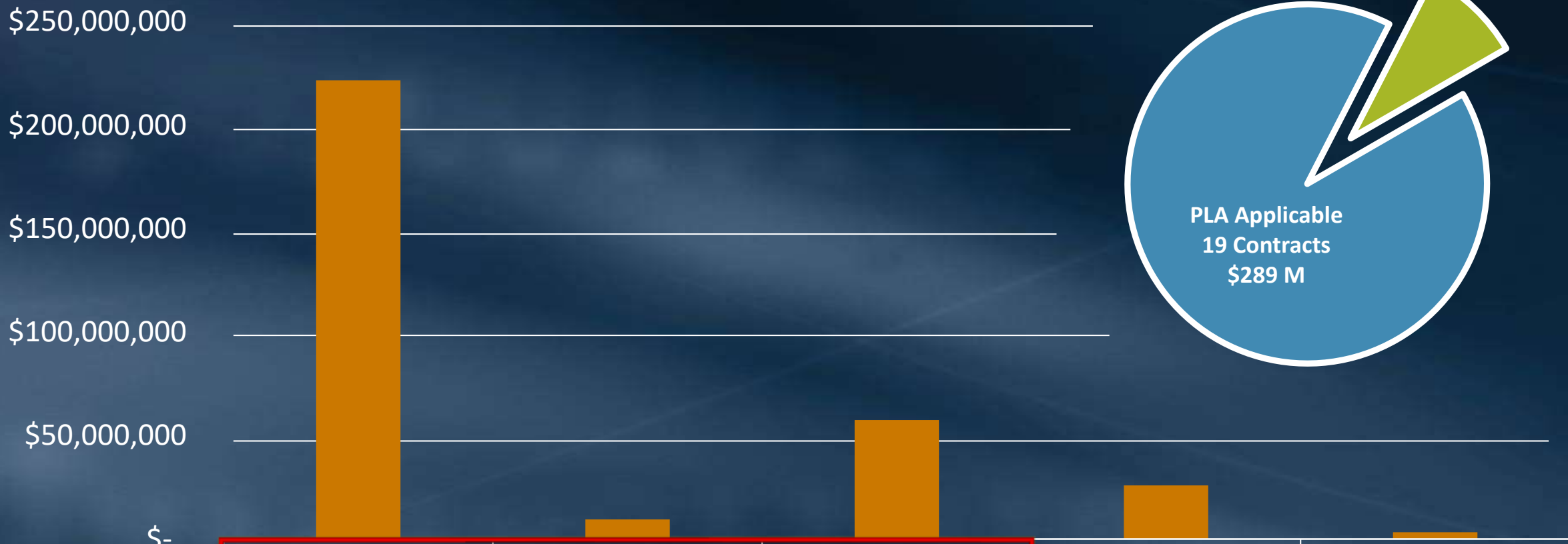
- Analysis of construction contracts awarded from 2015 to 2021 found majority of contracts below $5M awarded to a mix of SBE and non-union contractors
- $5 million threshold minimizes initial impacts on SBE contractors and subcontractors
- This approach is expected to get us to 90% of construction contract expenditures

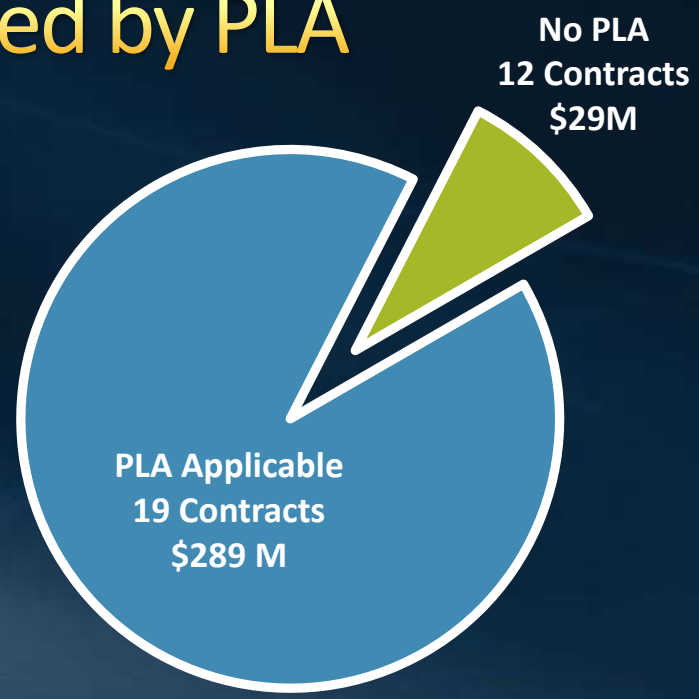
Union vs. Non-Union Participation in Construction Contracts

Analysis of Construction Contracts (2015-2021)



90% of Future Construction Expenditures Covered by PLA





	Total >$10M	Total $7.5M-$10M	Total $5M - $7.5M	Total $2.5M - $5M	Total <$2.5M
Cumulative $ Value	$221,700,000	$9,500,000	$57,500,000	$25,920,000	$3,300,000
No. of Contracts	8	1	10	8	4
% of Cumulative	70%	3%	18%	8%	1%

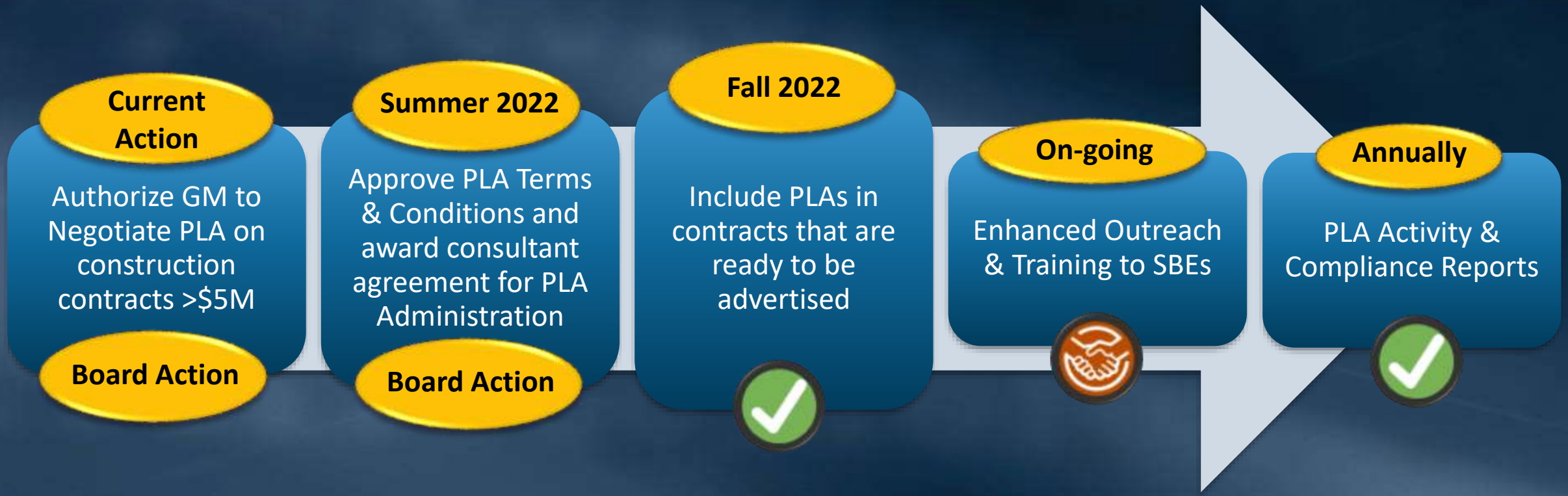
Cities/Agencies with PLA Thresholds*

- City of Long Beach ($750k, but street/ROW projects $1M)
- San Diego County Water Authority ($1M)
- City of San Francisco ($1M-$5M depending on funding source)
- Santa Clara Valley Water ($2M)
- Los Angeles County Metro ($2.5M)
- City of San Jose ($3M)

- Many agencies apply a PLA to specific projects in lieu of a threshold

*Not intended as an exhaustive list

Proposed PLA Implementation Timeline



Board Options

- Option #1
  - Authorize the General Manager to negotiate a Project Labor Agreement for application on construction contracts with a value of $5 million or greater within Metropolitan's Capital Investment Plan
- Option #2
  - Do not authorize the General Manager to negotiate a Project Labor Agreement at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

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

3/8/2022 Board Meeting

7-2

Subject

Authorize two professional services agreements to support radial gates replacement projects: (1) an agreement with Hazen and Sawyer in an amount not to exceed $890,000; and (2) an agreement with LEE + RO, Inc. in an amount not to exceed $904,000; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Radial gates are used to control flows along the Colorado River Aqueduct (CRA) and the San Diego Canal. Professional services agreements are recommended for two projects, which have been established to replace aging radial gates.

- Project No. 1 – Cabazon Radial Gate Facility Upgrades – This project replaces two radial gates and makes security, access, and instrumentation upgrades to the Cabazon Radial Gate Facility along the CRA. This action authorizes an agreement with Hazen and Sawyer for design activities to make improvements to the Cabazon Radial Gate Facility.
- Project No. 2 – San Diego Canal Radial Gates Replacement – This project replaces radial gates at the inlets to Lake Skinner and the San Diego Canal. This action authorizes an agreement with LEE + RO, Inc. for design activities to replace the radial gates along the San Diego Canal.

These projects will ensure continued water supply delivery reliability for the member agencies.

Details

Background

The Cabazon Radial Gate Facility is located on the CRA in the city of Cabazon within Riverside County and is approximately one mile upstream of the San Jacinto Tunnel. This facility was constructed in 1936 and consists of two radial gates: one gate in-line with the flow of the aqueduct; and one gate perpendicular to the water flow. Due to the infrequent need to operate these two gates, routine maintenance has extended their useful life to more than 80 years. However, staff is now recommending replacement of these gates for the reasons stated below. The gates have a width of 17 feet and a height of 16 feet and are designed to isolate and divert flow on an as-needed basis.

The San Diego Canal is used to supply raw water to Lake Skinner and the San Diego County Water Authority. Radial gates, V-06 and V-08, are a key part of the San Diego Canal system and are used to regulate flows into downstream components of the conveyance and distribution system. Gate V-06 controls flow from the San Diego Canal into Lake Skinner and has been in continuous service since its original installation more than 45 years ago. During that time, the gate has received routine maintenance. Gate V-08 is the turnout radial gate that conveys Colorado River water from the Casa Loma Canal to the San Diego Canal. This gate was originally installed 45 years ago and was completely replaced during the San Diego Canal Enlargement Project in the early 1990s. However, due to its continuous operation over the last 30 years, replacement of the gate is recommended. Gate V-06 has a width of 30 feet and a height of 15 feet, while gate V-08 has a width of 15 feet and a height of 15 feet.

The radial gates that are the subject of this letter are used to shut down, isolate, and divert flows along the aqueduct and canal. Each gate is constructed of a steel framework that resembles a slice of pie, with a curved

plate that rotates to block flow when the gate is in the closed position. An electric motor actuator is used to pivot the gate upward from the closed to the open position. The electric motor, hoisting mechanism, and radial gate are mounted on a concrete structure.

Recent inspections have identified that the four gates are corroded and require replacement. Protective coatings on various components of the gates have begun to fail. Several of the gates have a fiberglass laminate applied to the face of the curved plate that is in contact with water. This laminate is deteriorating and has pulled away from the curved plate in several instances. Significant metal loss has occurred on portions of the steelwork and mounting brackets. The existing motor actuators, which are used to open and close the gates, have also deteriorated.

Inspections have also identified additional upgrades that are needed at the Cabazon Radial Gate Facility. Required upgrades include: (1) replacement of outdated monitoring equipment including three entry alarms, as well as water level, turbidity, and pH meters; (2) installation of a standby generator to allow operation of the facility in the event of power loss; (3) upgrades to the radial gate structure including replacement of the metal roof covers and new handrails; and (4) installation of additional security cameras.

Two professional service agreements are recommended at this time to design the four new radial gates, as described below. These projects will protect Metropolitan's assets, enhance operational reliability, and reduce the risk of costly emergency repairs.

In accordance with the April 2020 action on the biennial budget for Fiscal Years 2020/21 and 2021/22, the General Manager will authorize staff to proceed with the actions described herein, pending board authorization of the design services agreement described below. Based on the current Capital Investment Plan (CIP) 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 2020/21 and 2021/22 (Appropriation No. 15517). Funds required for work performed after fiscal year 2021/2022 will be appropriated after adoption of the next biennial budget. 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 Conveyance and Distribution System Rehabilitation and Colorado River Aqueduct Reliability Programs.

Project No. 1 - Cabazon Radial Gate Facility Upgrades – Preliminary and Final Design

Planned upgrades involve the replacement of two radial gates located in the Cabazon Radial Gate Facility, including motor actuators and the gates' electrical and control equipment. Additional upgrades include new sensors to monitor water levels and water quality, new metal roof covers with a locking mechanism, a new standby generator, and upgrades to the site's security system. Design activities will be conducted with a hybrid effort of consultant and Metropolitan staff as described below. Metropolitan staff will perform design of the instrumentation and control system, consultant oversight, overall project management, advertisement, and receipt of competitive bids.

A total of $1.74 million is required for this work. Allocated funds include $890,000 for design activities, which includes $340,000 for preliminary investigation, technical assessments, and analyses, and $550,000 for final design activities, by Hazen and Sawyer, under a new agreement, as described below; and a total of $45,000 for a constructability workshop. The constructability workshop will be performed by a specialty firm under a contract planned to be executed under the General Manager's Administrative Code authority to award contracts of $250,000 or less. Allocated funds for Metropolitan staff activities include $399,000 for design, technical oversight, and review of consultant's work; $247,000 for surveying, project management, and project controls; and $159,000 for remaining budget.

As described above, final design will be performed by Hazen and Sawyer and Metropolitan staff. Engineering Services' performance metric target range for final design with construction greater than $3 million is 9 to 12 percent. For this project, the performance metric goal for final design is 11.8 percent of the total construction costs. The estimated cost of final design is $710,000, which includes $550,000 for Hazen and Sawyer and $160,000 for Metropolitan staff. The estimated cost of construction for this project is anticipated to range from $6 million to $6.5 million.

Engineering Services (Hazen and Sawyer) – New Agreement

Hazen and Sawyer is recommended to provide engineering services for the design of the Cabazon Radial Gate Facility Upgrades. Hazen and Sawyer was prequalified to provide design services via Request for Qualifications No. 1215 and was selected for this project based on the firm's technical approach and its experience with similar projects. In addition, Hazen and Sawyer performed the study phase of the project and has in-depth familiarity with project requirements. Due to the straightforward nature of the design work, staff recommends moving forward with both preliminary and final design at this time.

The planned activities for Hazen and Sawyer include: (1) detailed design; (2) preparation of drawings and specifications; (3) development of construction cost estimates; and (4) technical support during the bidding period.

This action authorizes an agreement with Hazen and Sawyer for a not-to-exceed amount of $890,000 to provide engineering design services for the Cabazon Radial Gate Facility. For this agreement, Metropolitan has established a Small Business Enterprise (SBE) participation level of 25 percent. Hazen and Sawyer has agreed to meet this level of participation. The planned subconsultant for this work is The Terrazas Group LLC.

Project No. 2- San Diego Canal Radial Gate Replacement – Preliminary and Final Design

Planned upgrades involve replacement of two radial gates located along the San Diego Canal. The motor actuators and electrical and control equipment for each gate will also be replaced. Design activities will be conducted with a hybrid effort of consultant and Metropolitan staff as described below. Metropolitan staff will perform design of the instrumentation and control systems for both sites, consultant oversight, overall project management, and advertisement and receipt of competitive bids.

A total of $1.96 million is required for this work. Allocated funds include $904,000 for design activities (includes $319,000 for preliminary investigations, technical assessments, and hydraulic analysis, and $585,000 for final design activities) by LEE + RO, Inc., under a new agreement, as described below, and a total of $100,000 for value engineering and constructability review workshops. The workshops will be performed by a specialty firm under a contract planned to be executed under the General Manager's Administrative Code authority to award contracts of $250,000 or less. Allocated funds for Metropolitan staff activities include $460,000 for design, technical oversight and review of consultant's work; $291,000 for surveying and site investigations, project management, and project controls; and $205,000 for remaining budget.

As described above, final design will be performed by LEE + RO, Inc. and Metropolitan staff. Engineering Services' performance metric target range for final design with construction greater than $3 million is 9 to 12 percent. For this project, the performance metric goal for final design is 9.8 percent of the total construction costs. The estimated cost of final design is $835,000, which includes $585,000 for LEE + RO, Inc. and $250,000 for Metropolitan staff. The estimated cost of construction for this project is anticipated to range from $8.5 million to 9 million.

Engineering Services (LEE + RO, Inc.) – New Agreement

LEE + RO, Inc. is recommended to provide engineering services for design of the San Diego Canal Radial Gates Replacement. LEE + RO, Inc. was prequalified via Request for Qualifications No. 1215. LEE + RO, Inc. was selected for this project based on the firm's technical approach, and experience with similar projects. LEE + RO, Inc. previously performed design for the CRA Radial Gate Replacement project; construction for this project was completed in 2021. Due to the straightforward nature of the design work, staff recommends moving forward with preliminary and final design at this time.

The planned activities for LEE + RO, Inc. include: (1) development of design criteria; (2) detailed design, preparation of plans, and specifications; (3) preparation of a fluid-structure interaction evaluation; (4) development of construction cost estimates; and (5) technical support during the bidding period.

This action authorizes an agreement with LEE + RO, Inc. for a not-to-exceed amount of $904,000 to provide engineering design services for the San Diego Canal Radial Gate Replacement. For this agreement, Metropolitan has established an SBE participation level of 25 percent. LEE + RO, Inc is an SBE firm and thus achieves 100 percent SBE participation. The planned subconsultant for this work is Flow Science, Inc.

Alternatives Considered

Alternatives considered for completing design activities for the Cabazon Radial Gate Facility Upgrades and the San Diego Canal Radial Gate Replacement included utilizing in-house Metropolitan staff to conduct this work. Metropolitan's staffing strategy for utilizing consultants and in-house Metropolitan staff has been: (1) to assess current work assignments for in-house staff to determine the potential availability of staff to conduct this work; and (2) to use project-specific professional services agreements when resource needs exceed available in-house staffing or require specialized technical expertise in order to provide a concentrated engineering effort over an extended duration.

This strategy relies on the assumption that in-house engineering staff will handle the baseload of work on capital projects, while professional services agreements are selectively utilized to handle projects above this baseload or where specialized needs are required. This strategy allows Metropolitan's staff to be strategically utilized on projects to best maintain key engineering competencies and to address projects with special needs or issues. After assessing the current workload for in-house staff, and the relative priority of this project, staff recommends utilizing a hybrid effort of consultant and Metropolitan staff for performance of this work. Metropolitan staff will perform design for the instrumentation and controls, while professional services agreements will be used for the remaining design efforts, such as mechanical, civil, and structural design. This approach will allow for completion of not only this project, but also other budgeted capital projects within their current schedules and ensure that the work is conducted in the most efficient manner possible.

Summary

This action authorizes agreements with: (1) Hazen and Sawyer for a not-to-exceed amount of $890,000 to provide design services to improve the Cabazon Radial Gate Facility; and (2) LEE + RO, Inc. for a not-to-exceed amount of $904,000 to provide design services to replace two radial gates along the San Diego Canal.

These projects have been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2020/21 capital expenditure plan. See **Attachment** 1 for the Allocation of Funds and **Attachment 2** for the Location Map.

Project Milestones

December 2023 – Completion of final design of the San Diego Canal Radial Gate replacements

August 2023 – Completion of final design of the Cabazon Radial Gate Facility upgrades

Policy

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 43053, dated July 14, 1998 the Board appropriated a total of $456,000 for design services to add a weir structure to the Cabazon Radial Gate Structure.

By Minute Item 51963, dated April 14, 2020 the Board appropriated a total of $500 million for projects identified in the Capital Investment Plan for Fiscal Years 2020/21 and 2021/22.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is not defined as a project under CEQA because it involves only feasibility or planning studies for possible future actions which the Board has not approved, adopted or funded (Section 15262 of the State CEQA Guidelines). In addition, the proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines because the proposed action involves basic data collection and research activities which do not result in a serious or major disturbance to an environmental resource, which 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 (Class 6, Section 15306 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

a. Authorize an agreement with Hazen and Sawyer for a not-to-exceed amount of $890,000 for design to upgrade the Cabazon Radial Gate Facility.
b. Authorize an agreement with LEE + RO, Inc. for a not-to-exceed amount of $904,000 for design to replace radial gates along the San Diego Canal.

Fiscal Impact: $3,700,000 in capital funds for design. Approximately $300,000 in capital funds will be incurred in the current biennium and have been previously authorized. The remaining capital expenditures will be funded from future CIP budgets following board approval of those budgets.
Business Analysis: This option will allow for completion of not only this project, but also other budgeted capital projects within their current schedules.

Option #2

Do not proceed with the agreements at this time.
Fiscal Impact: None
Business Analysis: This option may delay the completion of design for the radial gates replacement projects. Further deterioration of any of the gates could lead to excessive leakage, more extensive repairs, and increased costs.

Staff Recommendation

Option #1

2/14/2022
John Bednarski *Date*
Manager/Chief Engineer
Engineering Services

2/17/2022
Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Location Map

Ref# es12680423

Allocation of Funds for Cabazon Radial Gate Facility Upgrades

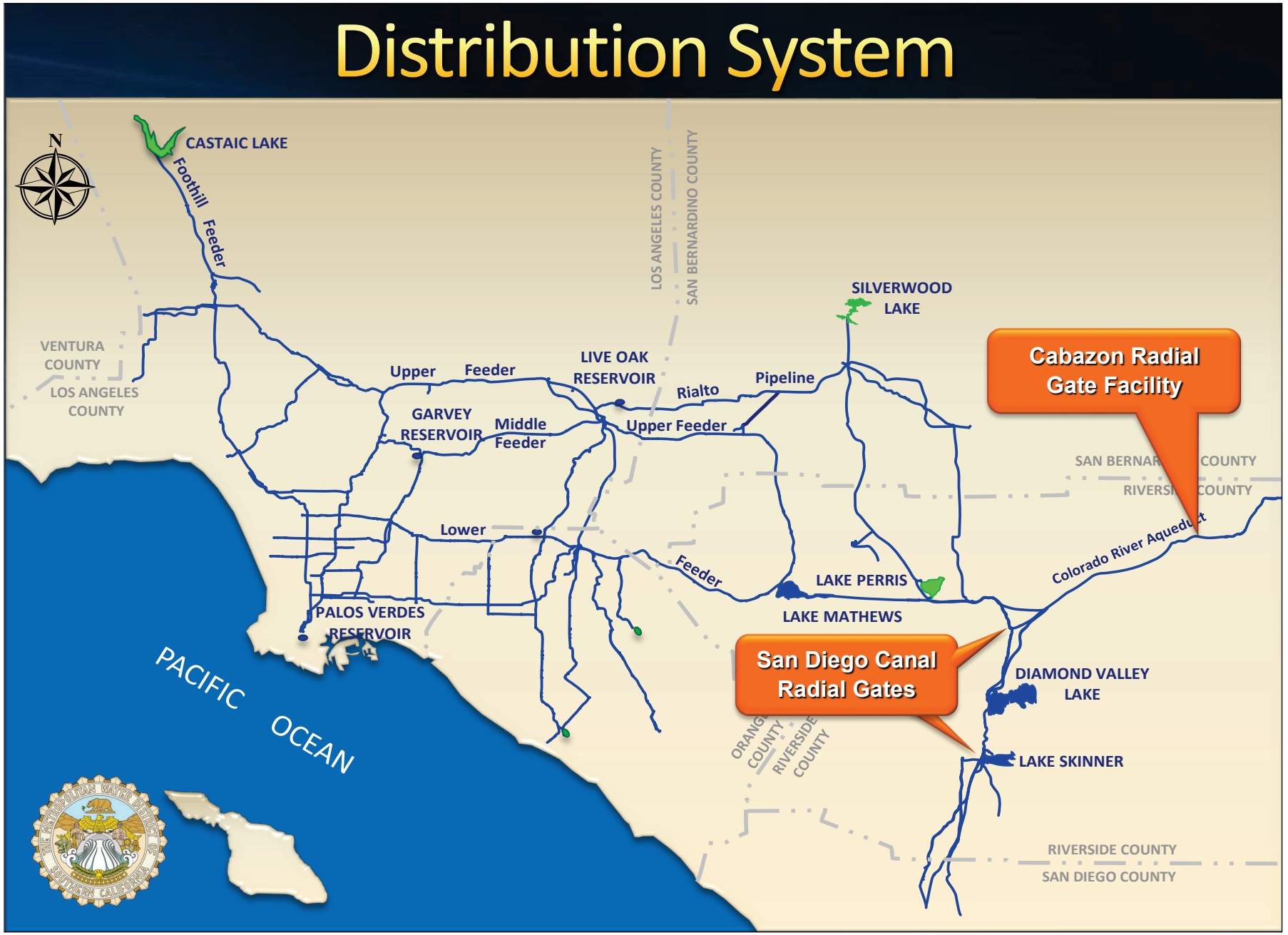
	Current Board Action (Mar. 2022)
Labor	
Studies & Investigations	$ 239,000
Final Design	160,000
Owner Costs (Program mgmt., envir. planning)	237,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	10,000
Professional/Technical Services	-
Hazen and Sawyer	890,000
Constructability Review Consultant	45,000
Right-of-Way	-
Equipment Use	-
Contracts	-
Remaining Budget	159,000
Total	**$ 1,740,000**

The total amount expended to date to improve the Cabazon Radial Gate Structure is approximately $651,000. The future construction contract is estimated to range from $6 million to $6.5 million.

Allocation of Funds for San Diego Canal Radial Gates Replacement

	Current Board Action (Mar. 2022)
Labor	
Studies & Investigations	$ 210,000
Final Design	250,000
Owner Costs (Program mgmt., envir. planning)	281,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	10,000
Professional/Technical Services	-
Lee & Ro, Inc.	904,000
Value Engineering Consultant	60,000
Constructability Review Consultant	40,000
Right-of-Way	-
Equipment Use	-
Contracts	-
Remaining Budget	205,000
Total	**$ 1,960,000**

The total amount expended to date replace the San Diego Canal radial gates is approximately $572,000. The future construction contract is estimated to range from $8.5 million to $9 million.


Distribution System
N
CASTAIC LAKE
Foothill Feeder
VENTURA COUNTY
LOS ANGELES COUNTY
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
SILVERWOOD LAKE
Cabazon Radial Gate Facility
Upper Feeder
LIVE OAK RESERVOIR
Rialto Pipeline
GARVEY RESERVOIR
Middle Feeder
Upper Feeder
SAN BERNAR COUNTY
RIVERSI COUNTY
Lower Feeder
Colorado River Aqueduct
LAKE PERRIS
LAKE MATHEWS
PALOS VERDES RESERVOIR
San Diego Canal Radial Gates
DIAMOND VALLEY LAKE
ORANGE COUNTY
RIVERSIDE COUNTY
LAKE SKINNER
PACIFIC OCEAN
RIVERSIDE COUNTY
SAN DIEGO COUNTY

Radial Gate Replacements

Engineering and Operations Committee
Item 7-2
March 7, 2022

Current Action

- Authorize two professional services agreements for design activities to support radial gates replacement projects
  - Hazen and Sawyer in an amount not to exceed $890,000 for design to upgrade the Cabazon Radial Gate Facility (Project 1)
  - LEE + RO, Inc. in an amount not to exceed $904,000 to replace radial gates along the San Diego Canal (Project 2)

Distribution System

Background

- Radial gates used to shut down, isolate & divert flows along the aqueduct and canal
- Electric motor actuator used to open & close the gate
- Recent inspections identified
  - Corroded gates
    - Failed protective coatings
    - Material loss in steel framework
  - Deteriorated actuators

Radial gate example



Installation of new radial gate on CRA in 2020

1. Cabazon Radial Gate Facility Upgrades

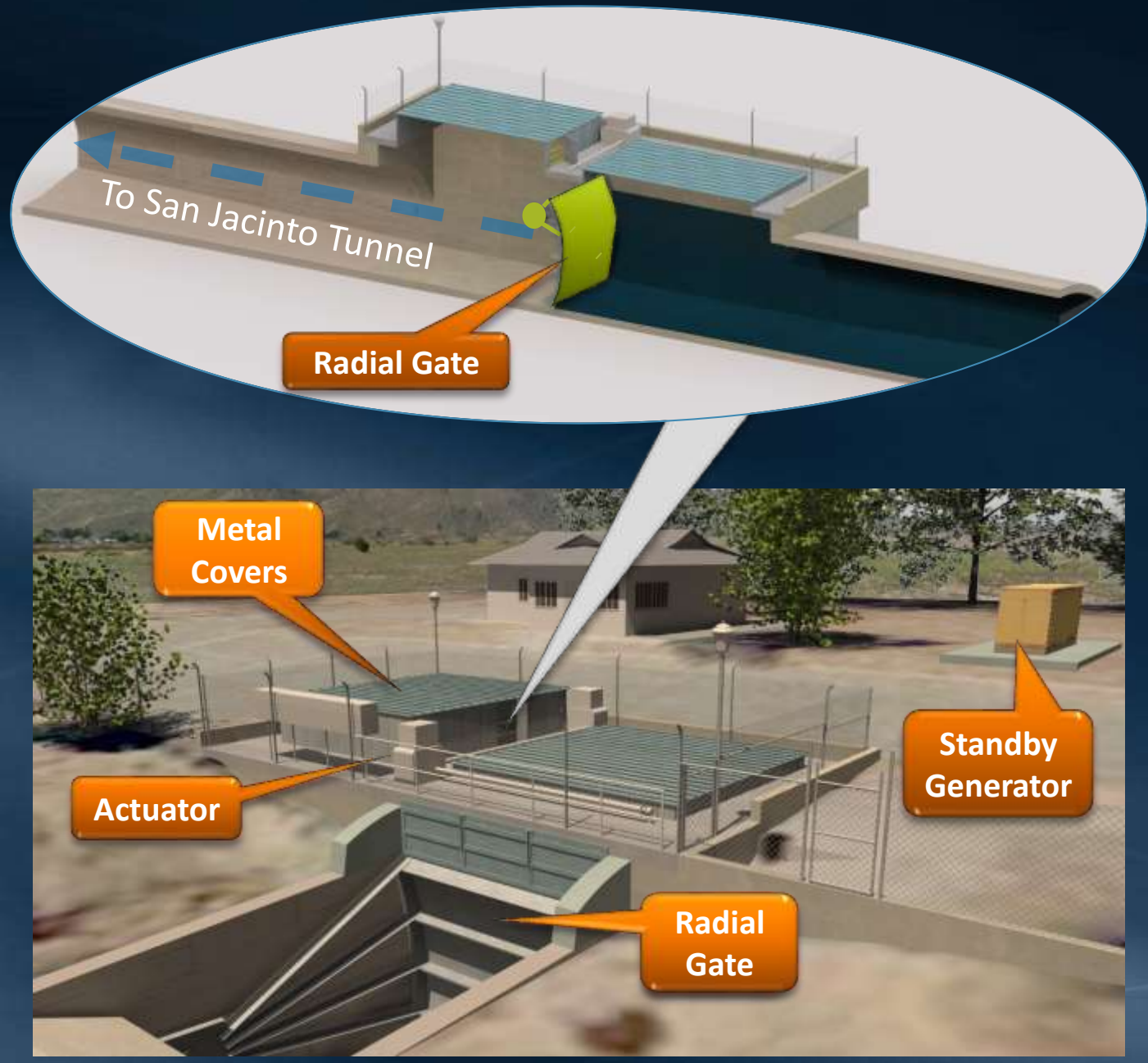
- Constructed in 1936
  - Original CRA equipment
- Consists of two radial gates
  - 17 feet wide by 16 feet high
- Additional upgrades needed
  - Gate sealed to prevent leaks
  - Crane needed to open the gate

Cabazon Radial Gate Facility

Corroded Radial Gate

1. Planned Work

- Replace two radial gates, motor actuators, electrical & control equipment
- Install new sensors to monitor water levels & water quality
- Install new metal roof covers with locking mechanism & standby generator
- Upgrade site's security system



Cabazon Radial Gate Facility planned upgrades

1. New Agreement - Hazen and Sawyer

- Prequalified under RFQ 1215
- Scope of work
  - Preliminary investigations
  - Technical assessments & analyses
  - Detailed design
  - Preparation of drawings & specifications
  - Development of construction cost estimates
  - Technical support during bidding period
- SBE participation level: 25%
- NTE amount: $890,000

1. Metropolitan Scope

- Design instrumentation & controls
- Conduct field & geotechnical investigations
- Provide technical oversight
- Perform project controls & project management
- Advertise & receive competitive bids

2. San Diego Canal Gate Replacements

- Radial gates V-06 and V-08 are part of San Diego Canal system
  - V-06: 30 feet wide by 15 feet high
    - Isolates Lake Skinner & used for flow modulation
  - V-08: 15 feet wide by 15 feet high
    - Isolates the San Diego Canal & used for flow modulation
- In service for 45 years

V-08 radial gate partially submerged in water

2. Planned Work

- Replace
  - Two radial gates & motor actuators
  - Gate seal plates
  - Electrical & control equipment

Corrosion on the V-06 radial gate

2. New Agreement – LEE + RO, INC.

- Prequalified under RFQ 1215
- Scope of work
  - Preliminary investigations
  - Technical assessments & analyses
  - Detailed design
  - Preparation of drawings & specifications
  - Development of construction cost estimates
  - Technical support during bidding period
- SBE participation level: 100%
- NTE amount: $904,000

2. Metropolitan Scope

- Design instrumentation & controls
- Conduct field & geotechnical investigations
- Provide technical oversight
- Perform project controls & project management
- Advertise & receive competitive bids

Alternatives Considered

- Utilize Metropolitan staff for design
  - With current workload, staff not immediately available
- Selected option
  - Professional services agreement for the subject projects
  - Consultant & staff work as a hybrid team

Allocation of Budgeted Funds

	1. Cabazon Radial Gate Facility Upgrades	2. San Diego Canal Radial Gate Replacement
Metropolitan Labor		
Preliminary Investigations	$ 239,000	$ 210,000
Final Design	160,000	250,000
Owner Costs	247,000	291,000
Professional/Technical Services		
Hazen and Sawyer	890,000	-
LEE + RO, Inc.	-	904,000
CR Consultant	45,000	40,000
VE Consultant	-	60,000
Remaining Budget	159,000	205,000
Total	$1,740,000	$1,960,000

Total amount: $3,700,000

Project Schedules

Board Options

- Option #1
  a. Authorize an agreement with Hazen and Sawyer for a not-to-exceed amount of $890,000 for design to upgrade the Cabazon Radial Gate Facility.
  b. Authorize an agreement with LEE + RO, Inc. for a not-to-exceed amount of $904,000 for design to replace radial gates along the San Diego Canal.
- Option #2
  - Do not proceed with the agreements at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

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

3/8/2022 Board Meeting

7-3

Subject

Adopt CEQA determination that the proposed action was previously addressed in the certified 2020 Program Environmental Impact Report and related CEQA actions; and award $677,898 contract to Jeremy Harris Construction, Inc. to construct erosion control improvements for three sites in the Western San Bernardino County region

Executive Summary

Many of Metropolitan's distribution system facilities are located in undeveloped areas and are only accessible via unpaved patrol roads that are subject to erosion. Patrol roads damaged by erosion hinder access for inspection and make maintenance of pipelines and equipment difficult. Erosion damage can also expose pipelines, undermine Metropolitan structures, and potentially result in an unplanned shutdown to perform pipeline repairs. Construction of erosion-control improvements reduces the risk of progressive damage over multiple winter seasons, and reduces the need for staff to conduct unplanned repairs following storm events. This action awards a contract for construction of erosion-control features at three sites within the Western San Bernardino County region of Metropolitan's distribution system.

Details

Background

Metropolitan's distribution system consists of more than 830 miles of large-diameter pipelines and over 5,400 individual structures. Many of the pipelines and structures are located in remote or undeveloped areas and are only accessible by unimproved dirt patrol roads. These roads are susceptible to erosion from uncontrolled stormwater runoff. In addition, some of the structures are located in areas of dense vegetation, where obtaining permits to perform routine vegetation clearing can be overly burdensome. In other areas, development has surrounded the facilities and created barriers to access Metropolitan's right of way. The Right-of-Way and Infrastructure Protection Program (RWIPP) was created to address these situations.

The objectives of RWIPP are to: (1) identify and address right-of-way issues and areas that are susceptible to surface erosion; (2) prepare environmental documentation and acquire regional programmatic environmental permits to enable rehabilitation and maintenance activities to proceed without delay; (3) obtain additional right-of-way as needed; and (4) execute the needed rehabilitation activities.

During the initial assessment stage of the RWIPP, staff identified approximately 924 locations requiring surface improvements and approximately 420 areas with right-of-way or access issues. Major rehabilitation and acquisition of right of way under RWIPP will move forward as capital projects within Metropolitan's Capital Investment Plan (CIP), while minor repairs will be handled as operations and maintenance activities.

Implementation of projects under RWIPP has been grouped by operating region: Orange County, Western San Bernardino County, Los Angeles County, and Riverside/San Diego County. Final design of infrastructure improvements is underway for all four operating regions. The Colorado River Aqueduct operating region will be addressed separately in the future. The program's first construction contract was located in the Orange County region and was completed in 2021.

Construction of improvements under RWIPP will also be completed in stages. Staff has grouped and prioritized sites and staged construction projects depending on the project requirements. Final design of improvements for three sites in the Western San Bernardino County region has been completed, and staff recommends proceeding with construction at this time. The remaining project sites will be advertised under future contracts. Staff will return to the Board to award these contracts at a later date.

In accordance with the April 2020 action on the biennial budget for Fiscal Years 2020/21 and 2021/22, the General Manager will authorize staff to proceed with infrastructure protection improvements, pending board award of the contract described below. 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 Capital Investment Plan Appropriation for Fiscal Years 2020/21 and 2021/22 (Appropriation No. 15517). Funds required for work to be performed pursuant to the subject contract after fiscal year 2021/22 will be budgeted within the Capital Investment Plan Appropriation for Fiscal Years 2022/23 and 2023/24. 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 Distribution System Reliability Program.

Western San Bernardino Operating Region Stage 1 – Construction

The scope of the construction contract includes rehabilitation of erosion-related damage to access roads and other surface facilities and improvements to prevent further erosion at three sites within the Western San Bernardino County region. The work consists of construction of erosion-control features to protect critical infrastructure that includes concrete culverts, grading to divert stormwater away from pipeline structures, and roadway improvements to facilitate access and protect existing infrastructure. These construction sites are all located along the Inland Feeder with two in the Highland area and one near Redlands.

A total of $990,000 is required for this work. In addition to the amount of the contract described below, other funds to be allocated include $99,000 for construction inspection; $98,000 for submittal review, technical support during construction, responding to requests for information, and preparation of record drawings; $88,000 for contract administration, environmental monitoring, and project management; and $27,102 for remaining budget.

Attachment 1 provides the allocation of the required funds. The total estimated cost to complete the Right-of-Way and Infrastructure Protection Program – Western San Bernardino Region Stage 1 improvements, including the amount allocated to date and funds allocated for the work described in this action, is approximately $1.365 million. Approximately $375,000 has been expended on this project to date.

Award of Construction Contract (Jeremy Harris Construction, Inc.)

Specification No. 1822 for the Right-of-Way and Infrastructure Protection Program – Western San Bernardino Region Stage 1 improvements was advertised for bids on December 16, 2021. As shown in **Attachment 2,** four bids were received and opened on February 1, 2022. The low bid from Jeremy Harris Construction, Inc. in the amount of $677,898 complies with the requirements of the specifications. The other bids ranged from $678,398 to $995,971, while the engineer's estimate for this project was $793,440. For this contract, Metropolitan established a Small Business Enterprise participation level of at least 25 percent of the bid amount. Jeremy Harris Construction, Inc. is a Small Business Enterprise firm, and thus achieves 100 percent participation. The subcontractors for this contract are listed in **Attachment 3.**

Metropolitan staff will perform construction management and inspection. Engineering Services' performance metric target range for inspection of projects with construction less than $3 million is 12 to 15 percent. For this project, the performance metric goal for inspection is 14.6 percent of the total construction cost.

Alternatives Considered

Staff initially considered individually designing, permitting, and constructing each project site. This approach was determined to be very time-consuming and would lead to increased costs as there would be limited opportunities for efficiencies attributed to increased project sizing. Adopting a comprehensive staged approach for the needed improvements will consolidate design and permitting efforts and will allow staff to more efficiently execute the overall program. This comprehensive approach will also enable programmatic EIRs and regional permit applications to be prepared, an approach that will also enhance the efficient implementation of the program. It is anticipated that this approach will produce significant cost savings versus an alternative approach

based on handling each project on an individual basis. The results of these analyses comprise the recommended approach, as described in this board letter.

Summary

This action awards a $677,898 construction contract to Jeremy Harris Construction, Inc. for Right-of-Way and Infrastructure Protection Program – Western San Bernardino Region Stage 1 improvements. This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2020/21 capital expenditure plan. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the listing of Subcontractors for Low Bidder, and **Attachment 4** for the Location Map.

Project Milestone

December 2022 – Completion of construction of the Western San Bernardino Region Stage 1 improvements

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

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

By Minute Item 49475, dated July 09, 2013, the Board authorized final design for right-of-way planning for access improvements and pipeline protection with western San Bernardino County operating region.

By Minute Item 51963, dated April 14, 2020, the Board appropriated a total of $500 million for projects identified in the Capital Investment Plan for Fiscal Years 2020/21 and 2021/22.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The environmental effects from the design, construction, and operation of the RWIPP within the Western San Bernardino Operating Region were evaluated in the Final Program Environmental Impact Report (EIR) for the Western San Bernardino Distribution System Infrastructure Protection Program, SCH #2014111071, which was certified by the Board on October 13, 2020. The Board also approved the Findings of Fact (Findings), the Mitigation Monitoring and Reporting Program, and the Program itself. This action is in support of Stage 1 improvements within the Western San Bernardino Operating Region and not on any changes to the approved Program itself. Hence, the previous environmental documentation acted on by the Board in conjunction with the proposed action fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act on the proposed action.

CEQA determination for Option #2:

None required

Board Options

Option #1

a. Adopt CEQA determination that the proposed action was previously addressed in the certified 2020 Program EIR and related CEQA actions, and
b. Award $677,898 contract to Jeremy Harris Construction, Inc. for Stage 1 Right-of-Way and Infrastructure Protection improvements in Western San Bernardino region of Metropolitan's distribution system.

Fiscal Impact: Expenditure of $990,00 in capital funds. Approximately $150,000 will be incurred in the current biennium and has been previously authorized. The remaining capital expenditures will be funded from future CIP budgets following board approval of those budgets

Business Analysis: This project will enable Metropolitan to maintain and protect existing surface and underground infrastructure, patrol roads, and right of way, thereby enhancing reliability of the distribution system.

Option #2

Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option would forgo an opportunity to reduce the risk of costly unplanned repairs. Under this option, Metropolitan would continue to address these issues on an individual, case-by-case basis and would incur additional costs.

Staff Recommendation

Option 1

2/14/2022

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

2/17/2022

Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Abstract of Bids

Attachment 3 – List of Subcontractors for Low Bidder

Attachment 4 – Location Map

Ref# es12688569

Allocation of Funds for the Right-of-Way Infrastructure Protection Program – Western San Bernardino – Stage 1 Improvements

	Current Board Action (Mar. 2022)
Labor	
Studies & Investigations	$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	88,000
Submittals Review & Record Drwgs.	98,000
Construction Inspection & Support	99,000
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	-
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
Jeremy Harris Construction, Inc.	677,898
Remaining Budget	27,102
Total	**$ 990,000**

The total amount expended to date is approximately $375,000. The total estimated cost to complete this project, including the amount appropriated to date and funds allocated for the work described in this action, is $1.365 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on February 1, 2022, at 2:00 P.M.

Specifications No. 1822
Right-of-Way Infrastructure Protection Program – Western San Bernardino Region Stage 1

The project consists of removing and installing fencing and gates; placing fill material and site grading; constructing access improvements, curbs and gutters, concrete ditch, splash walls, rip-rap ditches, and concrete cut-off walls; relocating manhole vents and air release valves; and hydroseeding to establish vegetation.

Engineer's estimate: $793,440

Bidder and Location	Total	SBE $	SBE %	Met SBE[1]
Jeremy Harris Construction, Inc. Riverside, CA	**$677,898**	**$677,898**	**100%**	**Yes**
Atom Engineering Construction, Inc. Hemet, CA	$678,398	-	-	-
Three Peaks Corporation Calimesa, CA	$873,137	-	-	-
Houalla Enterprises, Ltd. Dba Metro Builders & Engineers Group, Ltd., Metro Builders & Engineers Group, Ltd. Newport Beach, CA	$995,971	-	-	-

[1] Small Business Enterprise (SBE) participation level established at 25% for this contract.

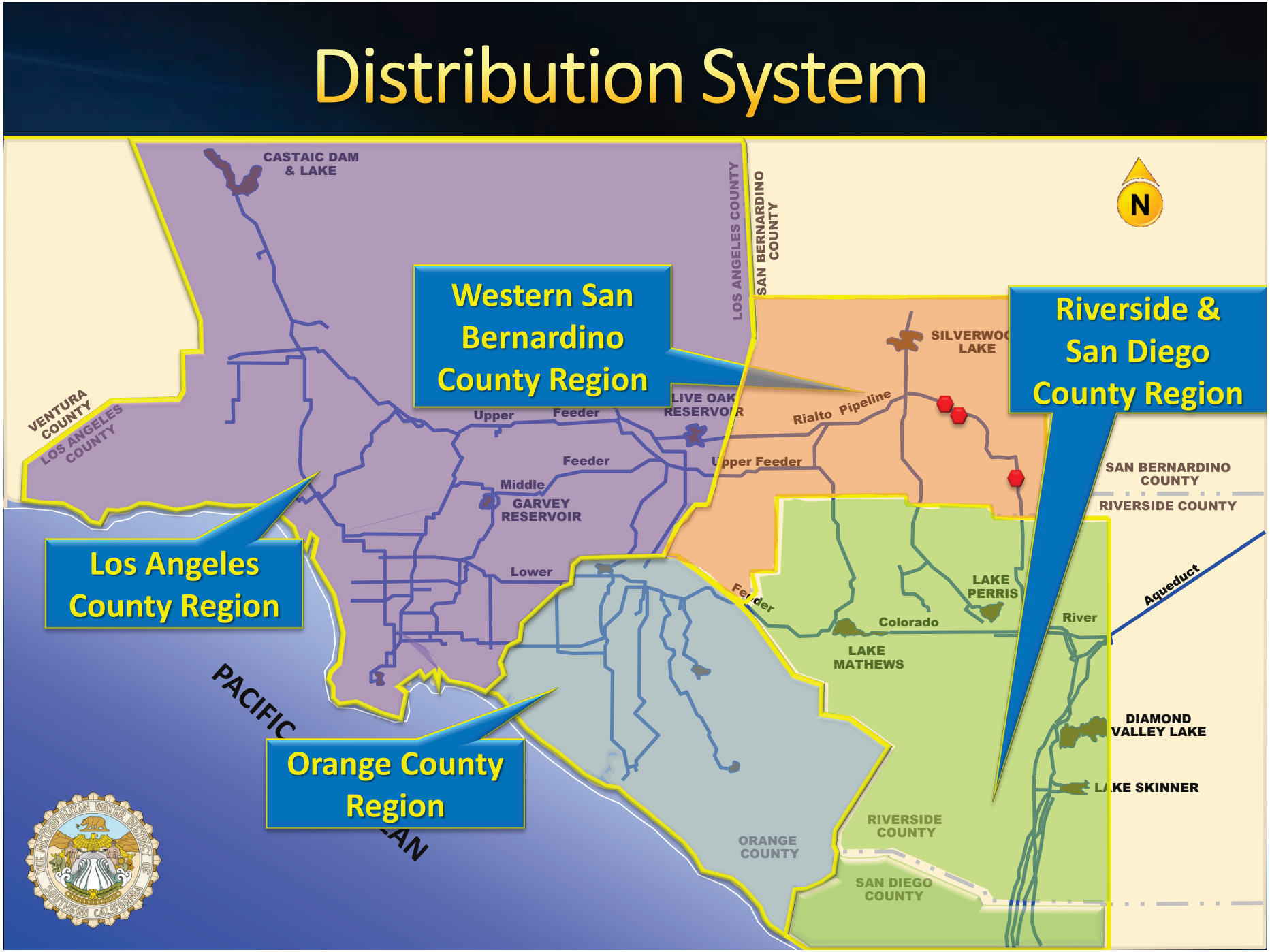
The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

Specifications No. 1822
Right-of-Way Infrastructure Protection Program – Western San Bernardino Region Stage 1

Low bidder: Jeremy Harris Construction, Inc.

Subcontractor and Location
Incompli Orange, CA
Hemet Fence Homeland, CA
Canyon Hydroseeding Beaumont, CA
Borden Excavating, Inc. Calimesa, CA
Lopez Construction Corona, CA


Distribution System
CASTAIC DAM & LAKE
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
N
Western San Bernardino County Region
Riverside & San Diego County Region
VENTURA COUNTY
LOS ANGELES COUNTY
LIVE OAK RESERVOIR
Upper Feeder
Rialto Pipeline
Feeder
Middle
GARVEY RESERVOIR
Upper Feeder
SILVERWOOD LAKE
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
Los Angeles County Region
Lower
Feeder
LAKE PERRIS
Colorado River Aqueduct
LAKE MATHEWS
PACIFIC
Orange County Region
DIAMOND VALLEY LAKE
LAKE SKINNER
RIVERSIDE COUNTY
ORANGE COUNTY
SAN DIEGO COUNTY

Right-of-Way Infrastructure Protection Program

Western San Bernardino Operation Region – Stage 1

Engineering and Operations Committee
Item 7-3
March 7, 2022

Current Action

- Award $677,898 contract to Jeremy Harris Construction, Inc. for Stage 1 Right-of-Way and Infrastructure Protection improvements in Western San Bernardino region of Metropolitan's distribution system

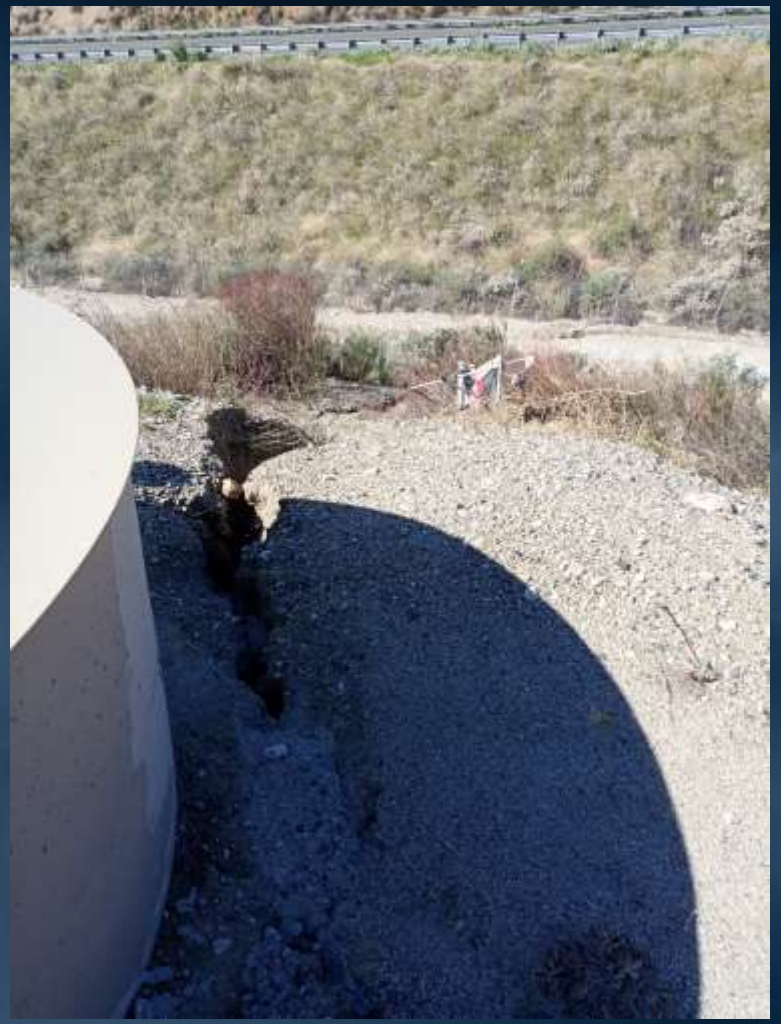
Distribution System

Background

- Uncontrolled runoff causes erosion in undeveloped areas
- Development has restricted access to facilities
- Individual permits overly burdensome
- RWIPP Program Objectives
  - Rehabilitate surface erosion issues
  - Address right-of-way & access issues
  - Increase security
  - Prepare environ. documentation & acquire regional environ. permits

Existing Condition

Eroded Access Road



Erosion Adjacent to Accessway

Fence repair

Alternatives Considered

- Address each project site individually
  - More costly & time consuming
  - Greater cost for environmental permitting
- Conduct a comprehensive programmatic & staged approach
  - Allows consideration of broader policy alternatives
  - Program-wide environmental mitigation measures
  - Efficient & economical for both permitting & contracting
  - Environmental permitting costs reduced by more than $10 million over 10-15 years

Western San Bernardino Operating Region

- Total of 30 sites
  - Erosion issues that impede access/maintenance
  - Security issues
  - Property rights or access related issues
  - Permits & clearances for multi-jurisdictional & environmentally sensitive areas
- Expedite completion of sites by grouping & staging projects
  - Proceed with three sites that do not require acquisition of right-of-way or environmental permits

Scope of Work

- Contractor
  - Construct new v-ditches & concrete pads around the accessways
  - Grade to divert storm water
  - Improve roadways including aggregate base
  - Raise air-release valve
  - Install security fence
- Metropolitan
  - Construction Inspection
  - Project mgmt. & environmental monitoring
  - Submittal review & record drawings

Bid Results

Specifications No. 1822

Bids Received	February 1, 2022
No. of Bidders	4
Low Bidder	Jeremy Harris Construction, Inc.
Low Bid	$677,898
Range of Higher Bids	$678,398 to $995,971
Engineer's estimate	$793,440
SBE Participation*	100%

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

Allocation of Budgeted Funds

Contract	
Jeremy Harris Construction, Inc.	$677,898
Metropolitan Labor	
Construction Inspection	99,000
Submittal review, technical support & record drwgs.	98,000
Contract admin., envir. support, & proj. management	88,000
Remaining Budget	27,102
Total	$990,000

Project Schedule

	2022	2023
Right-of-Way Infrastructure Protection Program Western San Bernardino – Stage 1		

Board Action

Construction

Completion of Construction

Board Options

- Option #1
  a. Adopt CEQA determination that the proposed action was previously addressed in the certified 2020 Program EIR & related CEQA actions, and
  b. Award $677,898 contract to Jeremy Harris Construction, Inc. for Stage 1 Right-of-Way and Infrastructure Protection improvements in Western San Bernardino region of Metropolitan's distribution system.
- Option #2
  - Do not proceed with the project at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

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

3/8/2022 Board Meeting

7-4

Subject

Authorize a professional services agreement with HDR Engineering, Inc. in an amount not to exceed $2,800,000 for preliminary design services in support of erosion control improvements along the Colorado River Aqueduct; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Over the more than 80-year service life of the Colorado River Aqueduct (CRA), significant storms have caused recurring erosion over the aqueduct's cut-and-cover conduits. Successive heavy erosion events may cause damage to the aqueduct. This project constructs erosion control features at 19 conduit locations along the CRA which are vulnerable to erosion during storm events. This action authorizes an agreement with HDR Engineering, Inc. for preliminary design of erosion control improvements along the aqueduct. This project will improve the overall water delivery reliability of the CRA in these desert regions.

Details

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.

The CRA has 55 miles of cut-and-cover conduits, and at selected locations stormwater flows can cross the aqueduct. At these crossings, the original work on the aqueduct constructed a series of berms and diversion devices that channel storm flows over the aqueduct. The diversion and flood control devices have deteriorated over time, and heavy storm events often cause severe erosion which exposes the aqueduct conduits. Once exposed, the unreinforced conduits are vulnerable to structural damage from rock and debris flows, and to potential undermining of the conduit foundation.

In October 2018, storms caused extensive erosion over the cut-and-cover conduits at 36 sites along a nine-mile stretch of the CRA, west of Hinds Pumping Plant. The exposed lengths of the CRA in these locations varied from 15 feet to 150 feet in length, and up to 11 feet in depth. The storms also damaged patrol roads, earthen berms, and drainage channels. Metropolitan forces made short-term repairs to patrol roads and restored ground cover over the cut-and-cover conduit. However, due to the extent of damage, Metropolitan's Board awarded a construction contract in April 2019 to reestablish the original berms and drains that historically served to channel storm flows across the CRA conduit.

In light of the 2019 storm event, staff conducted a study to proactively address erosion issues along the CRA. The study is now complete, and staff recommends proceeding with preliminary design of erosion control measures in 19 areas along the aqueduct. The selected sites have a demonstrated history of recurring erosion damage during storm events. The recommended improvements will be designed to minimize the need for significant maintenance following future storms, and will be configured to prevent potential inundation of facilities in the vicinity including bridges, local roads, and utility lines.

In accordance with the April 2020 action on the biennial budget for Fiscal Years 2020/21 and 2021/22, the General Manager will authorize staff to proceed with the actions described herein, pending board authorization of

the design services agreement described below. Based on the current Capital Investment Plan (CIP) 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 2020/21 and 2021/22 (Appropriation No. 15517). Funds required for work to be performed pursuant to the subject contract after fiscal year 2021/22 will be budgeted within the Capital Investment Plan Appropriation for Fiscal Years 2022/23 and 2023/24.

CRA Conduit Erosion Control Improvements – Preliminary Design

Planned improvements include grading of the eroded areas and the addition of permanent erosion protection features such as grouted or ungrouted rock riprap, soil cement, drop structures, and cutoff walls or concrete encasements to protect the conduit, along with drainage improvement facilities as needed.

The preliminary design phase activities will be conducted with a hybrid effort of consultants and Metropolitan staff; consultant activities are described below. Metropolitan staff will perform overall project management, conduct site surveys, and provide consultant oversight.

A total of $5 million is required for this work. Allocated funds include a total of $2,800,000 for preliminary design activities by HDR Engineering, Inc under a new agreement, and $260,000 for preparation of environmental documentation by Aspen Environmental Group under an existing agreement, as described below; and a total of $255,000 for constructability workshop and geotechnical investigation activities. The constructability and geotechnical work will be performed by specialty firms under contracts planned to be executed under the General Manager's Administrative Code authority to award contracts of $250,000 or less. Allocated funds for Metropolitan staff activities includes $584,000 for technical oversight and review of consultant's work; $853,000 for surveying of 19 sites, preparation of preliminary environmental documentation, regulatory agency coordination, project management, and project controls; and $248,000 for remaining budget.

The total cost of the project to improve the CRA conduit erosion control will be re-evaluated during preliminary design. Currently, the future construction contract is estimated to range from $25 million to $30 million. **Attachment 1** provides the allocation of the required funds.

Preliminary Design Services (HDR Engineering, Inc.) – New Agreement

HDR Engineering, Inc. (HDR) is recommended to provide engineering services for the design of the CRA Erosion Control Improvements. HDR was selected through a competitive process via Request for Proposals No. 1286, based on the expertise of the firm's staff, its technical approach and methodology, and its cost proposal for the planned work. HDR was previously prequalified through a process based on the firm's technical expertise and its experience with projects of a similar nature.

The planned activities for HDR include: (1) site reconnaissance, data collection, and utility investigations; (2) hydrologic and hydraulics analyses; (3) sediment transport modeling; (4) geomorphology and scour analyses; (5) preparation of hydrology and hydraulics report; (6) structural assessments; (7) evaluation of erosion control measure alternatives; (8) coordinating with local jurisdictions and/or agencies; (9) preparation of preliminary design drawings; (10) conducting studies and preliminary analysis to determine required environmental documentation including initiation of as-needed permits; (11) development of a Class 3 construction cost estimate; and (12) participation in value engineering review workshops.

This action authorizes an agreement with HDR for a not-to-exceed amount of $2.8 million to provide engineering design services for CRA Erosion Control Improvements. For this agreement, Metropolitan has established a Small Business Enterprise participation level of 25 percent. HDR has agreed to meet this level of participation. The planned subconsultants for this work are listed in **Attachment 2**.

Environmental Documentation - Aspen Environmental Group (No Action Required)

Aspen Environmental Group (Aspen) is recommended to provide environmental support services under an existing board-authorized agreement. Aspen was selected based on the firm's extensive experience with CEQA compliance and environmental clearances, and its specific experience with Metropolitan's desert facilities.

The planned scope of work includes performing biological and habitat surveys; and providing technical support such as identifying temporary construction impacts or environmental impacts such as air quality, noise, and traffic.

Metropolitan has an existing board-authorized four-year rollover agreement with Aspen in place to conduct work of the nature described in this letter. For this agreement, Metropolitan has established a Small Business Enterprise participation level of 25 percent. The planned scope of work includes preparing the environmental documentation; performing biological and habitat surveys; and providing technical support such as identifying project environmental impacts. The estimated cost for these services is $260,000. No subconsultants are planned for this work.

Alternatives Considered

Alternatives considered for completing design activities for the CRA erosion control improvements included utilizing in-house Metropolitan staff to conduct this work. Metropolitan's staffing strategy for utilizing consultants and in-house Metropolitan staff has been: (1) to assess current work assignments for in-house staff to determine the potential availability of staff to conduct this work; and (2) to use project-specific professional services agreements when resource needs exceed available in-house staffing or require specialized technical expertise in order to provide a concentrated engineering effort over an extended duration.

This strategy relies on the assumption that in-house engineering staff will handle the baseload of work on capital projects, while professional services agreements are selectively utilized to handle projects above this baseload or where specialized needs are required. This strategy allows Metropolitan's staff to be strategically utilized on projects to best maintain key engineering competencies and to address projects with special needs or issues. After assessing the current workload for in-house staff, and the relative priority of this project, staff recommends the use of a professional services agreement for this subject project. This approach will allow for the completion of not only this project, but also other budgeted capital projects within their current schedules and ensure that the work is conducted in the most efficient manner possible.

Summary

This action authorizes an agreement with HDR Engineering, Inc. for a not-to-exceed amount of $2,800,000 to provide engineering services for preliminary design of erosion control improvements along sections of the CRA.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2020/21 capital expenditure plan. 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 CRA Reliability Program. See **Attachment 1** for the Allocation of Budgeted Funds, **Attachment 2** for Planned Subconsultants, and **Attachment 3** for the Location Map.

Project Milestone

April 2023 – Complete preliminary design of CRA erosion control improvements

Policy

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 51963, dated April 14, 2020 the Board appropriated a total of $500 million for projects identified in the Capital Investment Plan for Fiscal Years 2020/21 and 2021/22.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is not defined as a project under CEQA because it involves only feasibility or planning studies for possible future actions which the Board has not approved, adopted or funded (Section 15262 of the State CEQA Guidelines). In addition, the proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines because the proposed action involves basic data collection and research activities which do not result in a serious or major disturbance to an environmental resource, which 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 (Class 6, Section 15306 of the State CEQA Guidelines)

CEQA determination for Option #2:

None required

Board Options

Option #1

Authorize an agreement with HDR Engineering, Inc. for a not-to-exceed amount of $2,800,000 for preliminary design to improve erosion protection structures along the aqueduct.

Fiscal Impact: Expenditure of $5 million in capital funds. Approximately $250,000 will be incurred in the current biennium and has been previously authorized. The remaining capital expenditures will be funded from future CIP budgets following board approval of those budgets.

Business Analysis: This option will allow for the completion of not only this project, but also other budgeted capital projects within their current schedules.

Option #2

Do not proceed with the agreement at this time.

Fiscal Impact: None

Business Analysis: This option may delay the completion of preliminary design for erosion control improvements in the CRA system.

Staff Recommendation

Option # 1

2/14/2022

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

2/15/2022

Adel Hagekhalil *Date*
General Manager

Attachment 1 – Allocation of Funds

Attachment 2 – Planned Subconsultants

Attachment 3 – Location Map

Ref# es12684390

Allocation of Funds for CRA Conduit Erosion Control Improvements

	Current Board Action (Mar. 2022)
Labor	
Studies & Investigations	$ 584,000
Final Design	-
Owner Costs (Program mgmt., environ. planning, survey)	828,000
Submittals Review & Record Drwgs.	-
Construction Inspection & Support	-
Metropolitan Force Construction	-
Materials & Supplies	-
Incidental Expenses	25,000
Professional/Technical Services	-
HDR Engineering	2,800,000
Specialized Geotechnical Services	180,000
Specialized Environmental Services (Aspen)	260,000
Value Engineering Consultant	75,000
Right-of-Way	-
Equipment Use	-
Contracts	-
Remaining Budget	248,000
Total	**$ 5,000,000**

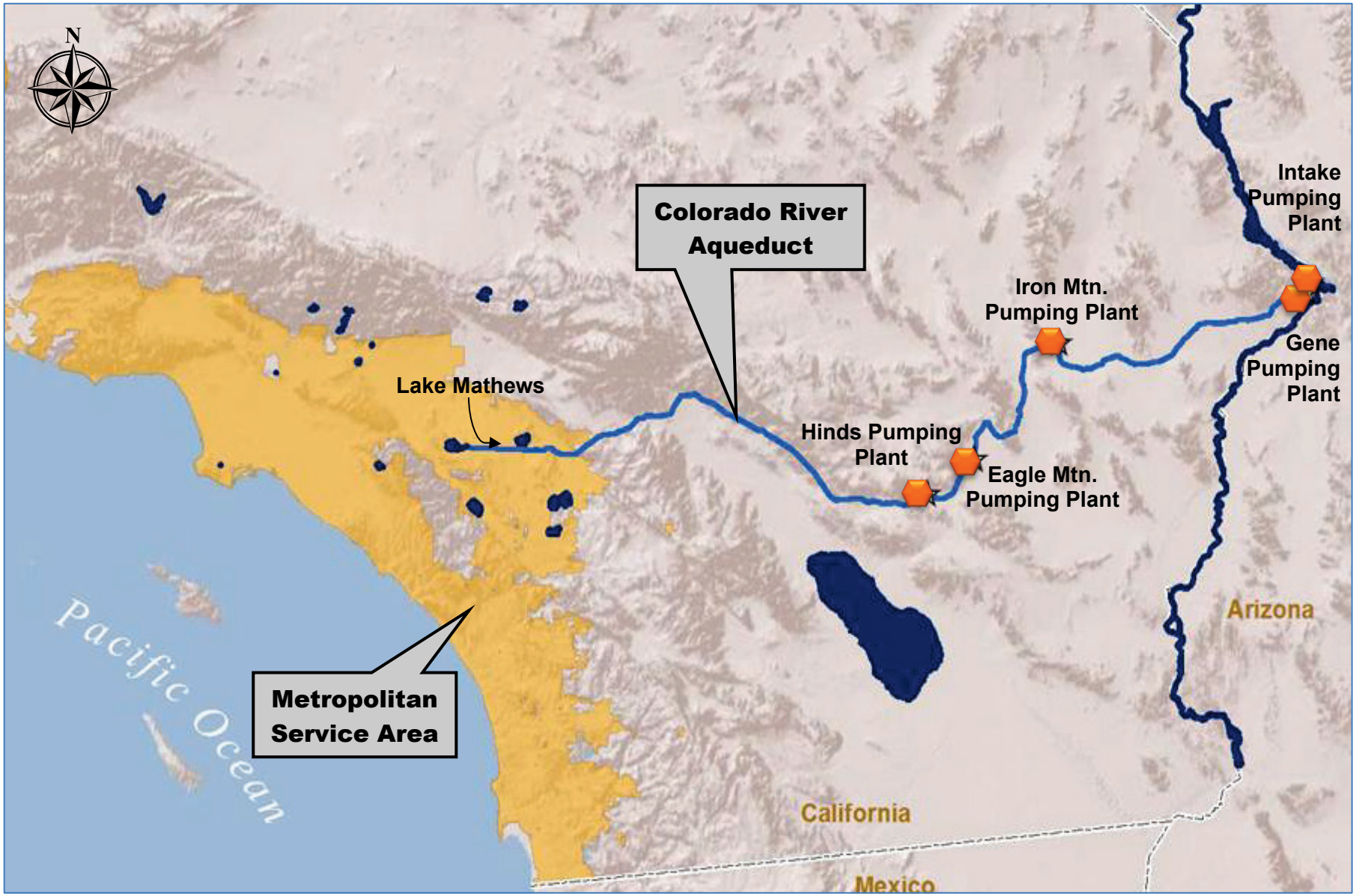
The total amount expended to date to upgrade the CRA Conduit Erosion Control Improvements is $450,000. The future construction contract is estimated to range from $25 million to $30 million.

The Metropolitan Water District of Southern California

Subconsultants for Agreement with HDR Engineering, Inc.

Subconsultant and Location
CWE Corp. - Fullerton, California
WEST Consultants, Inc. - San Diego, California
DRP Engineering, Inc. - Alhambra, California

Location Map



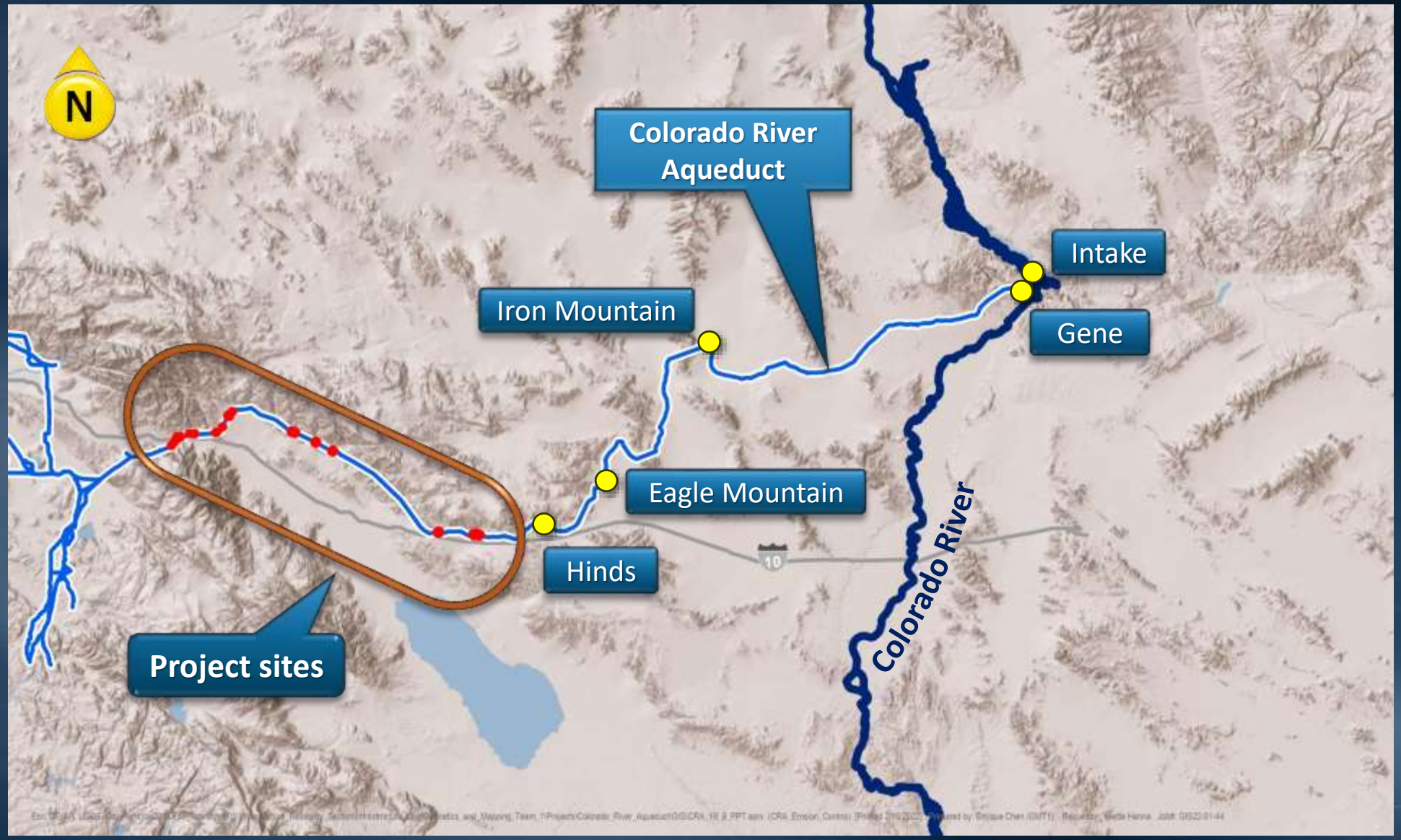
Colorado River Aqueduct Erosion Control Improvements

Engineering and Operations Committee
Item 7-4
March 7, 2022

Current Action

- Authorize a professional services agreement with HDR Engineering, Inc. in an amount not to exceed $2,800,000 for preliminary design services in support of erosion control improvements along the Colorado River Aqueduct

Location Map



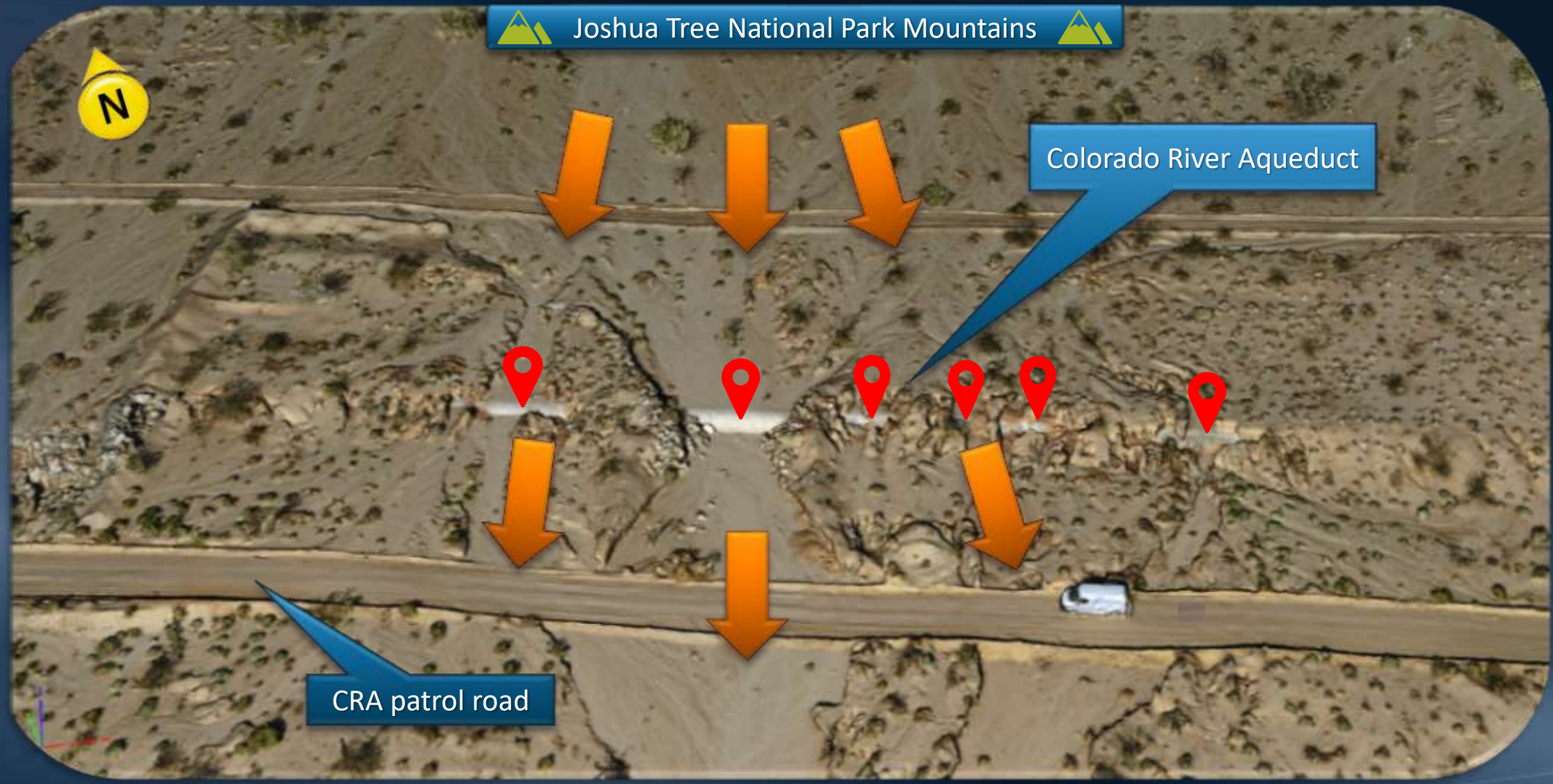
Background

- Cut-and-cover conduits are susceptible to erosion at ravine crossings
- High intensity, sediment-laden storm runoff erodes soil & exposes conduit
- Exposed conduits are vulnerable to structural damage from large debris and/or vehicles

Exposure downstream of berm relief site
October 2018

Exposure near Pierson Road, February 2019

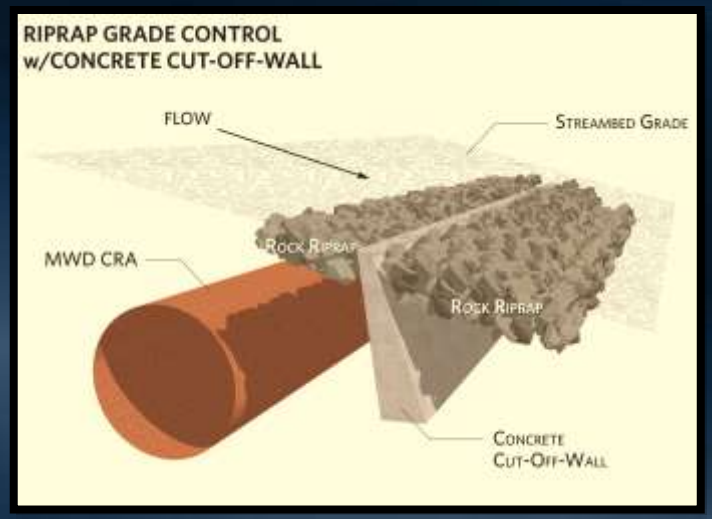
Background

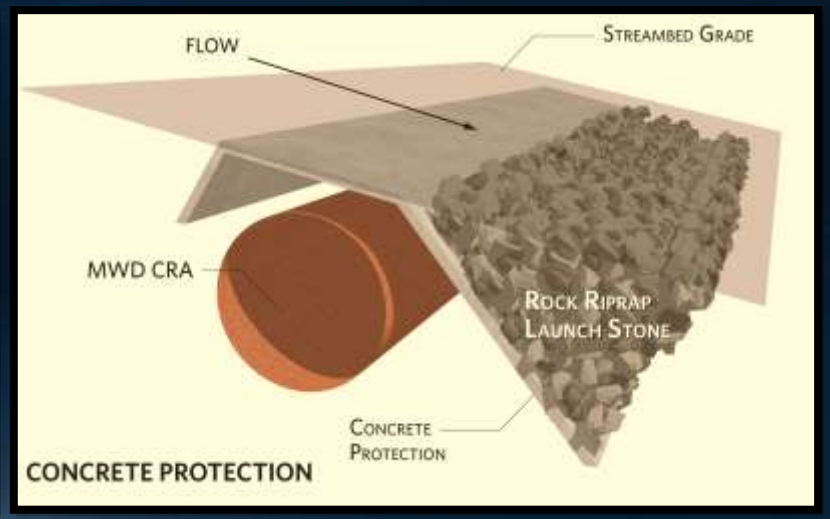


Several exposures in alluvial fan downstream of Munsen Canyon (near Chiriaco Summit)
October 2018

Planned work

- Develop protection alternatives
- Design recommended features
- Install drainage & protection facilities





Gully & exposure near Super Creek February 2019

Exposed conduit at Pinkham Wash October 2018

HDR Engineering, Inc.

New Agreement

- Competitively selected under RFP 1286
- Scope of work for 19 sites
  - Conduct site & utility investigations
  - Perform hydrology, hydraulics, scour & geomorphology analyses
  - Perform sediment transport modeling
  - Evaluate proposed erosion control improvement options
  - Prepare preliminary design drawings & report
  - Develop a Class 3 construction cost estimate
- SBE participation level: 25%
- NTE amount: $2,800,000

Metropolitan Scope

- Conduct topographic surveys for 19 sites
- Conduct geotechnical investigations & soil testing
- Prepare environmental documentation
- Conduct constructability workshop
- Coordinate permitting process with local jurisdictions
- Provide technical oversight
- Perform project controls & project management

Alternatives Considered

- Utilize Metropolitan staff
  - Staff workloads exceed immediate available resources
  - Specialized technical expertise required
    - Team of national experts in hydrology, hydraulics & scour analyses, sediment transport modeling, and river stability
- Selected option
  - Professional services agreement for the subject project
  - Consultant and staff work as a hybrid team

Allocated Funds

Metropolitan Labor	
Preliminary Investigations	$ 584,000
Owner Costs	828,000
Professional/Technical Services	
HDR Engineering, Inc.	2,800,000
Specialized Geotechnical Services	180,000
Specialized Environmental Services	260,000
VE Consultant	75,000
Incidental Expenses	25,000
Remaining Budget	248,000
Total	$5,000,000

Project Schedule

Board Options

- Option #1
  - Authorize an agreement with HDR Engineering, Inc. for a not-to-exceed amount of $2,800,000 for preliminary design to improve erosion protection structures along the aqueduct.
- Option #2
  - Do not proceed with the agreement at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

Engineering & Operations Committee

Regional Recycled Water Program Update

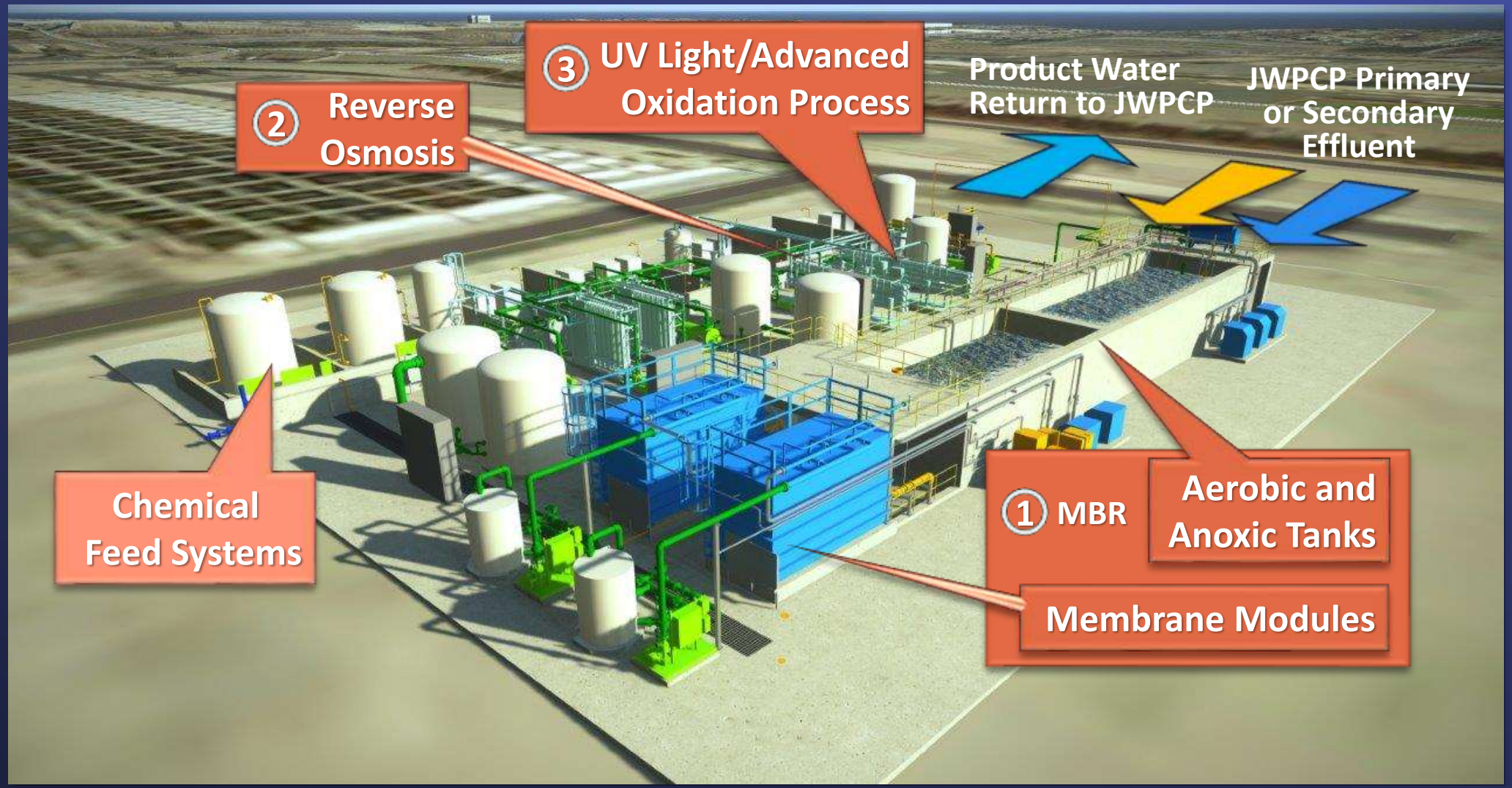
Item #6a

Monday, March 7, 2022
08:30 a.m.

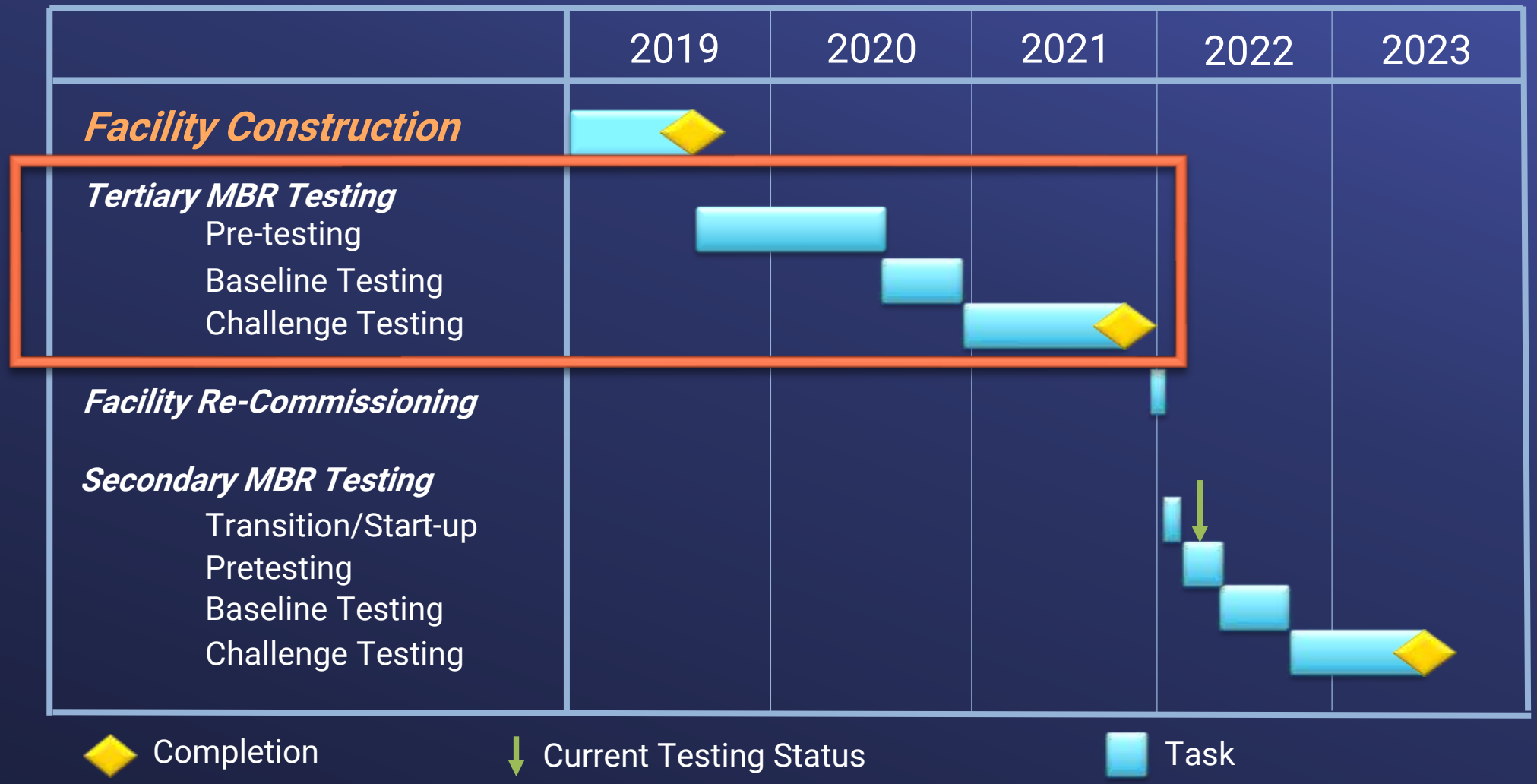
Outline

- Demonstration Plant Activities
  - Tertiary MBR (tMBR) Testing Completion
  - Secondary MBR (sMBR) Testing Start
  - Independent Scientific Advisory Panel (ISAP)
  - Regulatory Engagement
- Program Activities
  - Agency Coordination
  - Public Outreach
  - Environmental Planning Phase Activities
  - Schedule and Next Steps

Demonstration Facility



Demonstration Plant Testing Schedule



Demonstration Plant Testing
Activities

tMBR Testing Completion

- tMBR test phase completed in Nov 2021
- Draft Summary Report currently in progress
- Ongoing engagement with ISAP & Regulators on pathogen removal results and next steps

tMBR Testing Completion

MBR Pathogen Removal Evaluation

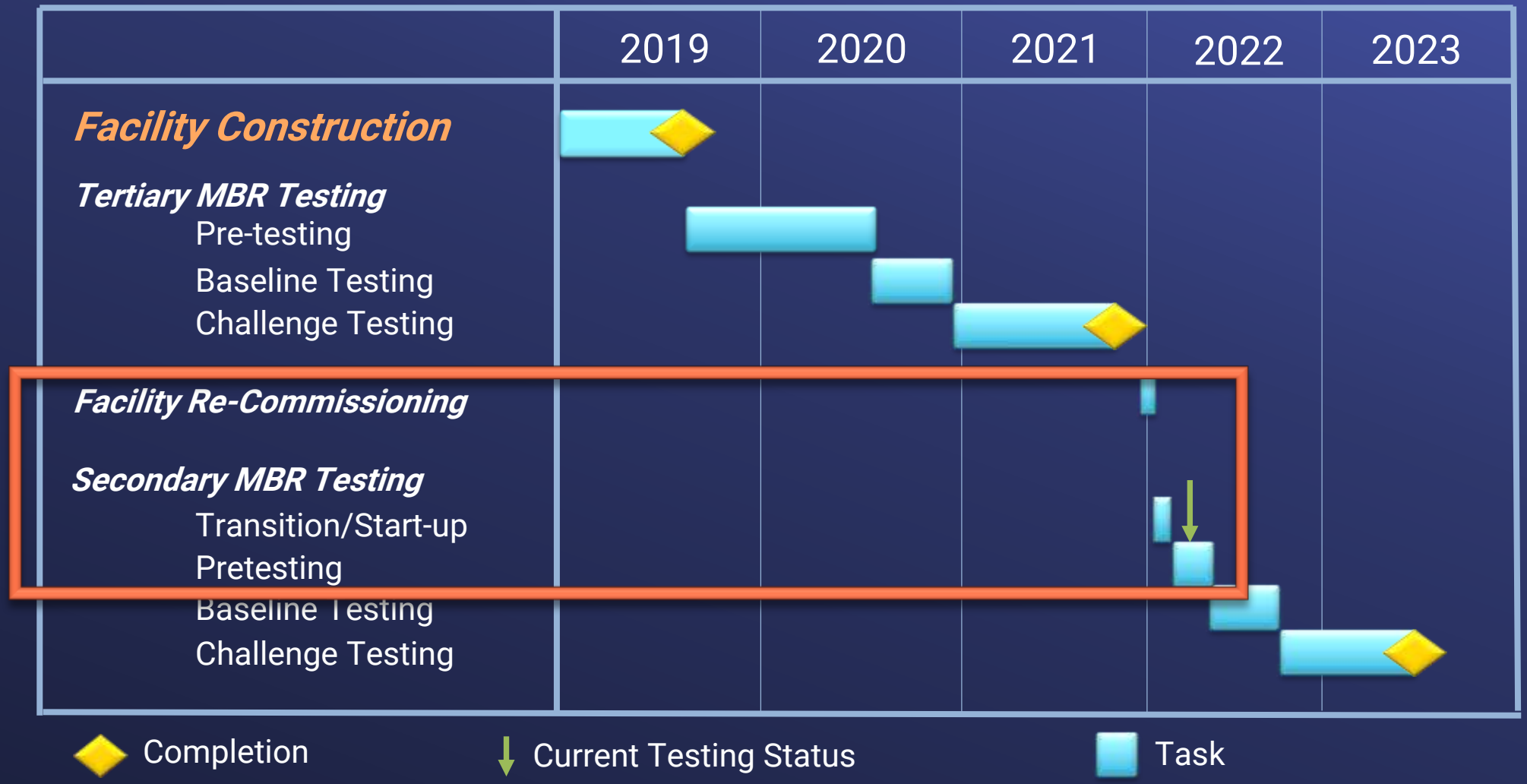
- Optimized sample volumes for sensitivity
- Refined approach to evaluate surrogates
- Sample treatment to inactivate SARS-CoV-2
- Analyzed nearly 800,000 L of MBR filtrate
- Analyzed 500 L of secondary effluent

tMBR Testing Completion

Nov 2021

Staff remove and analyze final microbial sample on the last day of tMBR testing

Demonstration Plant Testing Schedule



Secondary MBR Testing Start

- Site maintenance completed in late 2021
- Plant re-commissioning and startup in Jan-Feb 2022
- LACSD bench-scale testing informed demo plant startup
- Final test plan awaiting regulatory approval

Independent Science Advisory Panel

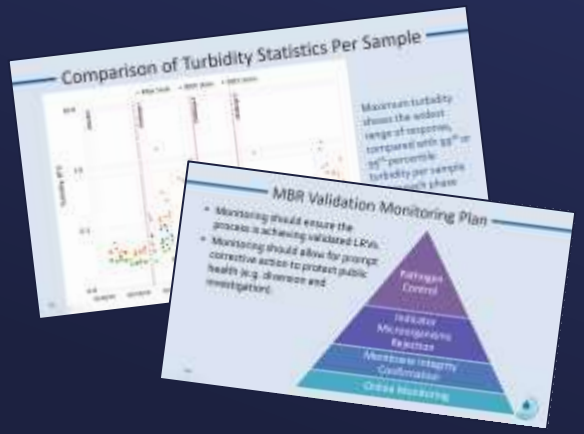
- Title 22 Regulations require an independent panel of experts to review alternative approaches
- National Water Research Institute secured panel for the demonstration project
- Panel helps guide
  - Testing and monitoring approach
  - Water quality, operations data and reporting
  - Regulatory engagement

ISAP Panel Members

Ed Means	Facilitation
Chuck Haas (Chair)	Microbiology
Adam Olivieri	Regulations/Permitting
Joe Cotruvo	Chemistry
Nancy Love	Wastewater Treatment
Paul Anderson	Toxicology
Paul Westerhoff	Drinking Water/AWT
Thomas Harder	Hydrogeology
Vernon Snoeyink	Pipe Corrosion/Water Chemistry

ISAP Workshop No. 5

January 4-5, 2022



- Preliminary tMBR testing results reviewed & discussed for adequacy to obtain
  - 2.5 LRV for protozoa through MBR
  - Water quality suitable for groundwater recharge
  - Suitability of RO concentrate for ocean discharge

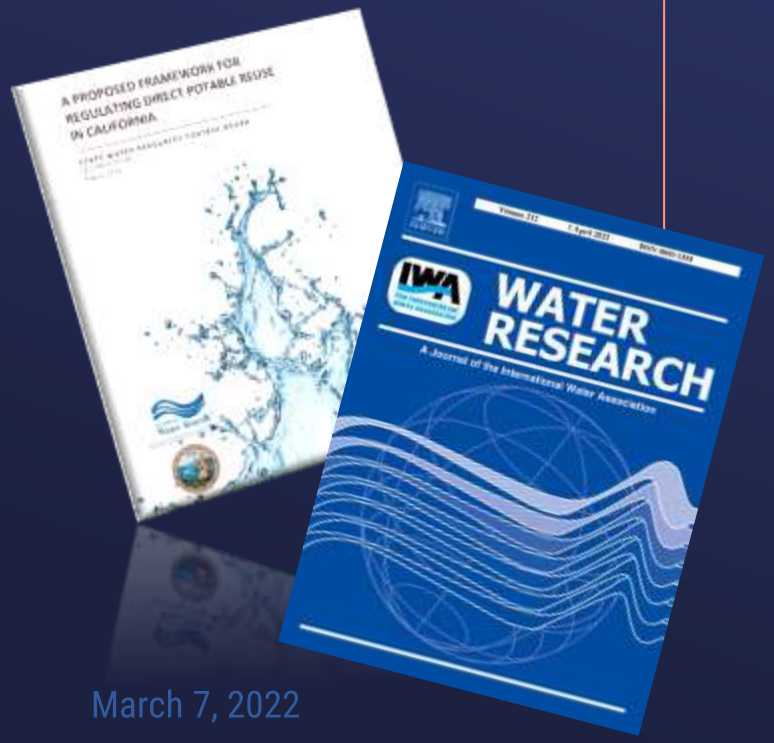
- Obtained feedback on bench & pilot scale testing results to inform sMBR startup & testing
- Final Report March 2022
- Subsequent discussions April 2022

ISAP Workshop No. 5

Panel Feedback

"The Panel applauds the Metropolitan Water District Project Team on the level of research effort, the quality of the results… and … is impressed with the microbial analytical results and level of effort undertaken to generate this information. It is a remarkable contribution to the advancement of using recycled water in the United States."

Regulator Engagement



- Conducted Regulatory Meeting No. 10
  - LACSD, Regional Boards & DDW to discuss the sMBR test plan & next steps (Feb. 25)
- Direct Potable Reuse (DPR) Topics
  - Advocate for use of DPR-2 data published
  - Discuss technical approaches with DDW's DPR subgroup (Feb. 11)
  - Providing comments on the developing framework for CA Direct Potable Reuse
  - Monitoring the Expert Panel process

Grants & Funding

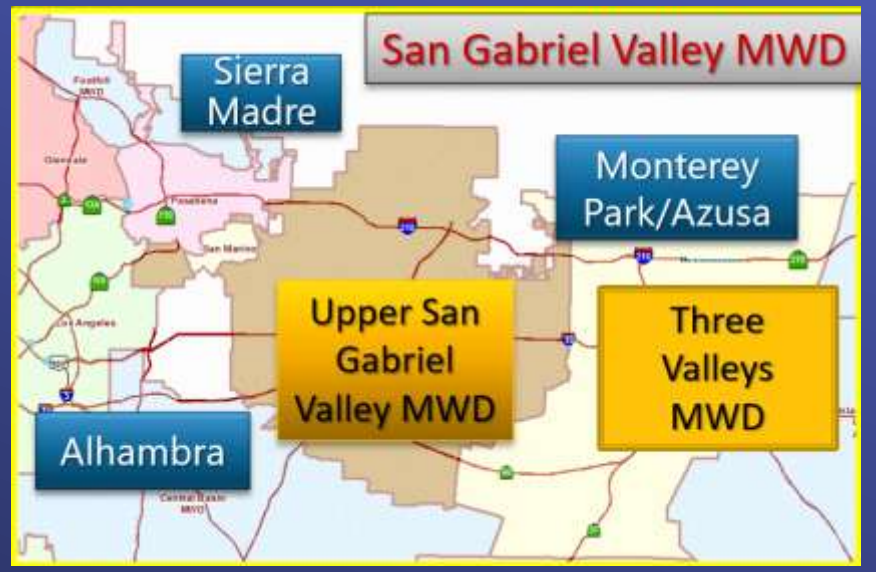
Funding opportunities

- Considering Title XVI grant application
- Pursuing State grants
- Advocating for Federal Large Scale Water Recycling grants

- Investigating opportunities to accelerate the RRWP schedule to position Metropolitan for grant funding
  - Alternative Delivery
  - AB 1845 (Calderon)

Agency Coordination

- Continued LACSD coordination
  - Monitoring for residuals
  - CEQA planning support
  - Nitrogen management process selection
- Continuing boron studies
- Discussing program flows & nitrogen limits
- Continuing to meet with LOI Agencies
- Draft LOI with San Gabriel Valley MWD



Outreach & Public Engagement

- Program briefings and presentations
- Virtual tours
- News and social media

Program Briefings and Presentations

Virtual Tours

News and Social Media

Environmental Planning Phase Activities

CEQA

- Developing CEQA objectives & defining alternatives
- Continuing technical analyses
- Developing Project Description

Advanced Water Treatment

- Investigating distributed plants, alternative sites, flow & phasing, developing site plans, updating costs
- Defining ancillary facilities
- Developing approach for DPR

Environmental Planning Phase Activities

Conveyance

- Identifying preferred pipeline alignment for CEQA
- Investigating alignments
- Coordinating with SCE for potential ROW

Public Outreach

- Created outreach charter & stakeholder database
- Providing program briefings to stakeholders
- Developing public involvement plan for CEQA outreach and support

Program Schedule

Environmental Planning

IN PROGRESS

Design & Construction

FUTURE

Start-up & Operations

FUTURE


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Report

Engineering Services Group

- **Capital Investment Plan Quarterly Report for period ending December 31, 2021**

Summary

The attached report provides a summary of actions and accomplishments on the Capital Investment Plan (CIP) during fiscal years 2020/21 and 2021/22. It also provides updates on the status of capital projects and capital expenditures to date, and information regarding service connections and relocations authorized by the General Manager during the reporting period of October to December 2021, the second quarter of fiscal year 2021/22, and the sixth quarter of the fiscal years 2020/21 and 2021/22 biennium.

Purpose

Administrative Code Requirement Section 2720(a)(1): General Manager's Quarterly Reports

Section 2720 of Metropolitan's Administrative Code requires the General Manager to report quarterly to the Engineering and Operations Committee on the Capital Investment Plan.

Sections 4700-4708 of Metropolitan's Administrative Code requires the General Manager to report on service connections approved by the General Manager with the estimated cost and approximate location of each.

Section 8122(c) of Metropolitan's Administrative Code requires the General Manager to report on the execution of any relocation agreement under the General Manager's authority involving an amount in excess of $100,000.

Highlights of progress and major milestones on selected projects are presented in the attached report grouped by CIP program.

Attachments

Capital Investment Plan quarterly report for period ending December 2021

Date of Report: 3/8/2022

CAPITAL INVESTMENT PLAN

Quarterly Report | October – December 2021

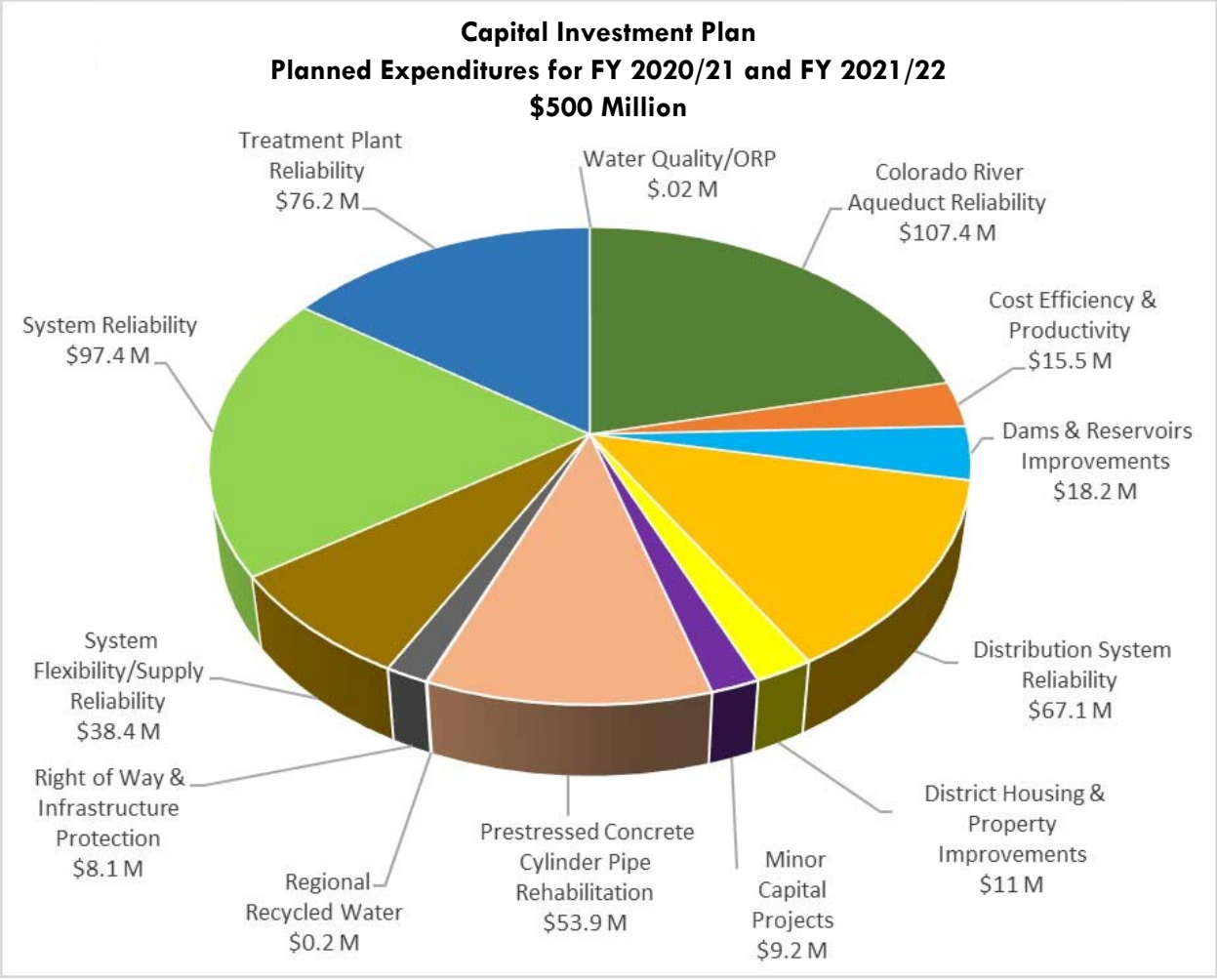
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Table of Contents

CAPITAL INVESTMENT PLAN FOR FISCAL YEARS 2020/21 & 2021/22

Metropolitan's total Capital Investment Plan (CIP) planned expenditures for Fiscal Years (FYs) 2020/21 and 2021/22 are $500 million appropriated by the Board in April 2020, and are shown in Figure 1 below in relation to their associated programs. In the same board meeting, the Board also delegated authority to the General Manager, subject to both CEQA requirements and the General Manager's authority as addressed in Metropolitan's Administrative Code, to initiate or proceed with work on all planned capital projects identified in the CIP for FYs 2020/21 and 2021/22.

Figure 1: CIP for FY 2020/21 and FY 2021/22 by Program



[Cover photos: (left to right): *Gene Wash Reservoir Discharge Valve Structure Rehabilitation* - completed discharge valve installation; *Lake Mathews Sodium Hypochlorite Tanks* - final inspection and hydrostatic testing of the fiber-reinforced plastic tanks

SECOND QUARTER SUMMARY

Biennial expenditures through December 2021 totaled $340.3 million (details shown in Table 15), and expenditures for the 2nd Quarter of Fiscal Year 2021/22, October through December 2021, totaled $42.4 million for all capital programs.

During the 2nd Quarter, board actions heard in open session included eleven project-specific actions summarized in Table 1 below. These actions awarded eight contracts totaling approximately $68.4 million, authorized three new professional/technical services agreements totaling a not-to-exceed amount of approximately $10.1 million, of which $2.6 million is for capital work, and authorized an increase to three existing agreements totaling a not-to-exceed amount of $2.9 million. Information on the awarded contracts can be found in Table 10 of this report. The table below excludes information on board items heard in closed session.

Table 1: 2nd Quarter Board Actions

Month	Board Letter Item No.	Project	Action taken
October	7-2	Lake Mathews Site Wastewater System Replacement	Awarded $3,815,000 construction contract
October	7-3	Advanced Water Treatment Plant Demonstration Plant – Modification for Direct Potable Reuse Testing	Authorized two agreements not-to-exceed $2,800,000 and $6,500,000[1]
October	7-4	Jensen Vehicle Maintenance and Warehouse Building Roof Replacement	Awarded $282,390 construction contract
November	7-2	Jensen Ozone PSUs Replacement[2]	Awarded $1,477,000 construction contract; authorized an agreement not-to-exceed $800,000
November	7-3	Mills Electrical Upgrades, Stage 2	Awarded $9,200,000 construction contract; authorized an increase of $830,000 to an existing agreement
November	7-4	Etiwanda Pipeline Relining, Stage 3	Awarded $6,044,896.76 procurement contract
November	7-5	CRA Cholla Wash Cut-and-Cover Conduit Lining	Awarded $3,280,920 construction contract

[1] $1.8 million of the $6.5 million agreement is for capital work and the remaining agreement capacities are for O&M work.

[2] After contract award, Metropolitan was notified by the State of California Department of Industrial Relations that the contractor was debarred from bidding or being awarded a public works contract in California, for the period including 9/27/2021 to 9/26/2022. A Notice to Proceed was not sent to the contractor and Metropolitan has opted to terminate the contract and readvertise the work for this project at a later date.

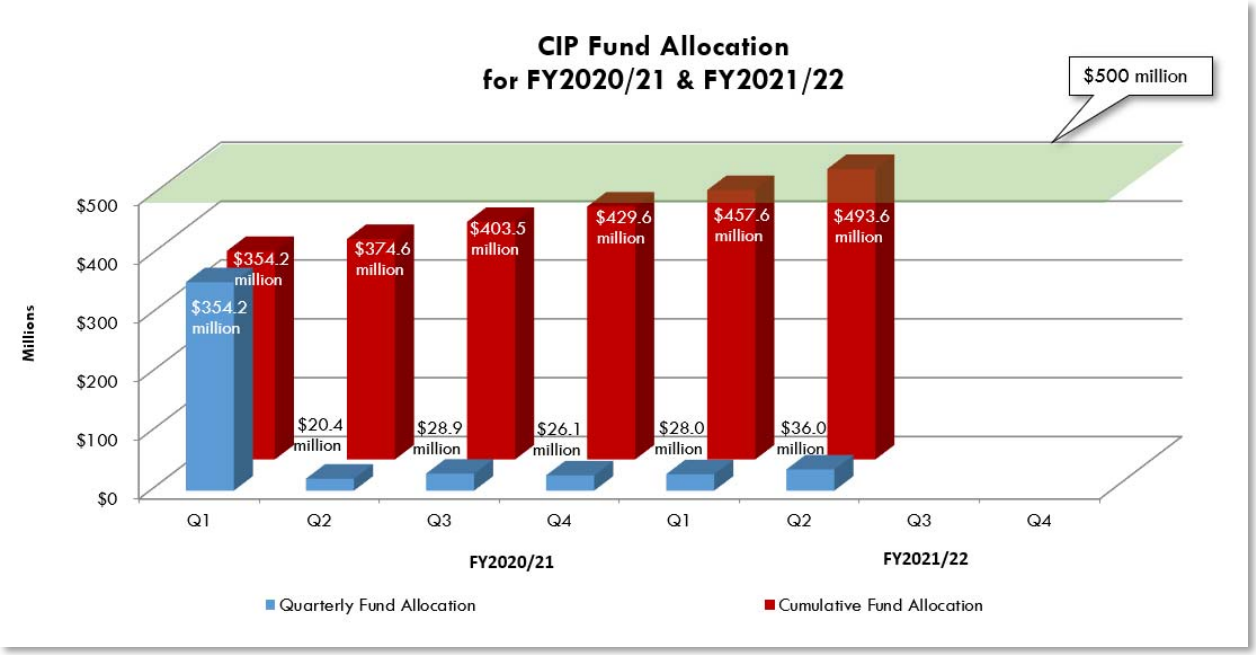
Month	Board Letter Item No.	Project	Action taken
November	7-14	Datacenter Modernization Relocation	Authorized an increase of $985,000 to an existing agreement
December	7-1	Rialto Pipeline Water Supply Reliability Improvements: Wadsworth Pumping Plant Bypass Pipeline, Inland Feeder/Rialto Pipeline Intertie, Inland Feeder/SBVMWD Pump Station Intertie	Authorized three unplanned projects
December	7-2	Casa Loma Siphon Barrel No. 1 Seismic Upgrade	Awarded $11,499,000 construction contract; authorized an increase of $1,100,000 to an existing agreement
December	7-3	CRA Domestic Water Treatment System Upgrades	Awarded $32,824,000 construction contract

The previously referenced April 2020 board action appropriated $500 million to perform work on planned capital projects through the current biennium. In order to be considered a planned project, the project must be identified and described in the Capital Investment Plan Appendix for the two-year budget cycle. Consistent with this action, all requests to allocate funds and proceed with planned capital projects are reviewed and approved by the Chief Engineer acting under the General Manager's authority. Unplanned projects, those which are not already identified in the CIP Appendix, require a separate board authorization. Upon board approval of an unplanned project, requested funds are then transferred from the $500 million (Appropriation No. 15517) to the pertinent capital appropriation under which the project is budgeted. During the 2nd Quarter, the Board amended the CIP to include capital projects to improve water supply reliability in the Rialto Pipeline Service area. These projects will enhance water delivery capabilities to member agencies that can only receive State Project Water.

During the 2nd Quarter, the total amount of Appropriation No. 15517 funds authorized by the General Manager for the current biennium (FYs 2020/21 and 2021/22) through management actions including the funds for the projects shown in Table 1 is approximately $36.0 million. Details of these management actions which occurred during the 2nd Quarter can be found in the **Project Actions** section of this report.

Figure 2 shows the allocation of the funds from Appropriation 15517 for this quarter and total for the current biennium through the quarter[3], which is approximately $493.6 million, leaving approximately $6.4 million available to be allocated during the remainder of the current biennium.

Figure 2: CIP Fund Allocation from Appropriation No. 15517 – FY 2020/21 and FY 2021/22



Information on construction and procurement contracts activities for the 2nd Quarter of FY 2021/22 is summarized in Table 2 on the following page, and presented in further detail in the **Construction and Procurement Contracts** section of this report. Progress payments for these contracts in the 2nd Quarter totaled approximately $11.37 million, and primarily reflect construction progress on CRA Pumping Plants – Sump Rehabilitation, MWD HQ Bldg. Physical Security Improvements, MWD HQ Building Fire Alarm & Smoke Control Improvements, Joseph Jensen Water Treatment Plant Electrical Upgrade - Stage 2 , Gene Wash Reservoir Discharge Valve Replacement, and Garvey Reservoir Sodium Hypochlorite Feed System Upgrades.

[3] The CIP Quarterly Report for the 1st Quarter of FY 2020/21 reported the CIP allocation for Q1 to be $354.3 million, which is being amended to $354.2 million in this quarter's report. This change is necessary to reflect the correction of the amount authorized for the current biennium for Jensen Control Room Wildfire Smoke Mitigation, from $371,400 to $345,000 and Skinner Survey Roof Replacement, from $186,500 to $161,500. Also, the CIP Quarterly Report for the 4th Quarter of FY 2020/21 reported the CIP allocation for Q4 to be $26.7 million, which is being amended to $26.1 million in this quarter's report. This change is necessary to reflect the addition of $170,000 authorized for the Arc Flash Model Development, which was not reported, and correction of Fuel Management System Upgrade, from $2,205,480 to $1,365,000 for the current biennium.

Table 2: 2nd Quarter Contract Action

Contract Actions during Q2 for FY 2021/2022, October 2021 through December 2021	
Contracts Awarded by Board	7 construction contracts totaling $62.38 million (Table 10) 1 procurement contract totaling $6.04 million (Table 10)
Total Payments Authorized	$11.37 million
Construction Contracts Completed	Notice of Completion was filed for 2 construction contracts (Table 9)
Active Contracts at end of Q2[4]	19 construction contracts, totaling $209.12 million (Table 11) 16 procurement contracts, totaling $67.32 million (Table 12) $276.44 million total value

IMPACTS OF COVID-19

In response to the Governor's and General Manager's emergency declarations resulting from the COVID-19 pandemic, all active construction contracts were suspended in late March 2020. Since then all contracts, except on-site work for CRA Pumping Plant Sump Rehabilitation, resumed construction activities. Staff and the contractor have negotiated a resolution to the aforementioned CRA Pumping Plant Sump Rehabilitation contract. Metropolitan will take possession of key equipment and will receive a credit for the deleted equipment installation work and equipment not provided. Currently, it is anticipated that the existing contract will be completed by summer of 2022 and the CRA Pumping Plant Sump Rehabilitation project will be re-advertised in the second half of Fiscal Year 2022/23 to install the equipment and materials procured under the existing contract as Metropolitan-furnished equipment. Supply chain issues, especially delivery delays for electrical, control, and computer equipment, has been reported on several construction contracts and IT projects.

[4] Active contracts at the end of the 2nd Quarter are those that are ongoing at the end of December 2021. In other words, contracts completed during the reporting quarter are excluded.

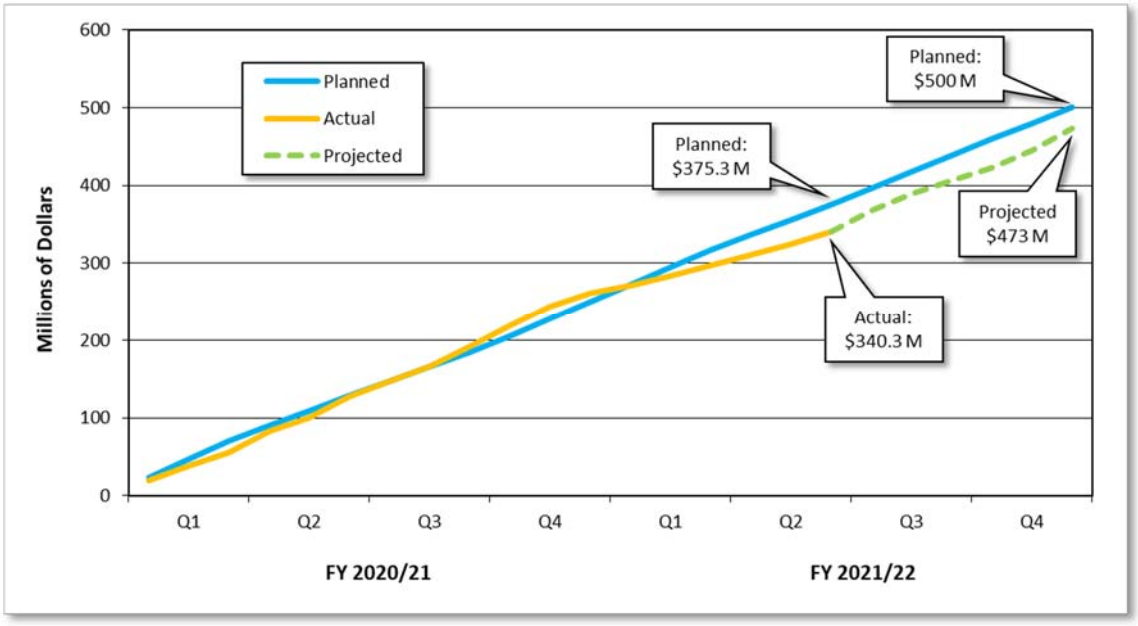
PLANNED EXPENDITURE AND BUDGET

Table 3 and Figure 3 below show planned and actual expenditures for the biennium through the end of the 2nd Quarter of FY 2021/22, and the forecast of expenditures through the end of the current biennium, against planned expenditures for the same time interval. Actual expenditures through the 2nd Quarter of FY 2021/22 were approximately 91% of planned expenditures.

Table 3: Current Biennium: Planned & Actual Expenditures for FYs 2020/21 & 2021/22

Quarter	Planned Expenditures (millions)	Actual Expenditures (millions)
FY 2020/21 Q1	$70.4	$55.6
Q2	$58.5	$72.2
Q3	$55.0	$63.6
Q4[5]	$66.1	$70.3
FY 2021/22 Q1	$67.0	$36.2
Q2	$58.3	$42.4
Totals	**$375.3**	**$340.3**

Figure 3: Current Biennium – Planned, Actual & Forecasted Expenditures



As shown in Figure 3, the total planned expenditures in the current biennium are $500 million. The projected expenditures for the biennium are currently approximately $473 million with the actual expenditures lower than the planned expenditures during the 2nd Quarter of FY 2021/22 and are projected to stay under the planned expenditures through the end of the biennium.

Expenditures are less than planned in the reporting quarter due to several factors including delays in awarding some construction and procurement contracts due to the difficulties in obtaining permits within the planned timeline, the cancellation of construction portion of one construction contract due to the COVID-19 pandemic leaving only materials and equipment procurement portion, and equipment/materials delivery delays due to manufacturing and supply chain issues attributed to the COVID-19 pandemic.

[5] Adjusted from $70.2 million as reported in Q4 of FY 2020/21 to $70.3 million to reverse $107K credit from the sale of surplus DVL properties.

MAJOR CAPITAL PROGRAMS OVERVIEW

Metropolitan's CIP is structured into three levels. In descending order, they are:

- Program
- Project Group/Appropriation
- Project

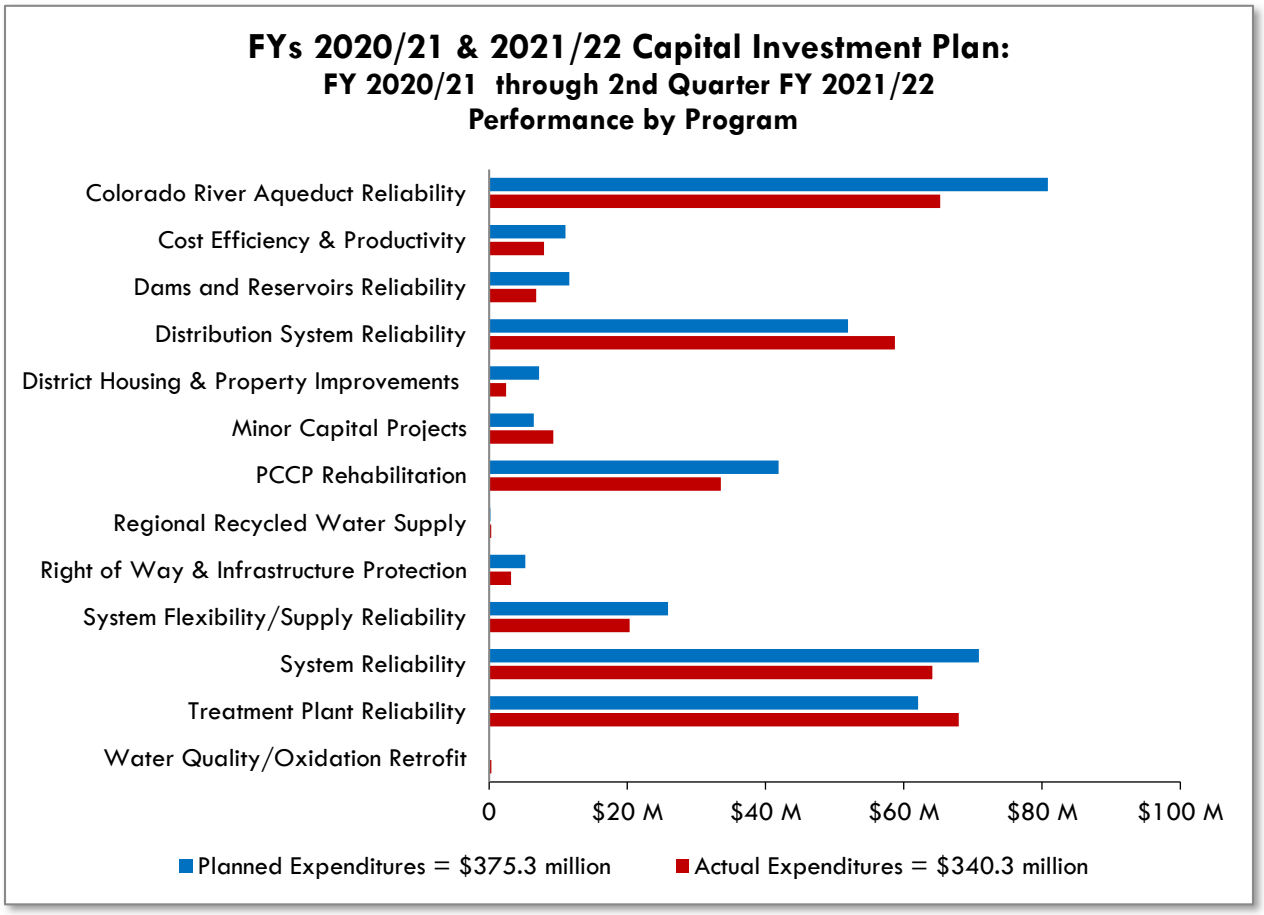
Metropolitan's CIP is comprised of 13 programs, which capture all projects within the CIP. The 13 capital programs are listed below in alphabetical order. Programs are comprised of one or more project groups/appropriations, and project group/appropriations are comprised of one or more projects. The status of each of the programs is provided later in this section of the report.

- Colorado River Aqueduct (CRA) Reliability
- Cost Efficiency & Productivity
- Dams & Reservoirs Improvements
- Distribution System Reliability
- District Housing & Property Improvements
- Minor Capital Projects
- Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation
- Regional Recycled Water Supply
- Right-of-Way and Infrastructure Protection
- System Flexibility/Supply Reliability
- System Reliability
- Treatment Plant Reliability
- Water Quality/Oxidation Retrofit

For the current biennium, there are over 37 project groups, 72 planned appropriations, and 435 planned projects (excluding Minor Capital Projects) within the CIP. The list of appropriations that make up each of the programs, along with planned expenditures and actual costs to date for those appropriations, are provided in Table 15 at the end of this report.

Figure 4 below shows actual versus planned expenditures for the 13 capital programs for 2nd Quarter of FY 2021/22.

Figure 4: Biennium-to-date Expenditures (Actuals vs. Planned) through 2nd Quarter FY 2021/22



Variances between planned and actual expenditures for each program are primarily due to shifts in spending on current and planned construction work. The following information on the top ten capital projects provides examples of activities that contributed to such variances.

The list of projects in Table 4 below reflects the ten projects in the CIP with the highest level of planned expenditures in the current biennium. The planned versus actual expenditures through the end of the 2nd Quarter of FY 2021/22 are also shown in this table.

Table 4: Top Ten Planned Capital Projects
Planned and Actual Expenditures

Project	Planned (FY 2020/21 through FY 2021/22) (millions)	Planned July 2020 to December 2021 (millions)	Actuals July 2020 to December 2021 (millions)
Headquarters Building Improvements	$31.3	$23.5	$29.5
Casa Loma Siphon Barrel No. 1 Seismic Upgrade	$30.0	$22.6	$16.2
CRA Pump Plant Sump System Rehabilitation	$28.0	$21.1	$10.4
Perris Valley Pipeline - Tunnels	$27.8	$15.9	$2.1
CRA Discharge Line Isolation Coupling Assemblies	$23.0	$21.6	$18.2
Second Lower Feeder PCCP Rehabilitation - Reach 8	$22.0	$14.0	$6.9
Jensen Electrical Upgrades - Stage 2	$15.2	$12.1	$15.3
Diemer West Basin & Filter Building Rehabilitation	$14.2	$14.1	$15.6
Second Lower Feeder PCCP Rehabilitation – Reach 2	$13.0	$13.0	$5.4
Orange County Feeder Relining - Reach 3	$12.5	$9.4	$0.8
Total*	**$217.1**	**$167.2**	**$120.4**

* Numbers may not sum due to rounding.

The cumulative expenditure variance for the top ten projects through the 2nd Quarter of FY 2021/22 reflects a mix of over- and under-spending on projects relative to their planned expenditures. Positive or negative variances do not mean that the projects are over or under budget, it simply reflects variances in timing of expenditures when compared to original budget plans. The following are the variance explanations for the top ten projects where actual expenditures exceeded planned expenditures through the current reporting quarter for the biennium.

- **Headquarters Building Improvements:** The actual expenditures were more than planned because of the following: (1) the approval of additional change orders to complete needed work while the building is lightly occupied due to the COVID-19 pandemic; and (2) the contractor was able to accelerate completion of some work elements as the building has been lightly occupied.
- **Jensen Electrical Upgrades - Stage 2:** Project expenditures for the biennium are higher than originally planned through the 2nd Quarter because the contractor's work activities were expedited after the COVID-19 work suspension was lifted in order to meet the scheduled 2022 shutdown dates.

- **Diemer West Basin & Filter Building Rehabilitation:** Project expenditures for the biennium are higher than originally planned through the 2nd Quarter because the contractor's work activities were expedited to meet the scheduled completion date.

The following are the variance explanations for the top ten projects with actual expenditures less than planned expenditures through the current reporting quarter for the biennium).

- **Casa Loma Siphon Barrel No. 1 Seismic Upgrade:** The actual vs. planned variance is due to a shift in timing of the award of the pipe installation contract from earlier in the biennium to December 2021 to ensure sufficient capacity in the current CIP budget to accommodate expenditures from this project in the biennium.
- **CRA Discharge Line Isolation Coupling Assemblies:** The actual expenditures were less than planned due to the contractor completing more work than planned during the 2020 shutdown.
- **CRA Pump Plant Sump System Rehabilitation:** The actual vs. planned variance is due to the suspension of the on-site work due to the COVID-19 pandemic starting in March 2020, which led to cancellation of the construction portion of the contract. Resolution of outstanding submittal comments and supply chain issues have also caused a delay in the delivery of equipment and materials to the site.
- **Perris Valley Pipeline – Tunnels:** The actual vs. planned expenditure variance is due to postponing the start of construction from November 2020 to early 2022 due to the discovery of contaminants at the work site that requires additional field and laboratory investigations, which resulted in the modification of the specifications to account for the contaminants. Additionally, complex right-of-way issues needed to be resolved prior to the advertisement of this project for construction bids.
- **Second Lower Feeder PCCP Rehabilitation – Reach 2:** The actual vs. planned variance is due to shifts in the timing of construction completion, which was completed approximately five months earlier than planned and under budget leaving less work for the current biennium. Early completion of this work can be attributed to extensive preconstruction planning and permitting, successful community outreach efforts, and better than expected relining production by the contractor.
- **Second Lower Feeder PCCP Rehabilitation – Reach 8:** This project involved relining approximately 2,900 feet of PCCP pipeline in the City of Placentia, which is a portion of the original length of the Reach 8 project. Construction work was completed in September 2020. The planned expenditures for this biennium were based on relining 17,000 feet of PCCP but during design the scope was reduced to prioritize the most at-risk, 2,900-foot portion of the feeder. The remaining 14,100 feet of PCCP will be included in a future PCCP rehabilitation contract.
- **Orange County Feeder Relining - Reach 3:** The actual vs. planned expenditure variance is due to postponing the start of construction from September 2020 to April 2022 in order to reduce expenditures in this biennium. The final contract, for Reach 3, was advertised for construction bids in January 2022 to ensure that there is sufficient capacity in the current CIP budget to accommodate expenditures from this project in the biennium.

MAJOR CAPITAL PROGRAMS – HIGHLIGHTS

The section that follows provides 2nd Quarter highlights for the 12 Major Capital Programs; the Minor Capital Program is highlighted in its own section of this report. Status is provided for selected projects within each Major Capital Program. The selected projects typically achieved major milestones during the 2nd Quarter of FY 2021/22, or are scheduled to achieve major milestones in the next quarter.

Program	Project
Colorado River Aqueduct (CRA) Reliability	Gene Wash Reservoir Discharge Valve Rehabilitation
Cost Efficiency & Productivity	mwdh2o.com Redesign
Dams and Reservoirs Improvements	Diamond Valley Lake Dam Monitoring System Upgrades
Distribution System Reliability	Etiwanda Pipeline Lining - Stage 3
District Housing & Property Improvements	Program highlights only
Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation	PCCP Valve Storage Building at Lake Mathews
Regional Recycled Water Supply	Program highlights only
Right-of-Way & Infrastructure Protection	Program highlights only
System Flexibility/Supply Reliability	Wadsworth Pumping Plant Bypass Pipeline
System Reliability	Headquarters Building Improvements
Treatment Plant Reliability	Jensen Electrical Upgrades - Stage 2
Water Quality/Oxidation Retrofit	Program highlights only

Colorado River Aqueduct (CRA) Reliability Program

Program Information: *The CRA Reliability Program is composed of projects to replace or refurbish facilities and components of the CRA system in order to reliably convey water to Southern California.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$80.85 million	$65.26 million

PROGRAM HIGHLIGHTS (2nd Quarter)

Status

Expenditures for this program are less than planned through December 2021 due to schedule adjustments in order to optimize the construction activities of multiple contracts within the same CRA shutdown and to accommodate delays of site work activities, recent supply chain disruption, and suspension of construction contracts under Metropolitan's response to COVID-19 and various drought-related initiatives.

Accomplishments

- Continued construction activities for the following contracts:
  - CRA Mile 12 Flow Meter Upgrades
    - i. Continued submittals for review
    - ii. Began and completed mobilizing the field offices and construction equipment to the work site
    - iii. Began excavation to construct footings for the walls of the new building
  - CRA Pumping Plants Overhead Cranes Rehabilitation
    - i. Continued submittals for review
    - ii. Began and completed crane rail alignment at the Intake Pumping Plant
    - iii. Began crane rail alignment at the Iron Mountain Pumping Plant
  - Gene Wash Reservoir Discharge Valve Structure Rehabilitation
    - i. Completed installation of reinforcing steel and formwork for the electrical equipment concrete pad at the crest of the dam
    - ii. Completed the valve house refurbishment and the sluiceway pipe relining and completed installation of the discharge valve and actuator
    - iii. Began removal and demolition of the existing steel grating and framework within the valve house; and continued site work for the new concrete catwalk footings and concrete ladder landing at the valve house
    - iv. Continued installation of the electrical equipment and panels inside the valve house; began and completed energizing the new power distribution panels; and began electrical start-up and commissioning
- Continued submittals for the water treatment equipment procurement for domestic water treatment systems at all CRA pumping plants with expected deliveries in two shipments, in mid-2022 and early 2024, to coincide with the Domestic Water Treatment System Upgrades construction schedule
- Completed final design and awarded the construction contract of Domestic Water Treatment System Upgrades at all five CRA pumping plants
- Awarded construction contract and issued Notice to Procced of CRA Cholla Wash Cut-and Cover Conduit Lining. Contractor began submittals for review and approval for the contract work activities to take place during the February 2022 CRA shutdown

- Under Metropolitan's response to COVID-19, suspended on-site construction for the CRA Pumping Plant Sump System Rehabilitation and continued submittals and fabrication activities
  - Continued fabrication of new pumps, piping, and other materials that are to be furnished
  - Continued delivery of new pumps
  - Completed delivery of the vertical turbine pumps and spare parts to the Iron Mountain Pumping Plant
- Continued evaluating and establishing the course of action and construction repackaging options of the remaining outstanding contract work items for CRA 6.9 kV Power Cable Replacement
- Continued final design of CRA Storage Building Replacement at Hinds, Eagle Mountain, and Iron Maintain
- Continued preliminary design of CRA Desert Region Security Improvements
- Continued preliminary design of Hinds Pumping Plant Discharge Valve Platform Replacement
- Continued preliminary design and preparation of procurement package for the CRA Main Transformer Replacement
- Continued preliminary design of Black Metal Mountain 2.4 kV Electrical Power Upgrades
- Continued final design of Gene Communication Reliability Upgrades
- Continued the CRA main pump rehabilitation efforts at all five pumping plants and feasibility study to install variable frequency drive pumps at Gene and Intake Pumping Plants

Upcoming Activities

Upcoming work for the next quarter will include:

- Continue construction activities planned for the following contracts:
  - CRA Cholla Wash Conduit Protection & Lining
  - CRA Mile 12 Flow Meter Upgrades
  - CRA Pumping Plants Overhead Crane Replacement
  - Gene Wash Reservoir Discharge Valve Structure Rehabilitation
- Issue Notice to Proceed and begin construction activities for Domestic Water Treatment System Upgrades at all five CRA pumping plants
- Continue fabrication activities for CRA Pumping Plant Sump System Rehabilitation and begin final design of the sump system installation contract
- Continue final design and advertise the construction package of CRA Storage Building Replacement at Hinds, Eagle Mountain, and Iron Maintain
- Continue preliminary design of CRA Desert Region Security Improvements
- Continue preliminary design of Hinds Pumping Plant Discharge Valve Platform Replacement
- Continue preliminary design and preparation of procurement package for the CRA Main Transformer Replacement
- Continue preliminary design of Black Metal Mountain 2.4 kV Electrical Power Upgrades
- Continue final design of Gene Communication Reliability Upgrades
- Continue the CRA main pump rehabilitation efforts at all five pumping plants, complete feasibility study to install variable frequency drive pumps at Gene and Intake Pumping Plants, and fabricate modifications to the headgates at Hinds and Iron Mountain Pumping Plants and installation of recirculation line connections at Eagle Mountain Pumping plant
- Continue study of CRA 2.3 kV Switchrack Rehabilitation at four CRA pumping plants and begin preliminary design of a pilot Switchrack Rehabilitation project at Iron Mountain Pumping Plant

CRA Reliability Program: Gene Wash Reservoirs Discharge Valve Rehabilitation

The project scope includes replacement of the existing discharge valve and actuator with Metropolitan-furnished equipment; refurbishment of the existing slide gate valve, discharge pipeline interior, and valve house at the base of the dam; upgrades of associated electrical systems; and design, fabrication, and installation of a temporary underwater device to isolate the reservoir from the discharge structure to allow the rehabilitation work.

Phase	Construction & Closeout
% Complete for Construction	87%
Construction Contract Awarded	December 2019
Appropriation Number	15373
Contract Number	1878

The contractor completed installation of the discharge valve and electrical equipment in the valve house; and completed dry functional testing of the new gate. In the upcoming quarter, the contractor plans to complete functional testing of the discharge valve and electrical equipment; and remove the isolation device from the dam.

New fixed cone discharge valve being transported to the Gene Wash Dam Valve House

Estimated Construction Completion Date:
April 2022

Total Project Estimate:
$11.7 million

Current Phase Estimate:
$9.8 million

Cost to Date for Current Phase:
$7.1 million

Cost Efficiency and Productivity Program

Program Information: *The Cost Efficiency and Productivity Program is composed of projects to upgrade, replace, or provide new facilities, software applications, or technology, which will provide economic savings that outweigh project costs through enhanced business and operating processes.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$11.06 million	$7.95 million

PROGRAM HIGHLIGHTS (2nd Quarter)

Status

Biennium expenditures for this program are less than planned through December 2021 due to shifts in timing of the work, with expenditures offset by schedule delays of several other projects in the remaining appropriations within this program.

Accomplishments

- Continued construction of battery energy storage systems at the Jensen and Skinner plants
- Continued final design of battery energy storage system at the Weymouth plant
- Completed file migrations associated with Water Resource Management and Bay Delta Initiatives groups as part of Enterprise Content Management Phase 1
- Continued WINS Water Billing System Upgrade
- Continued Real Property Group Business System Replacement

Upcoming Activities

Upcoming work for the next quarter will include:

- Initiate Services Procurement Implementation design
- Continue construction of battery energy storage systems at the Jensen and Skinner plants
- Complete final design and advertise construction contract for battery energy storage system at the Weymouth plant
- Complete file migrations associated with Executive Offices and General Counsel Department as part of Enterprise Content Management Phase 1
- Continue WINS Water Billing System Upgrade
- Continue Real Property Group Business System Replacement

Cost Efficiency & Productivity Program: mwdh2o.com Redesign

This project will redesign the current mwdh2o.com website and incorporate the implementation of a content management system for this website. This project will also move the website to be hosted in cloud for increased security.

Phase	Develop
% Complete for Current Phase	85%
Current Phase Authorized	April 2019
Appropriation Number	15484

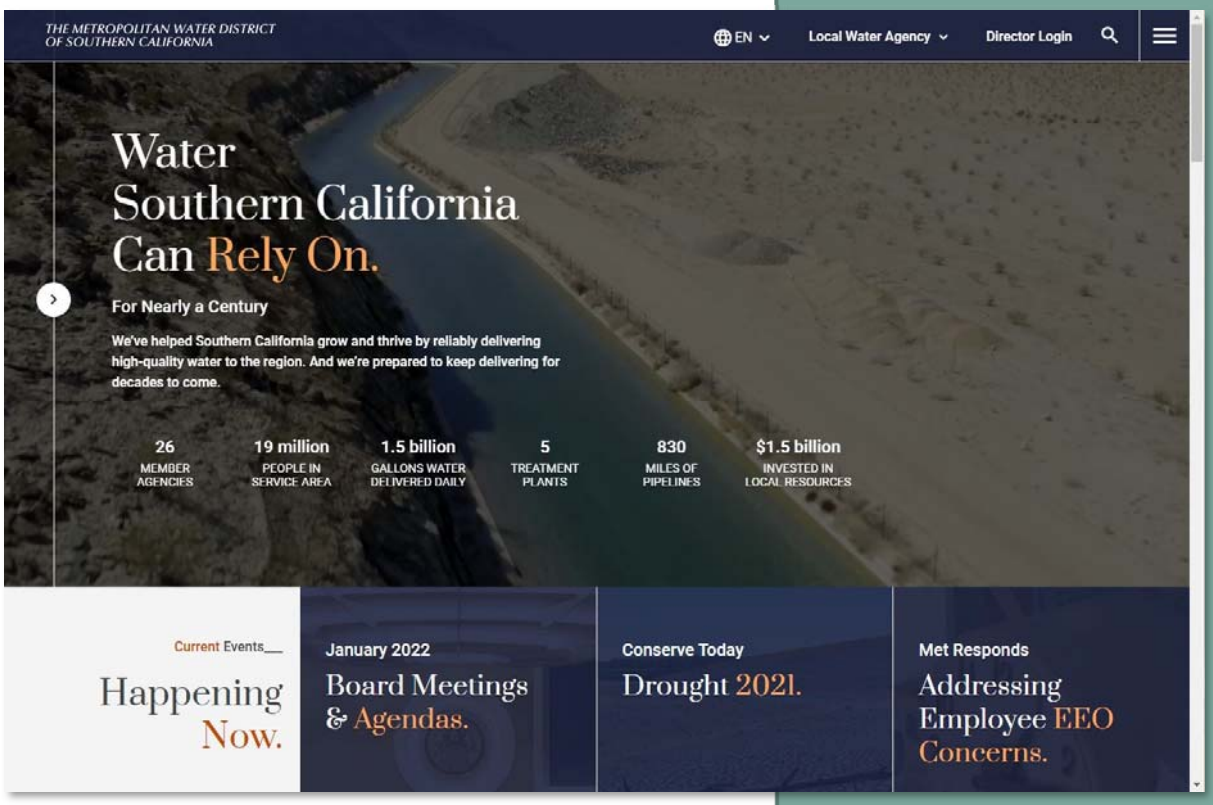
Continued upgrading the content management for the website. In the upcoming quarter, the mwdinnovates.com, socalwaterdialogue.org, and bewaterwise.com sites will be moved to the cloud platform.

Estimated Develop Completion Date:
April 2022

Total Project Estimate:
$2.0 million

Current Phase Estimate:
$0.55 million

Cost to Date for Current Phase:
$0.44 million



Redesigned mwdh2o.com homepage

Dams and Reservoirs Improvements Program

Program Information: *The Dams and Reservoirs Improvements Program is composed of projects to upgrade or refurbish Metropolitan's dams, reservoirs, and appurtenant facilities in order to reliably meet water storage needs and regulatory compliance.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$11.61 million	$6.83 million

PROGRAM HIGHLIGHTS (2nd Quarter)

Status

Biennium expenditures for this program are less than planned through December 2021 due to schedule variances associated with the Dam Monitoring System Upgrades Projects.

Accomplishments

- Diamond Valley Lake Dam Monitoring System Upgrades
  - Developed shortlist of consultant and conducted an additional workshop with Metropolitan staff
  - Continued to develop RFP for dam real-time monitoring system
- Garvey Reservoir Rehabilitation
  - Continued preliminary design
- Lake Mathews and Lake Skinner Dam Monitoring System Upgrades
  - Continued to investigate monitoring needs and prioritize instrumentation replacement at both reservoirs
- Lake Skinner Outlet Tower Seismic Upgrade
  - Continued to prepare an RFP for detailed structural analysis of the outlet tower

Upcoming Activities

Upcoming work for the next quarter will include:

- Diamond Valley Lake Dam Monitoring System Upgrades
  - Continue to develop RFP and conduct internal workshops of the dam real-time monitoring system
- Garvey Reservoir Rehabilitation
  - Continue preliminary design
- Lake Skinner Outlet Tower Seismic Upgrade
  - Prepare interim dewatering plans
  - Issue RFP for detailed seismic analyses of the outlet tower

Dams and Reservoirs Improvements Program: Diamond Valley Lake Dam Monitoring Upgrades

This project will replace the obsolete, increasingly unreliable dam monitoring systems at Diamond Valley Lake (DVL)

Phase	Study
% Complete for Current Phase	85%
Study Authorized	July 2016
Appropriation Number	15419

Developed a shortlist of consultants, conducted an additional internal workshop, and continued preparation of a request for proposals (RFP). In the upcoming quarter, the RFP preparation will continue for the monitoring system upgrade.

Existing Diamond Valley Lake dam monitoring station

Estimate Study Completion Date:
June 2022

Total Project Estimate:
$9.0 million

Current Phase Estimate:
$2.7 million

Cost to Date for Current Phase:
$2.1 million

Distribution System Reliability Program

Program Information: *The Distribution System Reliability Program is comprised of projects to replace or refurbish existing facilities within Metropolitan's distribution system, including reservoirs, pressure control structures, hydroelectric power plants, and pipelines, in order to reliably meet water demands.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$51.93 million	$58.71 million

PROGRAM HIGHLIGHTS (2nd Quarter)	
Status	Biennium expenditures for this program are more than the planned expenditures through December 2021 due to differences in timing between planned and actual payments for projects such as the Lakeview Pipeline Improvements and Middle Feeder Relocation for SCE Mesa Substation.
Accomplishments	• Awarded a contract for construction of the Casa Loma Siphon Barrel No. 1 Seismic Upgrade • Awarded a pipe procurement contract for the Etiwanda Pipeline Relining – Stage 3 and issued Notice to Proceed • Issued Notice to Procced for construction of the Lake Mathews Site Wastewater System Replacement • Continued construction of the Garvey Reservoir Sodium Hypochlorite Feed System Upgrades
Upcoming Activities	Upcoming work for the next quarter will include: • Continue construction of Garvey Reservoir Drainage and Erosion Improvements – Areas 6 to 8, 10, and 11 • Substantially complete construction of the Lake Mathews IT Disaster Recovery Facility Upgrades • Continue construction and begin testing of the Garvey Reservoir Sodium Hypochlorite Feed System Upgrades

Distribution System Reliability Program: Etiwanda Pipeline Relining – Stage 3

This project will replace approximately 2.5 miles of the deteriorated internal mortar lining with a flexible polyurethane lining that could better withstand the significant changes in pressures experienced by the pipeline when operating the Etiwanda Hydroelectric Plant. This project will also reline approximately 1,300 feet of pipe with steel liner.

Phase	Final Design
% Complete for Current Phase	90%
Final Design Authorized	June 2015
Appropriation Number	15441

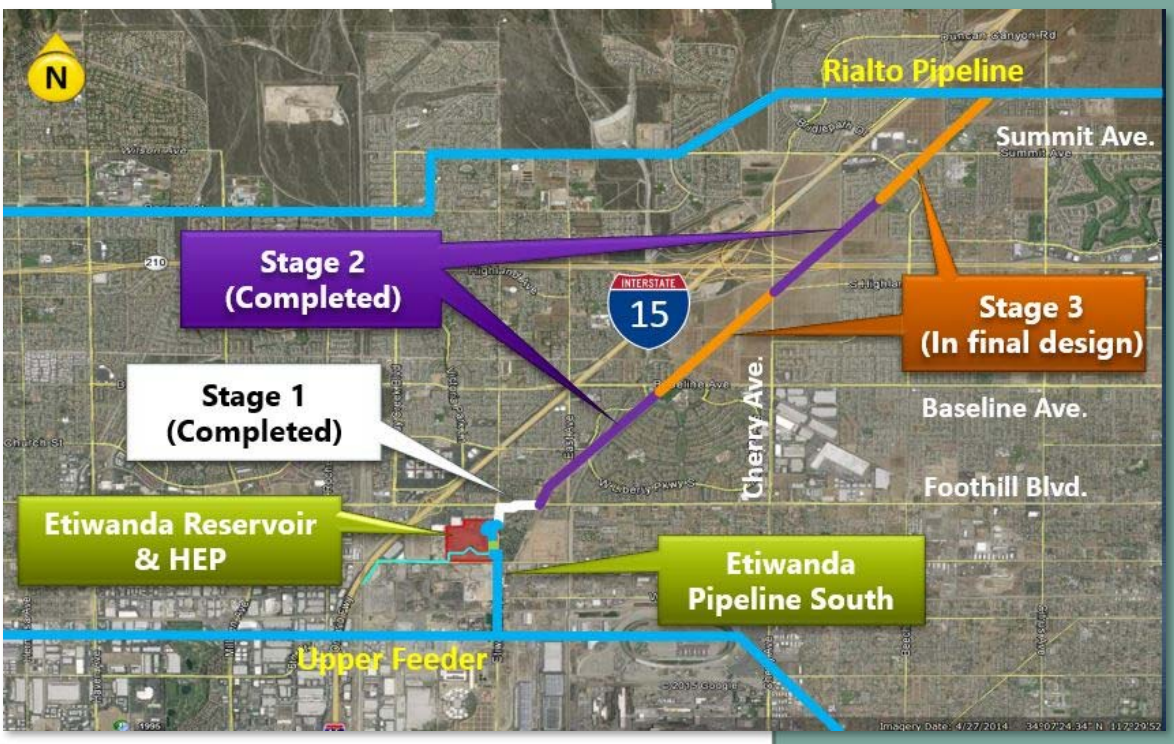
Final design work continued and a contract for the procurement of steel liner pipe was awarded. In the upcoming quarter, final design work will continue.

Estimated Final Design Completion Date:
May 2022

Total Project Estimate:
$30.0 million

Current Phase Estimate:
$0.50 million

Cost to Date for Current Phase:
$0.42 million



Project location in the cities of Fontana and Rancho Cucamonga

District Housing & Property Improvements Program

Program Information: *The District Housing & Property Improvements Program is composed of projects to refurbish or upgrade workforce housing at Metropolitan to enhance living conditions to attract and retain skilled employees*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$7.22 million	$2.46 million

PROGRAM HIGHLIGHTS (2nd Quarter)	
Status	Biennium expenditures for this program are less than planned through December 2021 as additional underground utilities verification was necessary within the four villages prior to proceeding with the geotechnical field investigations. Furthermore, additional fire testing was necessary prior to completion of the preliminary design packages.
Accomplishments	• Initiated and completed topographic surveys in support of the preliminary design activities • Completed geotechnical work in support of the preliminary design activities • Completed preliminary design of the housing, village enhancements, and the kitchen and lodging improvements at the for Hinds and Eagle Mountain Pumping Plants
Upcoming Activities	Upcoming work for the next quarter will include: • Perform value engineering of the housing, village enhancements, and the kitchen and lodging improvements at the Hinds and Eagle Mountain Pumping Plants • Begin preparation of preliminary design of the housing, village enhancements, and the kitchen and lodging improvements at the for Gene and Iron Mountain Pumping Plants • Continue preparation of the environmental documentation in support of the housing and property improvements program

Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Program

Program Information: *The PCCP Rehabilitation Program is composed of projects to refurbish or upgrade Metropolitan's PCCP feeders to maintain water deliveries without unplanned shutdowns.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$41.88 million	$33.53 million

PROGRAM HIGHLIGHTS (2nd Quarter)

Status

Biennium expenditures for this program are less than the planned expenditures through December 2021 due to a delay in permitting and subsequent rescheduling of construction contract award for Second Lower Feeder Reach 3.

Accomplishments

- Second Lower Feeder Reach 3:
  - Completed design of Reach 3A, which will reline approximately 1.2 miles of pipeline from Oak Street Pressure Control Structure south through City of Rolling Hills Estates to the Palos Verdes Reservoir
  - Continued design and permits acquisition of Reach 3B, which will reline approximately 3.6 miles of pipeline from the intertie with Sepulveda Feeder south to Oak Street PCS, through the cities of Torrance, Los Angeles, and Lomita, and will replace three 48-inch diameter sectionalizing valves at the intertie with Sepulveda Feeder
- Allen-McColloch Pipeline:
  - Continued preliminary design for rehabilitation, including identification of proposed pipe access excavation pits for approximately 9 miles of PCCP
  - Solicited input from Member Agencies on proposed shutdown scenarios
- Sepulveda Feeder Reach 1 – Continued final design to rehabilitate approximately 3 miles of Sepulveda Feeder from just north of the Inglewood Lateral south to the West Coast Feeder, through the cities of Inglewood and Hawthorne, and unincorporated Los Angeles County. Work includes preparation of final design drawings, traffic control plans, and permitting.
- Sepulveda Feeder Reach 2 – Continued final design to rehabilitate approximately 3.8 miles of Sepulveda Feeder from the Dominguez Gap Channel crossing south to the intertie with Second Lower Feeder, through the cities of Torrance and Los Angeles. Work includes preparation of final design drawings, traffic control plans, and permitting.
- Second Lower Feeder Valve Procurement – Received three of the thirteen large-diameter conical plug valves with actuators to date

- Lake Mathews PCCP Valve Storage Building – Completed design of a new valve storage building at Lake Mathews to safely store large-diameter valves and actuators to support the PCCP Rehabilitation Program

Upcoming Activities

Upcoming work for the next quarter will include:

- Second Lower Feeder Reach 3A – Advertise specifications and solicit bids
- Second Lower Feeder Reach 3B – Continue final design and seek construction permit approvals
- Sepulveda Feeder Reaches 1 and 2 – Continue developing final designs and initiate permitting process for long-lead permit(s)
- Second Lower Feeder Isolation Valve Procurement – Continue inspection of valve fabrication process and receipt of the fourth of thirteen large-diameter conical plug valves
- Lake Mathews PCCP Valve Storage Building – Award construction contract
- Allen-McColloch Pipeline – Continue preliminary design. Continue soliciting input from member agencies on shutdown durations and sequencing.
- Calabasas Feeder Preliminary Design – Solicit proposals for preliminary design services from Metropolitan's pool of pre-qualified conveyance and distribution system design consultants

PCCP Rehabilitation Program: PCCP Valve Storage Building at Lake Mathews

This project will construct a valve and equipment storage building at the Lake Mathews Reservoir site to support the PCCP Rehabilitation Program.

Phase	Final Design
% Complete for Current Phase	100%
Final Design Authorized	October 2021
Appropriation Number	15497

Completed final design and advertised the construction package for bid. In the upcoming quarter, a construction contract will be awarded.

Final Design Completion Date:
October 2021

Total Project Estimate:
$8.1 million

Current Phase Estimate:
$0.86 million

Cost to Date for Current Phase:
$0.86 million

Map of project area at Lake Mathews site

Regional Recycled Water Supply Program

Program Information: *The Regional Recycled Water Supply Program includes the design and construction of the Advanced Water Treatment (AWT) Demonstration Plant, which represents the initial step in development of a potential regional recycled water system for recharge of groundwater basins within Southern California.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$0.21 million	$0.32 million

PROGRAM HIGHLIGHTS (2nd Quarter)	
Status	Biennium expenditures for this program are consistent with the planned expenditures through December 2021.
Accomplishments	• Continued warranty repairs on equipment and post-contract system improvements to enhance safety and operational reliability of the AWT • Completed record drawing preparation of the AWT Demonstration Facility • Submitted quarterly progress reports to the State Water Resources Control Board and received reimbursement of $900,000 of the total $1,000,000 towards the AWT Demonstration Facility construction effort as part of the grant funding agreement
Upcoming Activities	Upcoming work for the next quarter will include: • Coordinate with the State Water Resources Control Board to submit final reimbursement invoice as part of the grant funding requirements • Continue post-construction contract improvements to enhance safety and operational reliability • Initiate design modifications to the AWT Demonstration Facility to allow testing of future direct potable reuse processes

Right-Of-Way and Infrastructure Protection Program

Program Information: *The Right of Way Infrastructure Protection Program (RWIPP) is comprised of projects to refurbish or upgrade above-ground facilities and right-of-way along Metropolitan's pipelines in order to address access limitations, erosion-related issues, and security needs.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$5.25 million	$3.19 million

PROGRAM HIGHLIGHTS (2nd Quarter)	
Status	Biennium expenditures for this program are less than the planned expenditures through December 2021 due to design resources being diverted to work on urgent drought related projects.
Accomplishments	• Completed Western San Bernardino County Region - Stage 1 final design and advertised contract documents • Finalized project sites for Western San Bernardino County Region – Stage 2 final design • Finalized project sites for Los Angeles County Region – Stage 1 final design • Began final design for two urgent repair sites along San Diego Pipelines 4 & 5
Upcoming Activities	Upcoming work for the next quarter will include: • Award construction contract for Western San Bernardino County Region - Stage 1 • Begin final design for Western San Bernardino County Region - Stage 2 • Complete preliminary design for Los Angeles County Region – Stage 1 and begin final design

System Flexibility/Supply Reliability Program

Program Information: *The System Flexibility/Supply Reliability Program is comprised of projects to increase the capacity and flexibility of Metropolitan's water supply and delivery infrastructure to meet service demands.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$25.90 million	$20.34 million

PROGRAM HIGHLIGHTS (2nd Quarter)	
Status	Biennium expenditures for this program are less than the planned expenditures though December 2021due to differences between the planned and actual start of construction for the Greg Avenue Pump Station Rehabilitation and the Perris Valley Pipeline Tunnels.
Accomplishments	• Initiated the Rialto Pipeline Water Supply Reliability Improvements to address certain State Project Water dependent areas. This effort consists of the following individual projects: o Wadsworth Pumping Plant Bypass Pipeline – began design o Inland Feeder/Rialto Pipeline Intertie – began design o Inland Feeder/San Bernardino Valley Municipal Water District (SBVMWD) Pump Station Intertie – began preliminary investigation • Continued record surveys of properties associated with the Verbena Land Acquisition
Upcoming Activities	Upcoming work for the next quarter will include: • Continue design of the Perris Valley Pipeline Tunnels • Continue design and advertise valve procurement contract for Wadsworth Pumping Plant Bypass Pipeline • Continue design and advertise pipe and valve procurement contract for Inland Feeder/Rialto Pipeline Intertie • Continue preliminary investigation of Inland Feeder/SBVMWD Pump Station Intertie • Continue record surveys of properties associated with the Verbena Land Acquisition

System Flexibility/Supply Reliability Program: Wadsworth Pumping Plant Bypass Pipeline

This project will construct a bypass pipeline between the Wadsworth Pumphouse Conduit and the Eastside Pipeline to allow continuous pumping of water from DVL Forebay into the Eastside Pipeline while filling the forebay with water from DVL at the same time. This project is part of the Rialto Pipeline Water Supply Reliability Improvements, a series of drought response projects.

Phase	Final Design
% Complete for Current Phase	30%
Current Phase Authorized	December 2021
Appropriation Number	15488

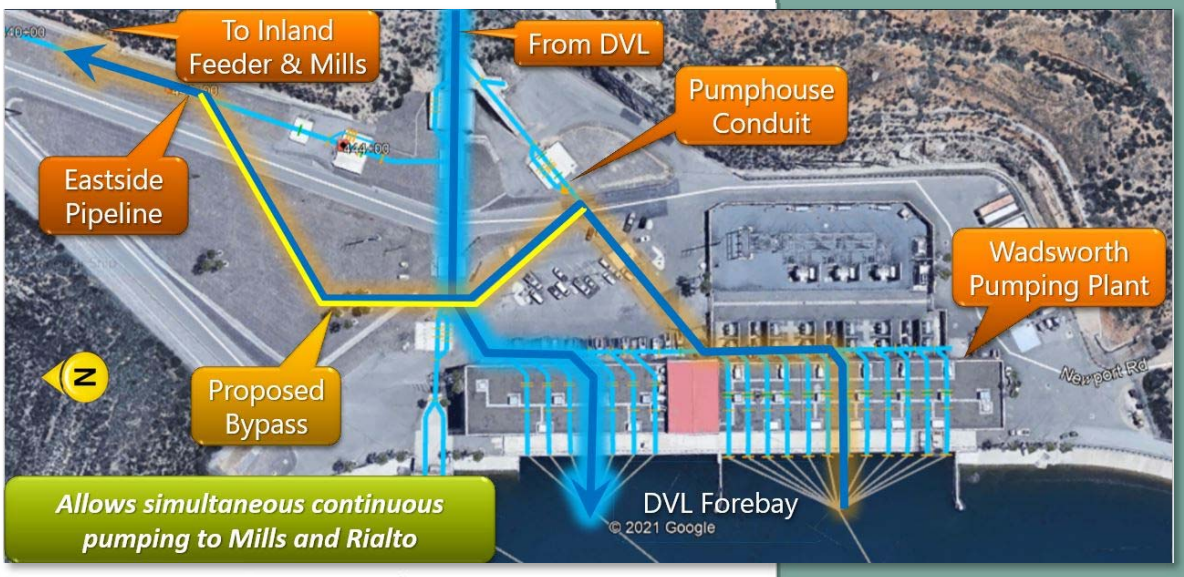
Final design was initiated for the bypass pipeline. In the upcoming quarter, final design will continue and a procurement contract will be advertised to procure pipe materials and a large diameter valve.

Estimated Final Design Completion Date:
July 2022

Total Project Estimate:
$14.5 million

Current Phase Estimate:
$1.7 million

Cost to Date for Current Phase:
$0.4 million



Aerial view of proposed bypass pipeline at Wadsworth Pumping Plant

System Reliability Program

Program Information: *The System Reliability Program is comprised of projects to improve or modify facilities located throughout Metropolitan's service area in order to utilize new processes and/or technologies, and improve facility safety and overall reliability. These include projects related to Metropolitan's Supervisory Control and Data Acquisition (SCADA) system and other Information Technology projects.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$70.86 million	$64.13 million

PROGRAM HIGHLIGHTS (2nd Quarter)

Status

Biennium expenditures for this program are less than the planned expenditures through December 2021 due to shift in timing of the work and supply chain disruption.

Accomplishments

- Skinner Facility Area Paving – advertised construction bid package and opened bids
- Datacenter Modernization Upgrade – continued primary site server installation
- Headquarters Building Improvements and Boardroom Technology Upgrade – initiated and completed user acceptance testing and signoff
- Headquarters Fire Alarm Upgrade – continued upgrading the building fire and life safety systems
- Headquarters Security Upgrade – completed cutover from old to new security system and continued work on installation of new building security features
- WiFi Upgrade:
  - La Verne facility design completed
  - Headquarters building access point equipment procurement bid package advertised and awarded

Upcoming Activities

Upcoming work for the next quarter will include:

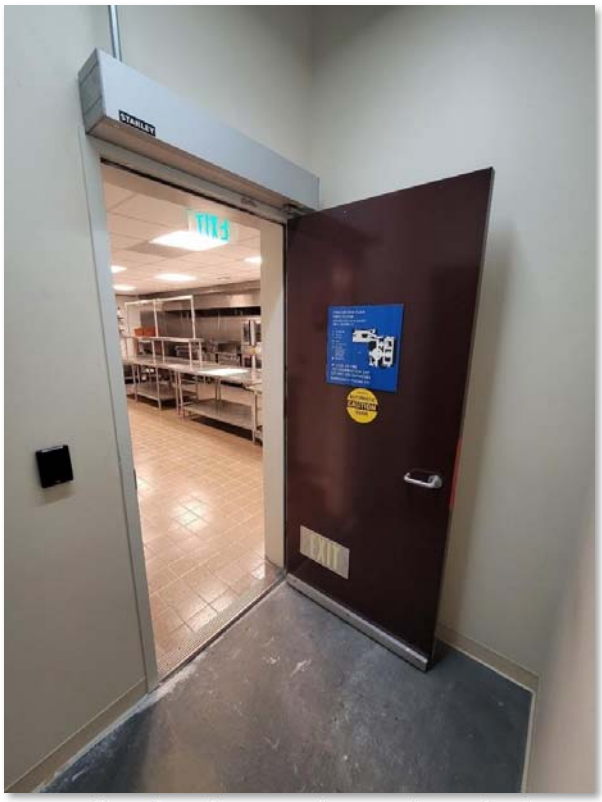
- Fuel Management System Upgrade - Pilot installation of first fuel management unit
- Desert Microwave Site Tower Upgrades – begin site visits
- Skinner Facility Area Paving – award construction contract
- Headquarters Fire Alarm Upgrade – continue upgrading the building fire and life safety systems
- Headquarters Security Upgrade – continue installation of new building security features
- MWD Cyber Security Upgrade:
  - Deploy secure web gateway software to MWD-owned workstations and laptops
  - Deploy privileged access management software to MWD-owned workstations, laptops, and servers

System Reliability Program: Headquarters Building Improvements

This project will provide seismic strengthening of Metropolitan's Headquarters building, as well as making other necessary upgrades to this 20-year old building.

Phase	Construction & Closeout
% Complete for Construction	98%
Construction Contract Awarded	November 2018
Appropriation Number	15473
Contract Number	1905

The contractor completed installation of power door assist mechanisms at all remaining exit doors. In the upcoming quarter, the contractor will calibrate and test power door assist, install heat pump in 3rd floor electrical room of the tower, and replace the mechanical air unit on the 6th floor of the wing.



Completed power door assist mechanism

Estimated Construction Completion Date:
July 2022

Total Project Estimate:
$78.5 million

Current Phase Estimate:
$67.2 million

Cost to Date for Current Phase:
$59.9 million

Treatment Plant Reliability Program

Program Information: *The Treatment Plant Reliability Program is comprised of projects to replace or refurbish facilities and components of Metropolitan's five water treatment plants in order to continue to reliably meet treated water demands.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$62.08 million	$67.96 million

PROGRAM HIGHLIGHTS (2nd Quarter)

Status

Biennial expenditures for this program are more than planned through December 2021 due to shifts in timing of the work.

Accomplishments

- Completed construction of:
  - Weymouth Chlorine Systems Upgrades
  - Weymouth Water Quality Instrumentation Improvements
- Continued construction of:
  - Diemer Water Sampling System Improvements
  - Jensen Electrical Upgrades - Stage 2
  - Mills Module Nos. 3 and 4 Flash Mix Chemical Containment Upgrades
- Continued procurement of power supply units (PSU) and dielectrics for Jensen ozone generators
- Continued final design of Weymouth Basins 5-8 Rehabilitation
- Awarded Mills Electrical Upgrades - Stage 2 construction contract and began construction

Upcoming Activities

Upcoming work for the next quarter will include:

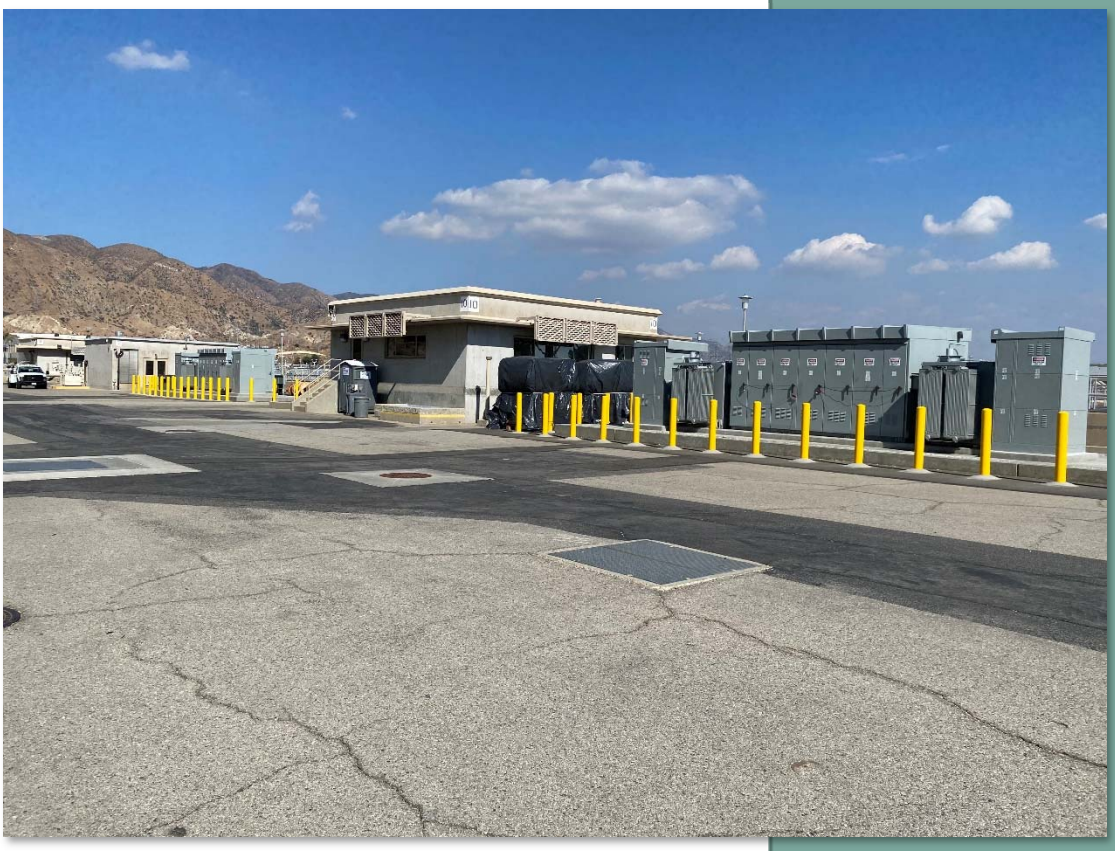
- Complete construction of Diemer Water Sampling System Improvements
- Complete final design of Weymouth Basins 5-8 Rehabilitation
- Complete procurement of Jensen ozone PSUs and dielectrics and begin construction of PSU replacement
- Continue construction of:
  - Jensen Electrical Upgrades - Stage 2
  - Mills Electrical Upgrades - Stage 2
  - Mills Module Nos. 3 and 4 Flash Mix Chemical Containment Upgrades

Treatment Plant Reliability Program: Jensen Plant Electrical Upgrade - Stage 2

The Stage 2 improvements will upgrade two unit power centers and their associated motor control centers and provide needed redundancy for critical components of the plant's electrical system.

Phase	Construction & Closeout
% Complete for Construction	93%
Construction Contract Awarded	July 2019
Appropriation Number	15442
Contract Number	1914

Completed commissioning of the service water and washwater pumps, continued work on Building 12, and cutover of motor control centers (MCC). In the upcoming quarter, the contractor plans to complete the remaining MCC cutovers and irrigation pump installation during a scheduled Jensen plant shutdown.



Completed unit substations at the Jensen plant

Estimated Construction Completion Date:
August 2022

Total Project Estimate:
$52.5 million

Current Phase Estimate:
$23.5 million

Cost to Date for Current Phase:
$19.3 million

Water Quality/Oxidation Retrofit Program

Program Information: *The Water Quality/Oxidation Retrofit Program (ORP) is comprised of projects to add new facilities to ensure compliance with water quality regulations for treated water, located at Metropolitan's treatment plants and throughout the distribution system.*

Planned Biennium-to-date Expenditures (July 2020 through December 2021)	Actual Biennium-to-date Expenditures (July 2020 through December 2021)
$0.02 million	$0.33 million

PROGRAM HIGHLIGHTS (2nd Quarter)	
Status	Biennial expenditures and progress are consistent with the plan for this program
Accomplishments	• Mills Enhance Bromate Control Facilities o Continued final design
Upcoming Activities	Upcoming work for the next quarter will include: • Continue final design of Mills Enhance Bromate Control Facilities

MINOR CAPITAL PROGRAM

The Minor Capital Projects (Minor Cap) Program is authorized biennially to enable staff to expedite small capital projects. At the commencement of each biennium, the Board had appropriated the entire two-year budget for the program. For the current biennium, the minor cap budget was included in the CIP appropriation. In order to be considered for inclusion in the Minor Cap Program, a project must have a planned budget of less than $400,000. The $400,000 project budget cap was first established by the June 2018 board action Item 8-3 and the same cap is applied for the new minor caps that are approved for the current biennium. Prior to that action, the budget cap for minor cap projects was $250,000.

The duration of minor capital projects typically ranges from a few months to three years. Since many of these projects require rapid response to address unanticipated failures, safety or regulatory compliance concerns, or to take advantage of shutdown opportunities, the Minor Cap Program authorizes the General Manager to execute projects that meet defined criteria without seeking additional board approval.

For the past two bienniums, the two-year budgets for the Minor Cap Program have been $10 million, and $15.5 million respectively. In April 2020, the Board appropriated funds for the projects identified in the CIP appendix for the current biennium, FYs 2020/21–2021/22, including the Minor Cap Program. $15 million has currently been allocated for the current biennium.

Minor Cap Program Historical Summary

The following table provides the overall status of the Minor Cap appropriations for the fiscal years 2016/17-2017/18 through 2020/21–2021/22.

	Fiscal Year			Totals
	2016/17–2017/18	2018/19–2019/20	2020/21–2021/22	
Amount Appropriated	$10M	$15.5M	$15M	$40.5M
Expenditures (through December 2021)	$7.2M	$10.8M	$3.9M	$21.9M
Number of Projects Approved	41	48	41	130
Number of Projects Completed (through December 2021)	40	27	0	67
Percent of Work Complete	99%	77%	32%	N/A
Number of Projects with Durations of Over 3 Years	1	1	0	0

Through December 2021, 67 of the 130 projects have been completed, and two active projects have exceeded three years in duration, as described below.

- The Gene Pool Refurbishment has experienced delays due to shortage of local contractors for this type of work due to increased construction activity in the region. Staff will continue reaching out to contractors to complete the remaining work by June 2022.
- The Garvey Reservoir Sodium Hypochlorite Tank Replacement has experienced delays due to the Texas deep freeze event, which caused power and resin supply chain disruptions in 2021. As a result, delivery of the new tank has been rescheduled and is now expected by June 2022. Metropolitan force construction will complete tank installation by December 2022.

Planned biennium expenditures to date (July 2020 through December 2021) for the Minor Capital Projects Program were $6.47 million, while actual biennium expenditures for the same period were $9.31 million.

Minor Cap Projects, 2nd Quarter

Authorized Projects

Seven projects were authorized under the Minor Cap Program during the 2nd Quarter of fiscal year 2021/22 (October through December 2021):

- CRA Pumping Plant Air Conditioner System Replacement – This project will replace the existing air conditioning systems, which have exceeded their service lives, at three pumping plant control rooms (Intake, Iron Mountain, and Hinds) and the Gene Pumping Plant Administration Building, with more energy-efficient systems that comply with R-22 refrigerant standards. The project budget is $299,000.
- Jensen Administration Building GFRC Panel Repair – This project will replace 22 cracked glass fiber reinforced concrete (GFRC) panels and repair minor cracks on other panels that cover the face of the structural columns at the main entrance of the building. The project budget is $260,000.
- La Verne Fabrication Shop Arc Quencher Installation – This project will design, install, and test a new arc quenching device for the La Verne Fabrication Shop motor control center (MCC), which can ground energy before an arc flash can develop. The device will provide greater worker and equipment protection. The project budget is $150,000.
- Lake Matthews Mobile Chlorinator Delivery Line Replacement – This project will replace the deteriorated existing mobile chlorinator delivery line at Lake Mathews. The project budget is $385,000.
- Skinner Plant 1 Filter Inlet Assemblies Rehabilitation – This project will rehabilitate the deteriorated exterior mortar coatings on the Skinner Plant 1 filter inlet assemblies. Project scope includes sand blasting, cleaning, repair of the corroded steel liners, skim coating of the existing inlet mortar coatings, and replacement of associated materials. The project budget is $390,000.
- Wadsworth Pumping Plant Lighting Upgrade – This project will Replace 67 lighting fixtures in the Wadsworth Pumping Plant with energy-efficient LED fixtures to substantially reduce energy cost and lighting system maintenance. The project budget is $105,000.

- Weymouth Rejection Overflow Structure Security Improvements – This project will enhance security of the Weymouth plant's rejection overflow structure to reduce or eliminate trespassing. The project budget is $200,000.

Completed Projects

Four projects were completed under the Minor Cap Program during the 2nd Quarter of fiscal year 2021/22 (October through December 2021):

- Diemer Emergency Generator Underground Storage Tank Fuel Line Leak Detector Installation
- Garvey Reservoir Storm Drain Pipe Replacement
- Union Station Emergency Generator Underground Storage Tank Upgrade
- Skinner Dry Polymer, Emergency Generator, & Sludge Dewatering Building PLC Upgrades

Cancelled Projects

Two projects were cancelled under the Minor Cap Program during the 2nd Quarter of fiscal year 2021/22 (October through December 2021):

- The Gene Communication Reliability Improvement project was originally initiated in the FYs 2018/19 and 2019/20 minor cap appropriation. The project was canceled to be addressed by the Gene Communication System Upgrade project, which is scheduled to be completed by January 2024.
- The Headquarters UV Air Disinfection System project was originally initiated in the FYs 2020/21 and 2021/22 minor cap appropriation. The project was canceled to be addressed by the overall Headquarters HVAC System Equipment Upgrades, which is scheduled to be completed by November 2022.

PROJECT ACTIONS

Table 5 lists capital project actions authorized by the Board and the General Manager along with funding allocation amounts during the 2nd Quarter of FY 2020/21, through the authority delegated by the Board in April 2020. The total funding amount authorized by the General Manager during the 2nd Quarter is $36,044,811, through thirty-six management actions. In some cases listed below, the Total Amount Authorized may differ from the Amount Authorized for Current Biennium when the work authorized is scheduled to extend beyond the current biennium. In these cases, it is anticipated that staff will request sufficient funds to be allocated from the CIP Appropriation for the next biennium to cover the planned remaining future-year costs of the project. When the Amount Authorized for Current Biennium is equal to the Total Amount Authorized, the authorized work is planned to be completed within the current biennium. Table 5 excludes any board items heard in closed session.

Table 5: Capital Projects Funded by General Manager Authorization

Project Authorized	Activity Authorized	Amount Authorized for Current Biennium	Total Amount Authorized
Casa Loma Siphon Barrel No. 1 Seismic Upgrade	Construction	$1,594,000	$16,200,000
CRA Cholla Wash Cut-and-Cover Conduit Lining	Construction	$4,500,000	$4,500,000
CRA Domestic Water Treatment System Upgrades	Construction	$3,000,000	$42,300,000
Delta Properties Infrastructure Improvements – Regulatory Compliance	Phase IV – Regulatory Compliance, Procurement, & Installation	$289,450	$289,450
Districtwide Near Zero and Zero Emissions Fleet Infrastructure	Study	$632,000	$765,000
Enterprise GIS Disaster Recovery	Procurement & Installation	$330,000	$330,000
Etiwanda Pipeline Relining, Stage 3	Procurement	$125,000	$6,800,000
Hinds Transformer Bank Protection Relays Replacement	Design, Procurement, & Construction	$1,024,000	$1,700,000
Inland Feeder/Rialto Pipeline Intertie	Design	$550,000	$1,300,000
Inland Feeder/SBVMWD Pump Station Intertie	Preliminary Investigation	$294,000	$294,000
Jensen Ozone PSUs Replacement – Stage 1	Construction	$170,000	$2,931,000
Jensen Ozone PSUs Replacement – Stage 2	System Evaluation	$0	$222,000
Jensen Reservoir Bypass Gate Refurbishment	Initial Study	$50,000	$50,000

Project Authorized	Activity Authorized	Amount Authorized for Current Biennium	Total Amount Authorized
Jensen Vehicle Maintenance and Warehouse Building Roof Rehabilitation	Construction	$460,000	$460,000
Lake Mathews Wastewater System Replacement	Construction	$5,280,980	$5,425,000
Lake Skinner Pipelines Cathodic Protection	Construction	$555,800	$630,000
Mills Electrical Upgrades - Stage 2	Construction	$6,500,000	$17,200,000
OC-88 Pumping Plant Chiller Replacement	Preliminary & Final Design	$513,000	$513,000
Orange County and Riverside/San Diego County Operating Regions Valve Replacement	Stage 1 - Construction	$506,400	$1,200,000
PCCP Rehabilitation Valve Storage Building	Preliminary & Final Design	$740,000	$740,000
Direct Potable Reuse Demonstration Facility	Preliminary & Final Design	$300,000	$2,700,000
Seven Minor Capital Projects	Design & Construction	$1,789,000	$1,789,000
Skinner Facility Paving Area	Final Design	$323,000	$323,000
Skinner Fluorosilicic Acid Tank Replacement	Study	$50,000	$50,000
Wadsworth Pumping Plant Bypass Pipeline	Design	$1,200,000	$1,366,000
	Total	**$30,776,630**	**$110,077,450**[6]

[6] Total of total amount authorized excludes adjustments of prior authorized amounts for the following projects: (1) Arc Flash Model Development, which was authorized but not previously reported in Q4 of FY 2020/21, (2) $1,020,818 for Desert Microwave Tower Sites Upgrades, which was over reported in Q1 of FY 2021/22; (3) $1,450,000 for Fuel Management System Upgrade, which was over reported in Q4 of FY 2020/21; (4) $26,400 for Jensen Control Room Wildfire Smoke Mitigation, System which was over reported in Q1 of FY2021/22; and (5) $25,000 for Skinner Dry Polymer Building Roof Replacement, which was over reported in Q1 of FY 2020/21.

Table 6 lists a project that received additional funds for change orders from the CIP Appropriation for Fiscal Years 2020/21 and 2021/22, Appropriation No. 15517, during the 2nd Quarter to complete authorized work. Additional funds were authorized due to delays caused by supply chain issues attributed to the COVID-19 pandemic, increase in equipment costs, and additional cybersecurity requirements; additional funding for electrical generator rentals to support the completion of construction; release of previously authorized funds for new design scope of work and re-advertising the project; and additional funds to compensate owner directed extra work and costs incurred due to acceleration of construction schedule.

Table 6: General Manager Actions for Change Orders to Allocate Funds from Appropriation 15517

Project	Activity Authorized	Amount Authorized for Current Biennium	Total Amount Authorized
Datacenter Modernization Relocation	Design, Development, & Deployment	$848,181	$2,015,000
Eagle Mountain 230 kV Local Breaker Failure Backup	Construction	$700,000	$700,000
La Verne Shops - Stage 4 Buildings Completion & Equipment Procurement[7]	Final Design & Advertisement	$80,000	N/A
Palos Verdes Reservoir Cover Replacement	Construction	$3,600,000	$3,600,000
	Total:	**$5,228,181**	**$6,315,000**

[7] This action only authorized Appropriation 15517 funds for unfunded portion of total amount previously authorized.

CEQA DETERMINATIONS

Table 7 lists CEQA exemption determinations made by the General Manager during the 2nd Quarter. Consistent with CEQA, the Board delegated this authority to the General Manager in April 2020. Adoption of Negative Declarations and Mitigated Negative Declarations, and certification of Environmental Impact Reports will continue to require action by Metropolitan's Board. This table excludes information on board items heard in closed session.

Table 7: CEQA Exemption Determinations

Projects
Diemer Power and Distribution Panel Upgrades
Weymouth Facility Natural Gas System Improvement
Hollywood Tunnel North Portal Equipment Upgrades

CONSTRUCTION AND PROCUREMENT CONTRACTS

The table below summarizes the status of all construction and procurement contracts that were active during the reporting quarter. These contracts are listed in Tables 9, 11, and 12. Total contract earnings for the 2nd Quarter were approximately $11,366,178.

Table 8: Summary of Construction and Procurement Contracts during 2nd Quarter (October through December 2021)

Summary	Construction	Procurement
Number of Contracts Active during this Quarter[8, 10]	21	16
Total Contract Amount of Active Contracts	$220,906,674	$67,322,000
Number of Contracts Completed this Quarter[9]	2	0
Number of Contracts Awarded this Quarter[10]	7	1
Total Contract Amount of Contracts Awarded this Quarter	$61,142,243	$6,044,897
Contract Earnings[11, 12, 13] this Quarter	$7,522,666	$3,843,512

The figures on the next two pages show the locations of the twenty-one active construction contracts during the 2nd quarter.

8 Number of Contracts Active during this Quarter includes those that were underway as well as those that were completed during the 2nd Quarter.

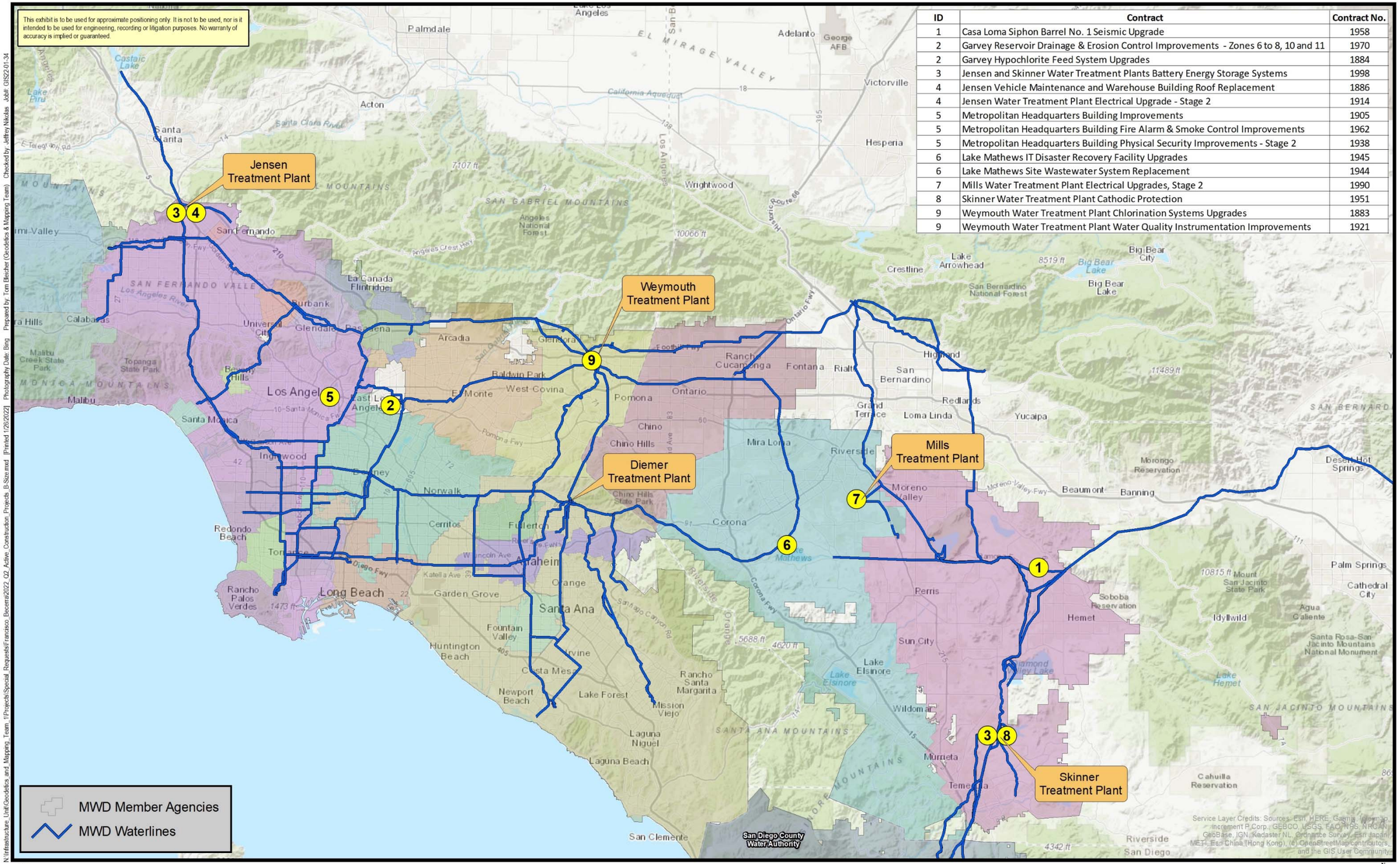
9 Completed construction contracts are those which Metropolitan has accepted as physically complete and has filed Notice of Completion during the 2nd Quarter. Completed procurement contracts are those which Metropolitan has received complete delivery and use of field services during the 2nd Quarter. No procurement contracts have been completed during the 2nd Quarter

10 Excludes Construction Contract No. 2001 - Joseph Jensen Water Treatment Plant Ozone Power Supply Units Replacement as Metropolitan was notified by the State of California Department of Industrial Relations that the contractor was debarred from bidding or being awarded a public works contract in California, for the period including 9/27/2021 to 9/26/2022. A Notice to Proceed was not sent to the contractor and Metropolitan has opted to terminate the contract. Includes Construction Contract No. 1951 – Skinner Water Treatment Plant Cathodic Protection, which was awarded under the authority of General Manager as addressed in Metropolitan's Administrative Code.

11 Contract earnings reflected in this report represent the value of the work performed by the contractor by the 25th day of the month. Contract earnings include contract retention and other similar deductions for the amounts earned by the contractor, but otherwise required to be withheld by Metropolitan by law or by contract.

12 Contract payments are typically made by Metropolitan in the month following performance of the work.

13 For the reasons listed above in the preceding two footnotes, contract payments in Metropolitan's financial system may be less than the earnings until the final payment has been made to the contractor.



ID	Contract	Contract No.
1	Casa Loma Siphon Barrel No. 1 Seismic Upgrade	1958
2	Garvey Reservoir Drainage & Erosion Control Improvements - Zones 6 to 8, 10 and 11	1970
2	Garvey Hypochlorite Feed System Upgrades	1884
3	Jensen and Skinner Water Treatment Plants Battery Energy Storage Systems	1998
4	Jensen Vehicle Maintenance and Warehouse Building Roof Replacement	1886
4	Jensen Water Treatment Plant Electrical Upgrade - Stage 2	1914
5	Metropolitan Headquarters Building Improvements	1905
5	Metropolitan Headquarters Building Fire Alarm & Smoke Control Improvements	1962
5	Metropolitan Headquarters Building Physical Security Improvements - Stage 2	1938
6	Lake Mathews IT Disaster Recovery Facility Upgrades	1945
6	Lake Mathews Site Wastewater System Replacement	1944
7	Mills Water Treatment Plant Electrical Upgrades, Stage 2	1990
8	Skinner Water Treatment Plant Cathodic Protection	1951
9	Weymouth Water Treatment Plant Chlorination Systems Upgrades	1883
9	Weymouth Water Treatment Plant Water Quality Instrumentation Improvements	1921

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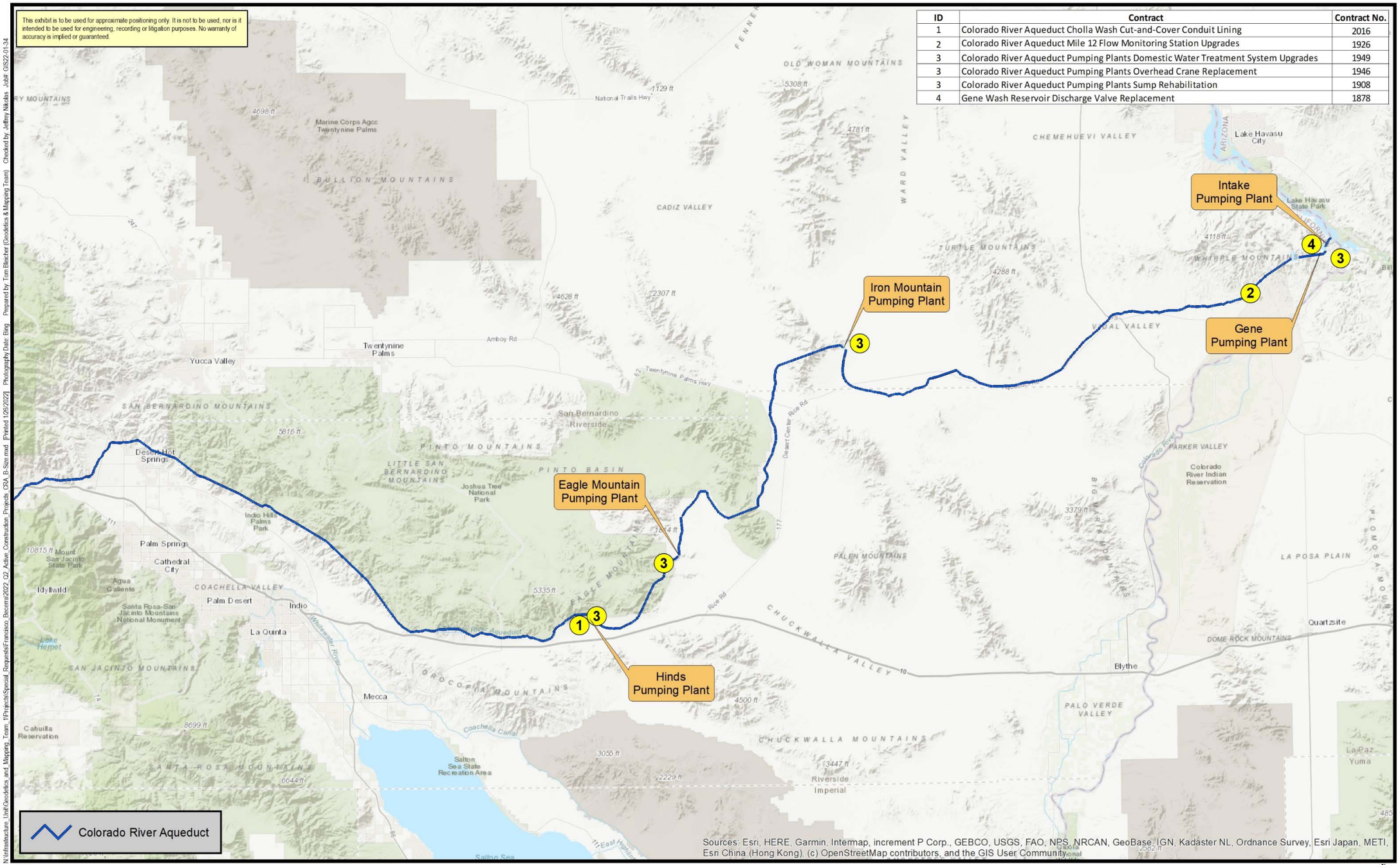
The Metropolitan Water District of Southern California
Engineering Services Group

Figure 5: Construction Contracts - Greater Los Angeles Region



ID	Contract	Contract No.
1	Colorado River Aqueduct Cholla Wash Cut-and-Cover Conduit Lining	2016
2	Colorado River Aqueduct Mile 12 Flow Monitoring Station Upgrades	1926
3	Colorado River Aqueduct Pumping Plants Domestic Water Treatment System Upgrades	1949
3	Colorado River Aqueduct Pumping Plants Overhead Crane Replacement	1946
3	Colorado River Aqueduct Pumping Plants Sump Rehabilitation	1908
4	Gene Wash Reservoir Discharge Valve Replacement	1878

Figure 6: Construction Contracts - Colorado River Aqueduct

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 original amount of the contract or $250,000, whichever is greater. If changes occur on a construction contract that will exceed this total, additional authorization from the Board is required. In addition, the General Manager is authorized to execute change orders on procurement contracts in an amount not to exceed $250,000. In the 2nd Quarter, the Board did not authorize any increases to the General Manager's change order authority.

Notices of Completion during 2nd Quarter:

The following table shows the two contracts for which Metropolitan accepted the contract as completed during the 2nd Quarter of FY 2021/22 and filed a Notice of Completion (NOC) with the county where the work was performed. In accordance with Section 9204 of the Civil Code of the State of California, an NOC is filed within 15 days of acceptance by Metropolitan of completion of construction by the contractor.

Table 9: Notices of Completion Filed This Quarter

Contract No.	Contract	Notice of Completion	Original Bid Amount	Final Contract Costs	Change Order	Change Order %
1921	F. E. Weymouth Water Treatment Plant Water Quality Instrumentation Improvements	November 2021	$2,944,000	$2,983,582	$39,582	1.3%
1883	F. E. Weymouth Water Treatment Plant Chlorination Systems Upgrades	December 2021	$8,487,170	$8,801,404	$314,234	3.7%
		Totals:	**$11,431,170**			

For the 2nd Quarter, the total bid amount of completed contracts was approximately $11.4 million. The final contract costs can differ from the original bid amount due to change orders and actual costs incurred on unit price or other various bid items. The rolling average of change orders on completed contracts during the preceding 12-month period (January 2021 through December 2021) is 1.64 percent[14].

[14] Original amount of contracts completed (Jan. 2021 through Dec. 2021) = $188,907,064
Change orders for completed contracts (Jan. 2021 through Dec. 2021) = $3,103,323
Change order percentage for (Jan. 2021 through Dec. 2021) = 1.64%

Contracts Awarded by the Board during 2nd Quarter:

During the period of October through December 2021, seven construction contracts totaling $62,378,310 and one procurement contract totaling $6,044,896.76, were awarded by the Board.

Table 10: Construction and Procurement Contracts Awarded This Quarter

Construction Contracts	
Colorado River Aqueduct Cholla Wash Conduit Lining - MM 126.55 to MM 126.74	
Contract Number	2016
Contractor	J. F. Shea Construction, Inc.
Amount	$3,280,920
Colorado River Aqueduct Pumping Plants Domestic Water Treatment System Replacement	
Contract Number	1949
Contractor	J. F. Shea Construction, Inc.
Amount	$32,824,000
Colorado River Aqueduct Replacement of Casa Loma Siphon Barrel No. 1	
Contract Number	1958
Contractor	J. F. Shea Construction, Inc.
Amount	$11,499,000
Henry J. Mills Water Treatment Plant Electrical Upgrades, Stage 2	
Contract Number	1990
Contractor	CSI Electrical Contractors, Inc.
Amount	$9,200,000
Joseph Jensen Water Treatment Plant Ozone Power Supply Units Replacement[15]	
Contract Number	2001
Contractor	Minako America Corporation dba Minco Construction
Amount	$1,477,000
Joseph Jensen Water Treatment Plant Vehicle Maintenance Building Roof Replacement	
Contract Number	1886
Contractor	AME Builders, Inc. dba AME Roofing
Amount	$282,390

[15] After contract award, Metropolitan was notified by the State of California Department of Industrial Relations that the contractor was debarred from bidding or being awarded a public works contract in California, for the period including 9/27/2021 to 9/26/2022. A Notice to Proceed was not sent to the contractor and Metropolitan has opted to terminate the contract.

Lake Mathews Reservoir Wastewater System Replacement	
Contract Number	1944
Contractor	Creative Home dba CHI Construction
Amount	$3,815,000
Procurement Contracts	
Furnishing Steel Pipe for Etiwanda Pipeline North Relining, Stage 3	
Contract Number	2011
Contractor	Northwest Pipe Company
Amount	$6,044,896.76

The table on this page lists the 19 ongoing construction contracts through the end of the 2nd Quarter. Also, Metropolitan is negotiating a settlement with the contractor on Construction Contract No. 1908 to remove the remaining construction portion of the contract, which was suspended due to Metropolitan's response to COVID-19. As part of the settlement, Metropolitan is procuring materials and equipment from the contractor for a future construction contract.

Table 11[10]: Active Construction Contracts at the End of 2nd Quarter

	Cont. No.	Contract Title	Contractor	Contract Amount[16]	Earnings Through December 2021	Start Date	Est. Completion Date	Est. Percent Complete
1	1878	Gene Wash Reservoir Discharge Valve Replacement	Gracon, LLC	$5,323,103	$4,632,268	1/21/20	4/22	87%
2	1884	Garvey Reservoir Sodium Hypochlorite Feed System Upgrades	Metro Builders & Engineers Group, Ltd.	$2,418,149	$1,149,355	4/9/21	7/22	48%
3	1886	Joseph Jensen Water Treatment Plant Vehicle Maintenance Building Roof Replacement	AME Builders, Inc. dba AME Roofing	$282,390	$0	11/1/21	3/22	0%
4	1905	Metropolitan Headquarters Building Improvements	Bernards Bros. Inc.	$49,049,878	$48,988,167	1/14/19	7/22	98%
5	1908	CRA Pumping Plants – Sump Rehabilitation	Michels Corp dba Michels Pipeline Construction	$27,194,587	$10,152,157	1/24/19	7/22	37%
6	1914	Joseph Jensen Water Treatment Plant Electrical Upgrade - Stage 2	Helix Electric, Inc.	$15,111,157	$14,061,007	8/14/19	8/22	93%

16 The Contract Amount may differ from the original bid amount due to periodic change orders approved by the General Manager or, if required, by the Board.

	Cont. No.	Contract Title	Contractor	Contract Amount[16]	Earnings Through December 2021	Start Date	Est. Com-pletion Date	Est. Percent Complete
7	1926	CRA Mile 12 Flow Monitoring Station Upgrades	R2 Engineering dba R2Build	$2,022,000	$181,050	6/16/21	7/22	9%
8	1938	MWD HQ Bldg. Physical Security Improvements	Bernards Bros. Inc.	$5,843,525	$5,041,964	9/22/20	2/22	86%
9	1944	Lake Mathews Reservoir Wastewater System Replacement	Creative Home dba CHI Construction	$3,815,000	$0	12/13/21	3/23	0%
10	1945	Lake Mathews IT Disaster Recovery Facility Upgrades	MCL Constructors, Inc.	$448,900	$371,350	2/10/21	4/22	83%
11	1946	Colorado River Aqueduct Pumping Plants - Overhead Crane Replacement	J.F. Shea Construction, Inc.	$13,505,020	$547,720	10/14/20	9/23	4%
12	1949	Colorado River Aqueduct Pumping Plants Domestic Water Treatment System Replacement	J.F. Shea Construction, Inc.	$32,824,000	$0	1/20/22	2/25	0%
13	1951	Skinner WTP Cathodic Protection	National Corrosion	$240,933	$0	12/13/21	8/22	0%
14	1958	Colorado River Aqueduct Replacement of Casa Loma Siphon Barrel No. 1	J.F. Shea Construction, Inc.	$11,499,000	$0	1/20/22	6/23	0%
15	1962	MWD HQ Building Fire Alarm & Smoke Control Improvements	Bernards Bros. Inc.	$14,085,744	$4,373,760	9/24/20	1/23	31%
16	1970	Garvey Reservoir Drainage and Erosion Improvements - Areas 6, 7, 8, 10, and 11	Kaveh Engineering & Construction, Inc	$1,372,861	$993,501	11/20/20	2/22	72%
17	1990	Henry J. Mills Water Treatment Plant Electrical Upgrades, Stage 2	CSI Electrical Contractors, Inc.	$9,200,000	$0	12/13/21	12/24	0%
18	1998	Jensen and Skinner Water Treatment Plants Battery Energy Storage Systems	Ameresco, Inc.	$11,604,521	$0	10/7/21	10/22	0%
19	2016	Colorado River Aqueduct Cholla Wash Conduit Lining – MM 126.55 to MM 126.74	J. F. Shea Constructio n, Inc.	$3,280,920	$0	12/13/21	6/22	0%
			Total contract value for active construction contracts:	**$209,121,688**				

The following table lists the 16 ongoing procurement contracts through the end of the 2nd Quarter.

Table 12: Active Procurement Contracts at the End of 2nd Quarter

	Cont. No.	Contract	Contractor	Contract Amount[17]	Earnings Through December 2021	Start Date	Est. Delivery Com-pletion Date	Est. Percent Complete [18]
1	1851	Furnishing Horizontal Axially Split Centrifugal Pumps for the Greg Avenue Pump Station	Xylem Water Solutions U.S.A., Inc.	$1,734,103	$1,293,982	5/16/17	D[19]	75%
2	1861	Furnishing Lubricated Plug Valves for Second Lower Feeder	Southwest Valve & Equipment, Inc.	$2,380,909	$2,362,968	9/11/17	DError! Bookmark not defined.Error! Bookmark not	99%
3	1867 [19]	Furnishing Butterfly Valves for the Weymouth Water Treatment Plant – Schedule 1	Crispin Valve, LLC	$5,066,975	$631,874	12/18/17	12/22	12%
4	1868	Furnishing Butterfly Valves for the Weymouth Water Treatment Plant – Schedule 2	DeZurick, Inc.	$771,984	$760,384	12/18/17	D[19]	98%
5	1873	Furnishing One Hydraulic Shear System for the La Verne Maintenance Shops	Landmark Solutions, LLC	$151,870	$146,970	3/21/18	D[19]	97%
6	1912	Furnishing Large-Diameter Conical Plug Valves	Ebara Corporation	$23,750,060	$8,591,901	12/24/18	6/23	36%
7	1922	Furnishing One Double Column Vertical Machining Center for the La Verne Maintenance Shops	Gosiger Machine Tools, LLC (Gosiger West)	$2,193,356	$2,114,295	9/17/18	D[19]	96%
8	1948	Refurbishing Valve Actuators for the Diemer Water Treatment Plant	Flowserve Limitorque	$3,532,700	$1,554,636	2/16/19	8/22	44%
9	1955	Furnishing Membrane Filtration Systems for the CRA Domestic Water Treatment Systems	Wigen Water Technologies	$1,206,535	$0	5/28/20	7/25	0%
10	1965	Furnishing Equipment for the Jensen Ozone Power Supply Units Upgrades	Suez Treatment Solutions, Inc.	$4,100,000	$354,309	3/30/20	3/22	9%

[17] The Contract Amount may differ from the original bid amount due to periodic change orders approved by the General Manager or, if required, by the Board.

[18] Estimated Percent Complete is based on contract payments and may not reflect actual progress of fabrication. The contract will be 100% complete upon delivery of fabricated items and field services.

[19] Contract 1867 includes tariff and work on Furnishing Butterfly Valves for the Weymouth Water Treatment Plant – Schedule 1 per extra work directed in the November 2020 Board Letter, Item 7-1.

	Cont. No.	Contract	Contractor	Contract Amount[17]	Earnings Through December 2021	Start Date	Est. Delivery Com-pletion Date	Est. Percent Complete [18]
11	1968	Furnishing Earthquake-Resistant Ductile Iron Pipe for the Casa Loma Siphon Barrel No. 1	Kubota Corporation	$9,237,782	$9,021,862	2/12/20	D[19]	98%
12	1969	Furnishing Inlet Valve Gearboxes for Skinner Module No. 7	R&B Automation, Inc.	$192,185	$0	4/29/20	4/22	0%
13	1978	Furnishing Steel Pipe for the Casa Loma Siphon Barrel No. 1	Northwest Pipe Company	$6,134,208	$5,365,992	1/16/20	12/23	87%
14	2011	Furnishing Steel Pipe for Etiwanda Pipeline North Relining, Stage 3	Northwest Pipe Company	$6,044,897	$0	12/20/21	12/23	0%
15	PO 188 876	Furnish Two Sodium Hypochlorite Storage Tanks to Replace Existing Tanks at Lake Mathews	Pacific Mechanical Supply	$331,996	$0	5/20/19	1/22	0%
16	PO 206 047	Furnish Equipment to Upgrade the Ozone Control System at the Mills Water Treatment Plant	Royal Industrial Solutions	$492,440	$0	12/6/21	4/22	0%
			Total contract value for active procurement contracts:	**$67,322,000**				

PERFORMANCE METRICS

In order to measure project performance efficiency and to identify areas for continuous improvements, Metropolitan's Engineering Services Group has established two primary performance metrics for projects that will result in construction activities. These metrics serve as performance targets for Metropolitan staff for both final design and inspection activities. The inspection metric includes fabrication and construction inspection, as well as construction management services.

Separate performance targets have been established for two categories of project size; those with projected construction costs greater than $3 million, and those with projected construction costs less than $3 million.

Metropolitan's **performance metric targets** for the two categories of construction projects are listed below:

Project Category	Final Design, % of Construction	Inspection % of Construction
Projects with Construction Costs > $3 Million	9% to 12%	9% to 12%
Projects with Construction Costs < $3 Million	9% to 15%	9% to 15%

Prior to proceeding with final design or construction, budgets are established for design and inspection that best provide a quality and timely product. Efforts are made to optimize staff and consultant hours based on project complexity and location. The calculated values for the design and inspection costs, as a percentage of total construction costs, in almost all cases lie within or below the metric target ranges. In rare cases, the calculated values may exceed the metric target ranges.

Once a project phase is complete, either final design or construction, staff's performance against these metrics is then calculated and compared to the target metrics. Table 13 and Table 14 on the following page summarize the comparison between the target metrics and the actual performance metrics for each project category for the current reporting period. In cases where the actual performance exceeded the target metric, explanations for the variance are provided. Actual performance for in-house construction projects and minor capital projects are not reported in this section, since the efforts required for final design and inspection are different.

Table 13: Performance Metric Actuals, Projects > $3 Million

Project	Metric	Actual Cost of Metric	Construction Cost	Target Range	Actual %
Casa Loma Siphon Barrel No. 1 Seismic Upgrades	Final Design	$2,843,155	$27,600,000	9-12%	10.3%
CRA Cholla Wash Cut-and-Cover Conduit Lining	Final Design	$83,417	$3,480,920	9-12%	2.4%
CRA Pumping Plants Domestic Water Treatment System Replacement	Final Design	$3,860,036	$36,303,535	9-12%	10.6%
Lake Mathews Site Wastewater System Replacement	Final Design	$310,797	$3,815,000	9-12%	8.2%
Mills Electrical Upgrades, Stage 2	Final Design	$1,099,118	$11,720,000	9-12%	9.4%
Weymouth Chlorination Systems Upgrades	Inspection	$1,428,794	$10,696,054	9-12%	13.4%[20]
Weymouth Water Quality Instrumentation Improvements	Inspection	$525,000	$3,874,000	9-12%	13.6%[21]

Table 14: Performance Metric Actuals, Projects < $3 Million

Project	Metric	Actual Cost of Metric	Construction Cost	Target Range	Actual %
Skinner Water Treatment Plant Cathodic Protection	Final Design	$72,000	$630,000	9-15%	11.4%
Jensen Vehicle Maintenance and Warehouse Building Roof Rehabilitation	Final Design	$30,553	$314,390	9-15%	9.7%

[20] Inspection costs for Weymouth Chlorination Systems Upgrades were higher than the target range due to longer than anticipated time to complete construction and additional coordination required to support work with microteams and other COVID-19 protocols. The construction delays were mainly due to contractor-caused delays and temporary contract suspension resulting from the COVID-19 stay-at-home order.

[21] Inspection costs for Weymouth Water Quality Instrumentation Improvements were higher than the target range due to longer than anticipated time to complete construction, which required additional inspection. The construction delays were mainly due to differing site conditions and temporary contract suspension resulting from the COVID-19 stay-at-home order.

SERVICE CONNECTIONS AND RELOCATIONS

Service Connections

No new agreements for service connections were approved by the General Manager pursuant to Sections 4700-4708 during the reporting period (October through December 2021).

Relocations

No new relocation agreements involving an amount in excess of $100,000 were approved under the authority of Section 8122(c) during the reporting period.

PROJECTS EXPENSED TO OVERHEAD

There are no expensed projects to report during the second quarter of fiscal year 2020/21 (October through December 2021).

PROGRAM/APPROPRIATION STATUS

The following table provides the program and appropriation level budget versus cost-to-date and biennium planned expenditures versus actuals-to-date.

Table 15: Program and Appropriation Budget vs. Cost and Planned Expenditures vs. Actuals

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru December 2021 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Colorado River Aqueduct Reliability Program	**Total**	**$482,048**	**$405,038**	**$81,258**	**$65,259**
Cabazon Radial Gate Facility Improvements	15320	$716	$651	$0	$25
White Water Siphon Protection[22]	15341	$15,585	$14,545	$0	$55
CRA - Conveyance Reliability	15373	$117,828	$114,133	$11,969	$6,635
CRA Pumping Plant Reliability Program	15374	$24,467	$23,992	$0	$3
CRA - Electrical/Power Systems Reliability	15384	$55,765	$46,597	$4,956	$5,758
CRA – Discharge Containment	15385	$8,129	$7,972	$0	$393
CRA - Reliability for FY2006/07 through FY2011/12	15438	$150,194	$115,278	$29,173	$20,495
CRA Main Pump Reliability	15481	$65,730	$49,860	$25,804	$22,238
CRA - Reliability for FY2012/13 through FY2017/18	15483	$35,727	$28,535	$9,345	$7,407
CRA - Reliability for FY2018/19 through FY2023/24	15507	$7,907	$3,475	$10	$2,250

[22] Approximately $2.85 million reimbursement from Federal Emergency Management Agency (FEMA) for construction of Whitewater Erosion Protection Structure Rehabilitation was credited in Q4 of FY 2020/21. The credited work was completed prior to the current biennium and has been reversed in this table to account all capital work performed in the current biennium.

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru December 2021 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Cost Efficiency & Productivity Program	**Total**	**$226,733**	**$178,413**	**$11,117**	**$7,947**
DVL Recreation Facilities[23]	15334	$87,004	$63,928	$1,827	$7
Power Reliability and Energy Conservation	15391	$54,795	$52,842	$0	$0
Information Technology System - Business, Finance, and HR	15411	$22,468	$22,387	$667	$47
Yorba Linda Power Plant Modifications	15446	$17,125	$17,083	$30	$71
Business Operations Improvement	15484	$15,396	$9,320	$6,745	$2,634
Project Controls and Reporting System	15490	$6,440	$6,290	$0	$336
Enterprise Content Management	15500	$3,600	$3,227	$93	$1,626
DVL Recreation Rehabilitation & Refurbishment	15515	$1,030	$778	$1,754	$669
Energy Sustainability Improvements	15521	$18,875	$2,558	$0	$2,558
Dams and Reservoirs Reliability Program	**Total**	**$76,154**	**$68,014**	**$11,668**	**$6,826**
Reservoir Cover and Replacement	15417	$65,214	$58,565	$7,398	$6,049
Dam Rehabilitation & Safety Improvements	15419	$10,940	$9,449	$4,270	$777
Distribution System Reliability Program	**Total**	**$375,615**	**$345,298**	**$52,192**	**$58,708**
Conveyance and Distribution System - Rehabilitation	15377	$102,686	$98,319	$12,744	$4,877
Conveyance and Distribution System - Rehabilitation for FY2006/07 through FY2011/12	15441	$110,812	$107,365	$3,568	$3,849
Hydroelectric Power Plant Improvements	15458	$19,378	$16,840	$72	$2,136
Conveyance and Distribution System - Rehabilitation for FY2012/13 through FY2017/18	15480	$118,669	$106,538	$23,790	$35,657
Pipeline Rehabilitation and Replacement	15482	$1,143	$1,029	$0	$825

[23] Approximately $107K was credited in Q4 of FY 2020/21 and $4.5 million was credited in Q2 of FY 2021/22 from the sales of surplus DVL properties per the November 2005 Board Letter, Item 7-3 and the March 2020 Board Letters, Item 8-2. These credits were reversed in this table to account for all capital work performed in the current biennium.

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru December 2021 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Conveyance and Distribution System - Rehabilitation for FY2018/19 through FY2023/24	15503	$22,927	$15,208	$12,017	$11,365
District Housing & Property Improvements Program	**Total**	**$10,607**	**$3,384**	**$7,260**	**$2,455**
Employee Village Enhancement	15513	$10,607	$3,384	$7,260	$2,455
Minor Capital Projects Program	**Total**	**$48,500**	**$28,374**	**$6,507**	**$9,306**
Capital Program for Projects Costing Less Than $250,000 for FY2014/15 through FY2015/16	15489	$8,000	$6,709	$0	$16
Capital Program for Projects Costing Less Than $250,000 for FY2016/17 through FY2017/18	15498	$10,000	$7,172	$1,262	$413
Capital Program for Projects Costing Less Than $400,000 for FY2018/19 through FY2019/20	15504	$15,500	$10,690	$1,712	$5,075
Capital Program for Projects Costing Less Than $400,000 for FY2020/21 through FY2021/22	15518	$15,000	$3,803	$3,533	$3,803
Prestressed Concrete Cylinder Pipe Rehabilitation Program	**Total**	**$310,527**	**$253,779**	**$42,093**	**$33,529**
PCCP Rehabilitation and Replacement	15471	$24,243	$21,716	$1,802	$1,259
Sepulveda Feeder PCCP Rehabilitation	15496	$30,525	$25,930	$626	$2,904
Second Lower Feeder PCCP Rehabilitation	15497	$240,627	$196,073	$37,580	$22,443
Allen-McColloch Pipeline, Calabasas Feeder, and Rialto Pipeline PCCP Rehabilitation	15502	$15,132	$10,060	$2,086	$6,923
Regional Recycled Water Supply Program	**Total**	**$22,150**	**$21,249**	**$210**	**$320**
Demonstration-Scale Recycled Water Treatment Plant[24]	15493	$22,150	$21,249	$210	$320
Right of Way & Infrastructure Protection Program	**Total**	**$29,815**	**$26,169**	**$5,273**	**$3,191**
Right of Way & Infrastructure Protection	15474	$29,815	$26,169	$5,273	$3,191

[24] $1 million grant from the California State Water Resources Control Board for the construction of Advanced Water Treatment Demonstration Facility was credited in Q3 of FY 2020/21. The credited work was completed prior to the current biennium and has been reversed in this table to account all capital work performed in the current biennium.

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru December 2021 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
System Flexibility/Supply Reliability Program	**Total**	**$670,839**	**$636,488**	**$26,034**	**$20,345**
Hayfield and Lake Perris Groundwater Recovery	15402	$1,500	$1,091	$0	$234
Perris Valley Pipeline	15425	$130,800	$130,309	$15,886	$2,123
Water Delivery System Improvements	15488	$67,860	$65,753	$10,148	$16,264
Verbena Property Acquisition	15492	$264,000	$261,695	$0	$1,216
Delta Wetlands Properties (Delta Islands)	15494	$197,289	$177,477	$0	$346
Cox Family Farms, LLC Acquisition	15524	$9,390	$163	$0	$163
System Reliability Program	**Total**	**$370,194**	**$289,754**	**$71,223**	**$64,126**
Information Technology System - Infrastructure	15376	$51,306	$47,502	$481	$1,789
Information Technology System - Security	15378	$12,351	$10,368	$2,469	$2,136
La Verne Shop Facilities Upgrade	15395	$46,560	$46,425	$7,625	$935
Water Operation Control	15467	$51,414	$41,606	$2,351	$2,287
Union Station Headquarters Improvements	15473	$107,845	$79,272	$23,545	$30,292
IT Infrastructure Reliability	15487	$47,423	$33,669	$18,642	$16,976
Operations Support Facilities Improvement	15495	$25,001	$17,523	$6,392	$735
Metropolitan Security System Enhancements	15499	$15,910	$9,276	$4,725	$6,517
Infrastructure Reliability Information System	15501	$5,770	$2,644	$2,802	$1,139
System-Wide Paving & Roof Replacements for FY 2020/21 through FY 2021/22	15516	$1,423	$848	$999	$701
System-Wide Paving & Roof Replacements for FY2020/21 through FY2023/24	15519	$1,501	$612	$0	$612
Enterprise Data Analytics	18910	$3,690	$7	$1,190	$7

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru December 2021 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Treatment Plant Reliability Program	**Total**	**$943,893**	**$891,188**	**$62,393**	**$67,959**
Chlorine Containment and Handling Facilities	15346	$162,370	$160,536	$0	$89
Weymouth Water Treatment Plant Improvements	15369	$190,910	$185,375	$5,024	$3,672
Jensen Water Treatment Plant Improvements	15371	$47,062	$46,637	$43	$53
Diemer Water Treatment Plant Improvements	15380	$213,657	$205,640	$17,249	$16,488
Mills Water Treatment Plant Improvements	15381	$5,525	$5,277	$0	$0
Skinner Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15435	$3,860	$2,142	$0	$33
Diemer Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15436	$70,939	$64,115	$2,113	$1,821
Weymouth Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15440	$24,079	$22,731	$3,511	$3,970
Jensen Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15442	$91,376	$81,966	$18,839	$22,899
Mills Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15452	$29,152	$22,506	$480	$3,111
Weymouth Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15477	$76,989	$76,400	$6,007	$10,882
Diemer Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15478	$1,425	$1,379	$0	$373
Mills Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15479	$1,094	$677	$0	$223
Skinner Water Treatment Plant Improvements for FY 2012/13 Through FY 2017/18	15485	$1,990	$1,729	$0	$6
Jensen Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15486	$8,339	$7,479	$0	$719
Weymouth Water Treatment Plant Improvements for FY2020/21 through FY2023/24	15505	$685	$246	$468	$22

Capital Programs/Appropriations	Appn. No.	Total to Date		Biennium to Date	
		Appn. Amount ($1,000's)	Costs thru December 2021 ($1,000's)	Biennium to Date Planned Expenditures ($1,000's)	Biennium Actual Expenditures ($1,000's)
Jensen Water Treatment Plant Improvements for FY2020/21 through FY2023/24	15508	$7,185	$2,394	$6,738	$2,071
Diemer Water Treatment Plant Improvements for FY2020/21 through FY2023/24	15510	$745	$629	$995	$247
Skinner Water Treatment Plant, Improvements For FY 2020/21 Through FY 2023/24	15512	$3,881	$3,222	$495	$1,169
Mills Water Treatment Plant Improvements for FY2020/21 through FY2023/24	15520	$2,631	$109	$431	$109
Water Quality/Oxidation Retrofit Program	**Total**	**$631,914**	**$628,233**	**$19**	**$329**
Diemer Water Treatment Plant Oxidation Retrofit	15389	$370,192	$370,024	$0	$0
Weymouth Water Treatment Plant Oxidation Retrofit	15392	$251,482	$248,594	$19	$18
Enhanced Bromate Control	15472	$10,240	$9,615	$0	$312
Total CIP		**$4,198,990**	**$3,775,381**	**$377,247**	**$340,301**

Notes on above table:

- Numbers may not sum due to rounding.
- Numbers are based on the general ledger information downloaded on 01/12/2022.
- $0 under ***Planned Expenditures*** indicate that while no expenditures are planned during the reporting period, expenditures may be planned during upcoming periods
- Negative actual expenditures indicate the result of cost transfers, write-offs, or credits greater than actual costs for this biennium through the reporting quarter

LIST OF TABLES

LIST OF FIGURES

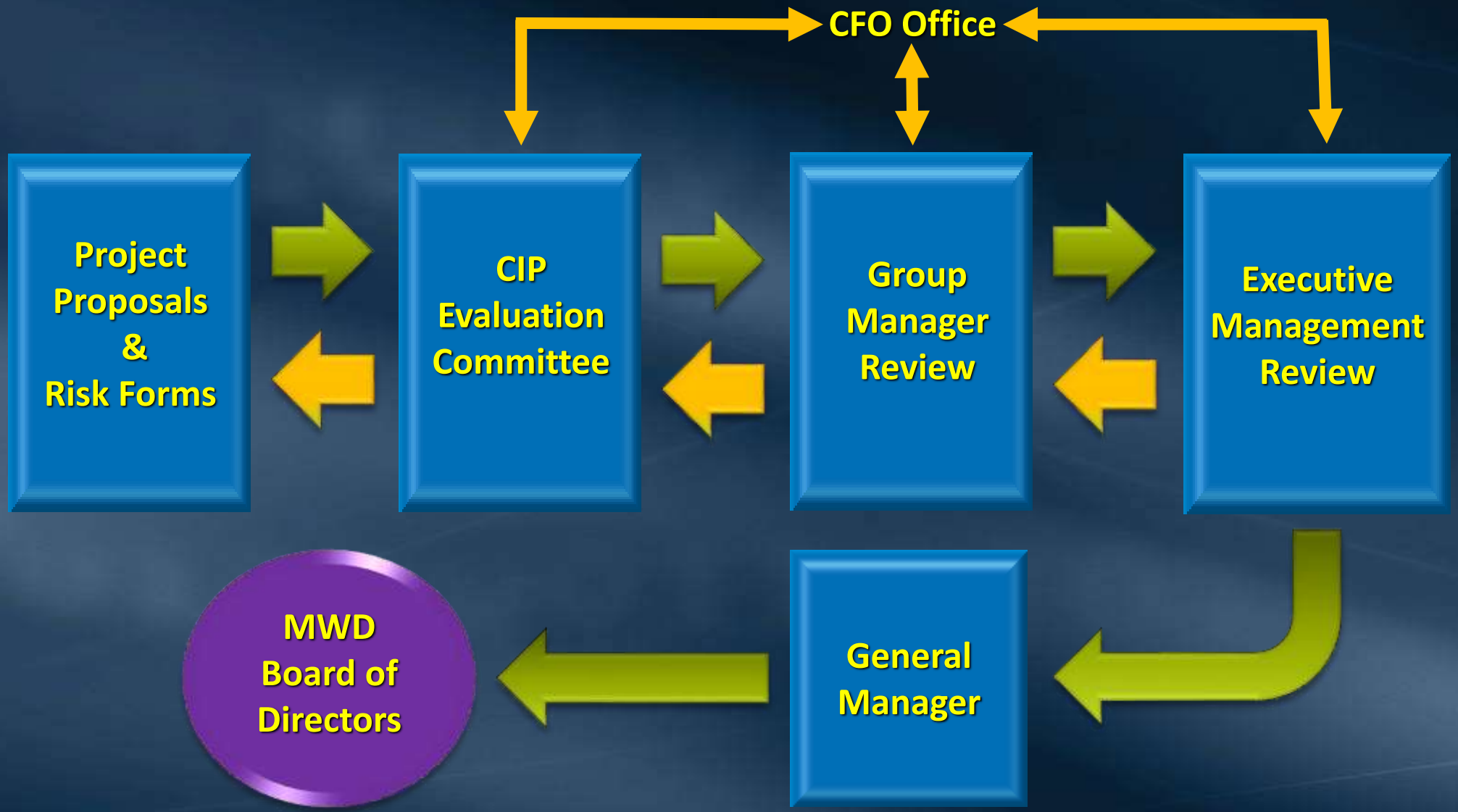
Proposed Capital Investment Plan Biennial Budget for FYs 2022/23 and 2023/24

Engineering and Operations Committee
Item 6b
March 7, 2022

Capital Investment Plan Presentation Overview

- CIP budget development process
- Enhanced CIP Risk Framework
- Overview of proposed CIP

CIP Development Process

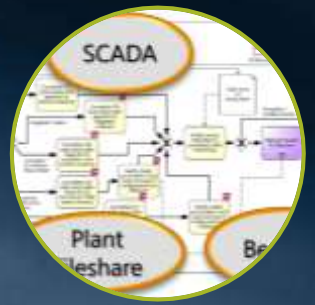


Development of Enhanced CIP Risk Framework and Inclusion in the CIP Development Process

Asset Management (AM) Program

Achieve success through our people

- AM strategy & planning
- Sustainable AM governance
- Cultural transformation



Make our processes more effective

- AM decision making tools
- Comprehensive lifecycle approach
- AM reporting & quality assurance

Maximize value from assets

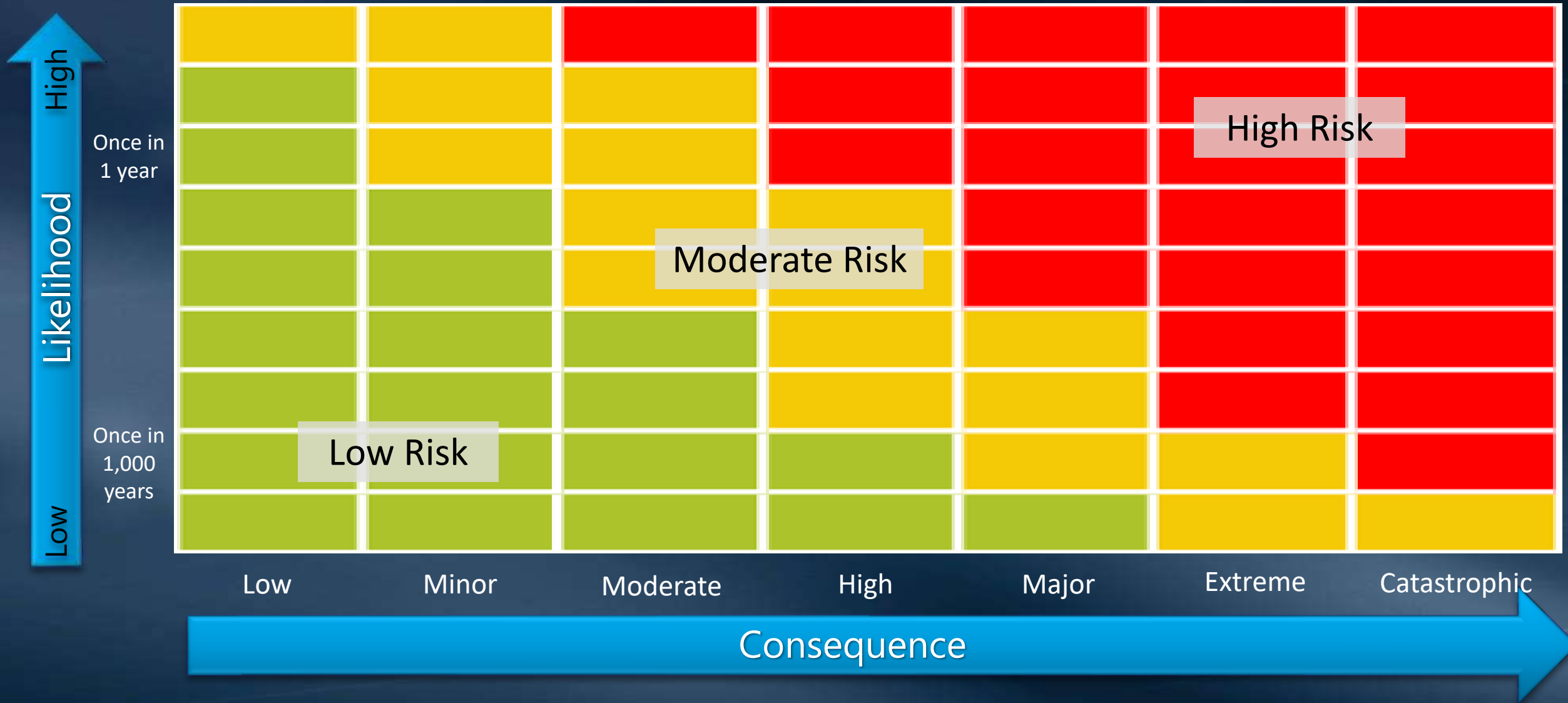
- Asset knowledge management
- Condition & performance monitoring
- Tactical AM Plans (TAMPs)

Risk Framework

Objectives

- Uniform definition of risk
- Be aligned with best-in-class
- Capture expert knowledge
- Repeatable & sustainable process

Risk Heatmap



Likelihood of Hazard

Example hazards


Earthquake


Pipe Leak


Fire


Broken Pump


Failed Valve


Pressure Surge

Frequency ranges

10 times a year

Within a year

Within 10 years

Within 50 years

Within 100 years

Within 500 years

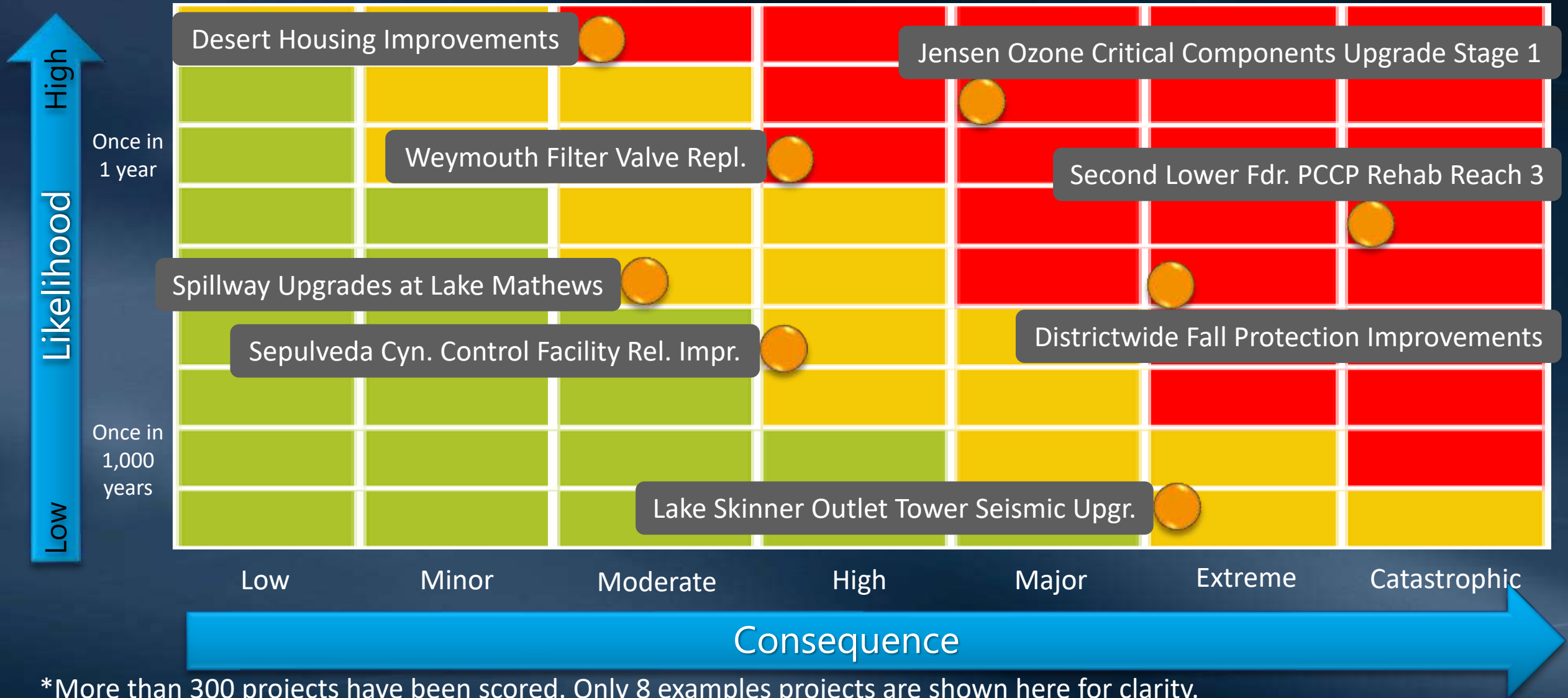
Consequence of Hazard

Consequence

	Low	Minor	Moderate	High	Major	Extreme	Catastrophic
Safety							
Compliance & Legal							
Reputation							
Financial Impact							
Reliable Service							

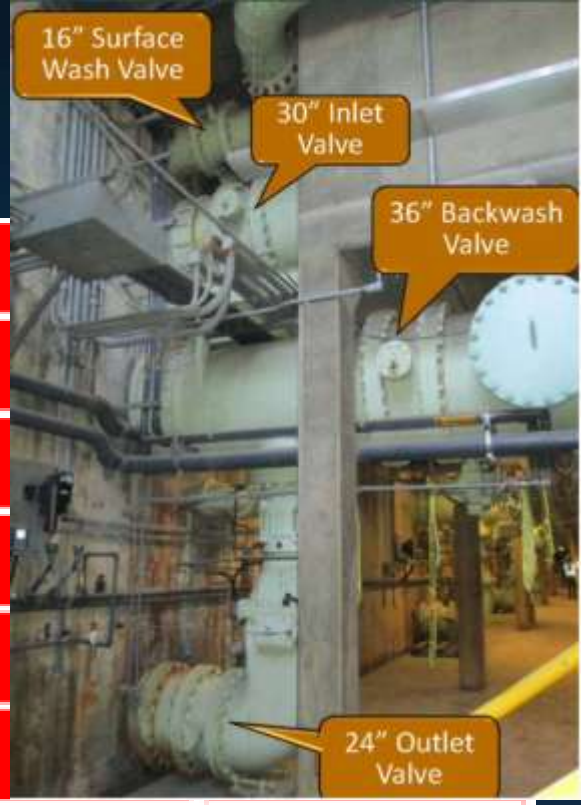
How was risk considered in this CIP budget?

Sample* of Projects w/ Pre-Mitigation Risk



*More than 300 projects have been scored. Only 8 examples projects are shown here for clarity.

Example: Weymouth Filter Valve Replacement



Likelihood

High

Once in 1 year

Once in 1,000 years

Low

Hazard #1: Deteriorated valve

Hazard #2: Actuator failure

Low | Minor | Moderate | High | Major | Extreme | Catastrophic

Consequence

Successful Pilot

- Valuable risk info on +300 capital projects
- Automated & sustainable workflow
- Data-informed approach to tap into expert insight
- Alignment with best-in-class

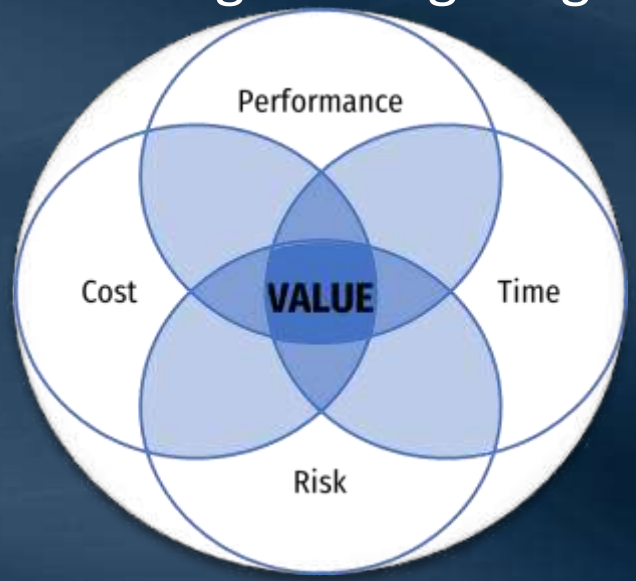
Enhanced CIP Approach

Value Engineering Program

Improving overall value of CIP projects

CIP Project Delivery Process

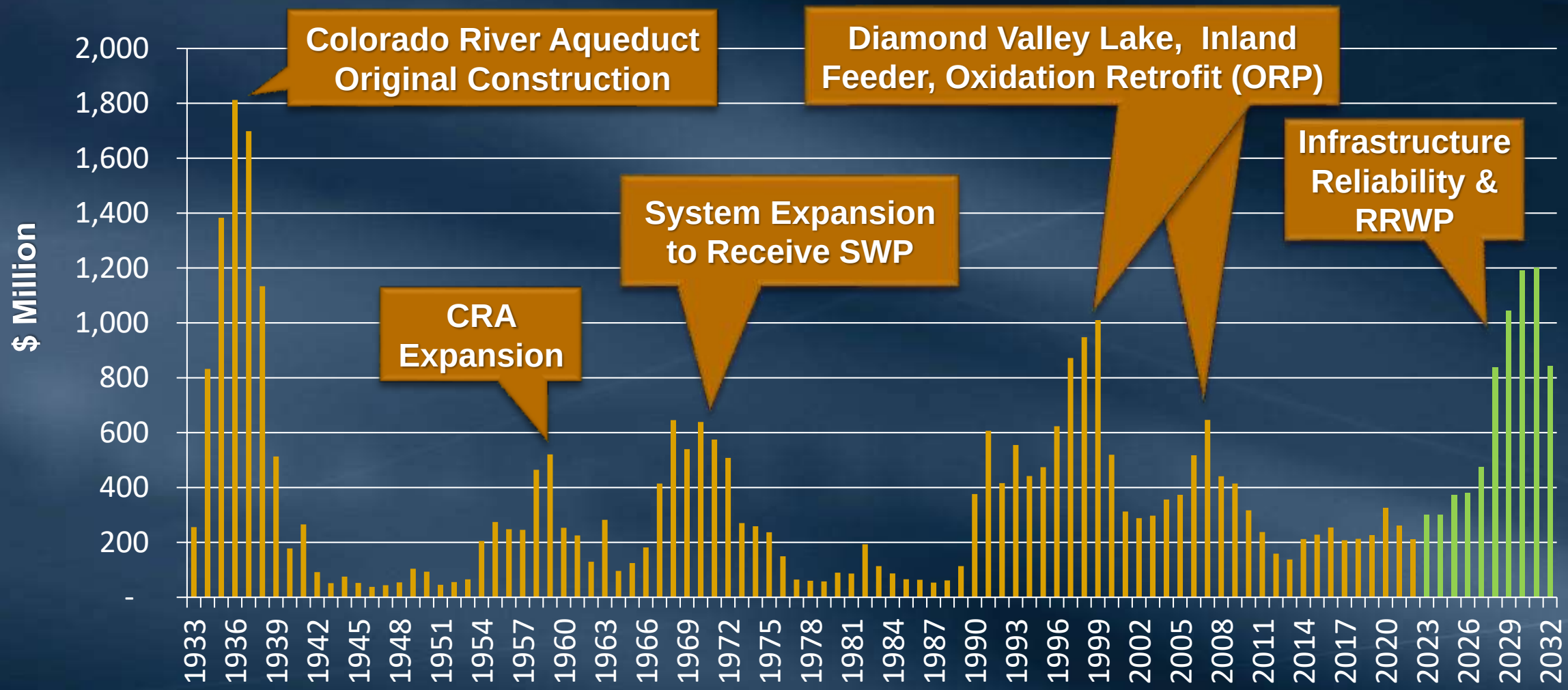
Value Engineering Program



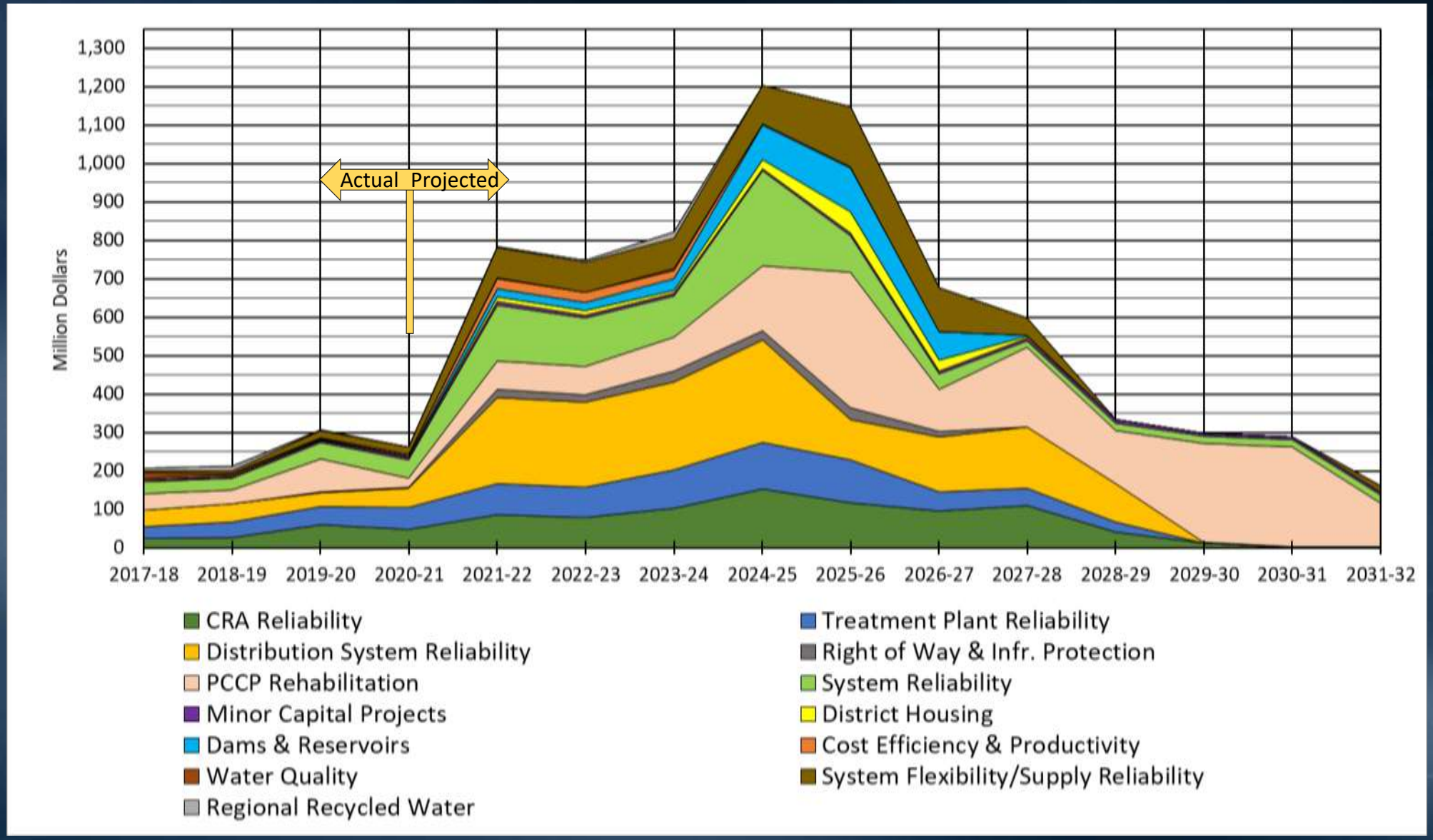
Capital Investment Plan Recommendation

Historical Capital Expenditures

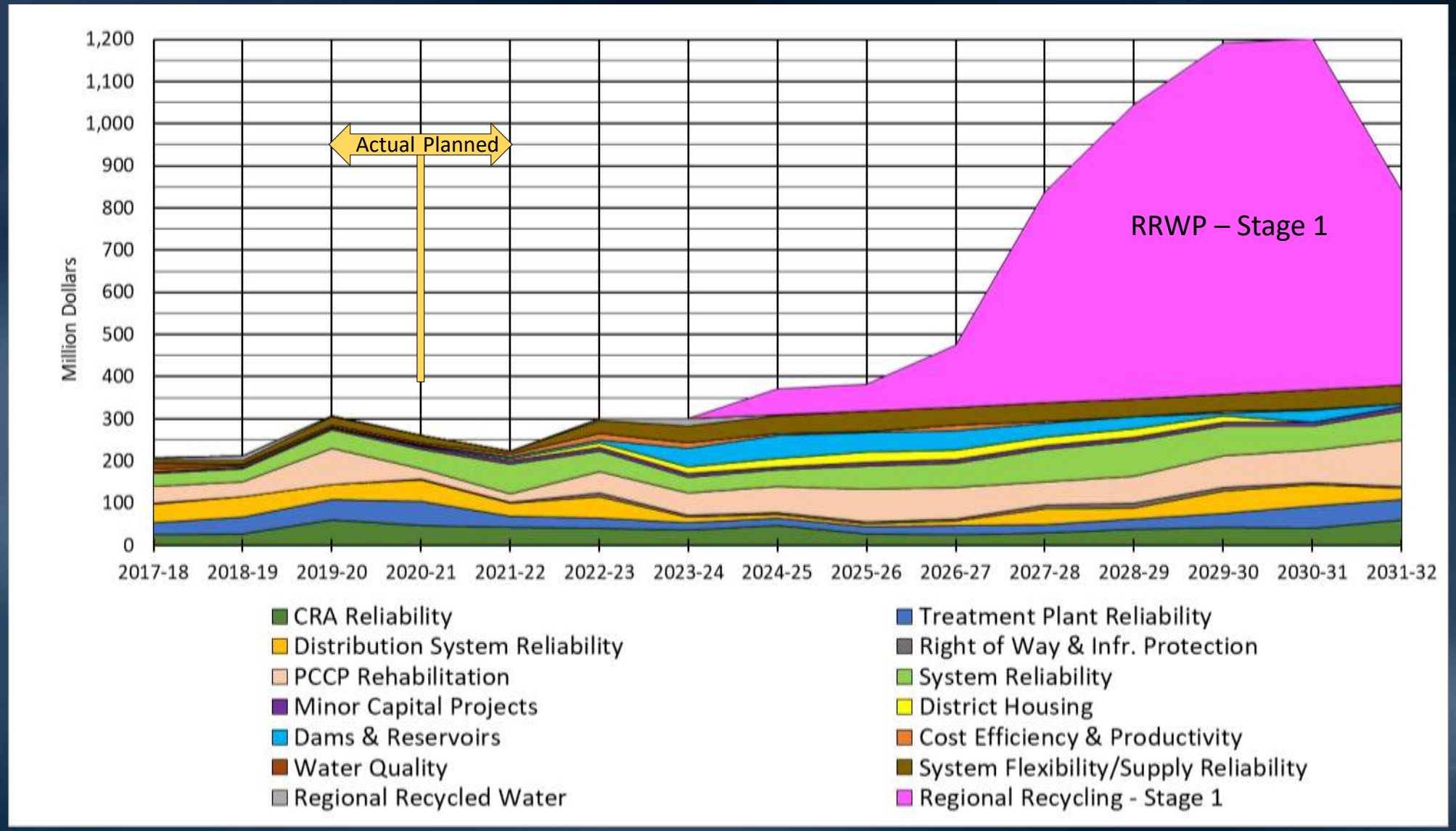
(Adjusted to Current $)



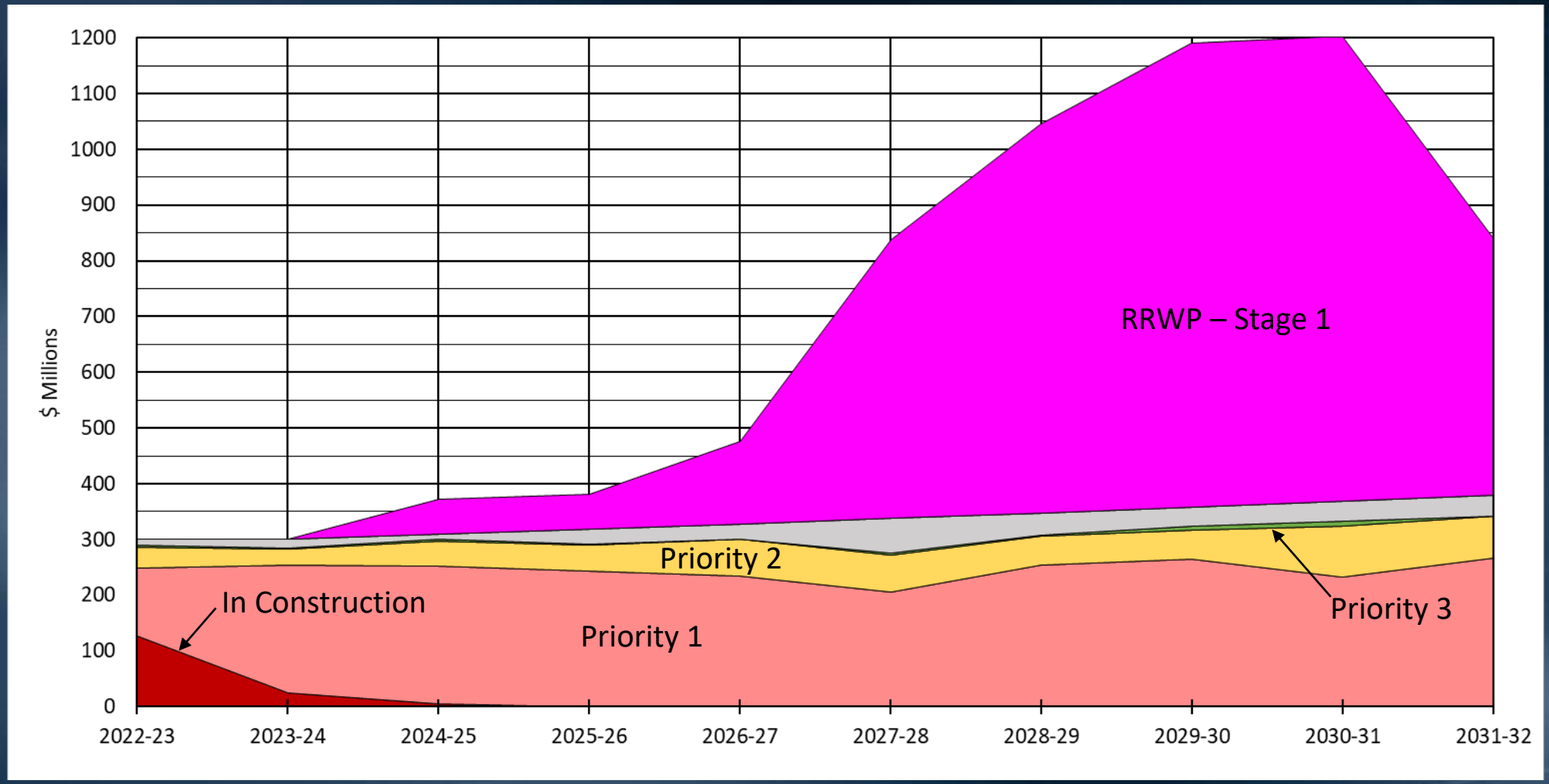
Projected & Unleveled CIP Expenditures by Program



Recent & Planned CIP Expenditures by Program

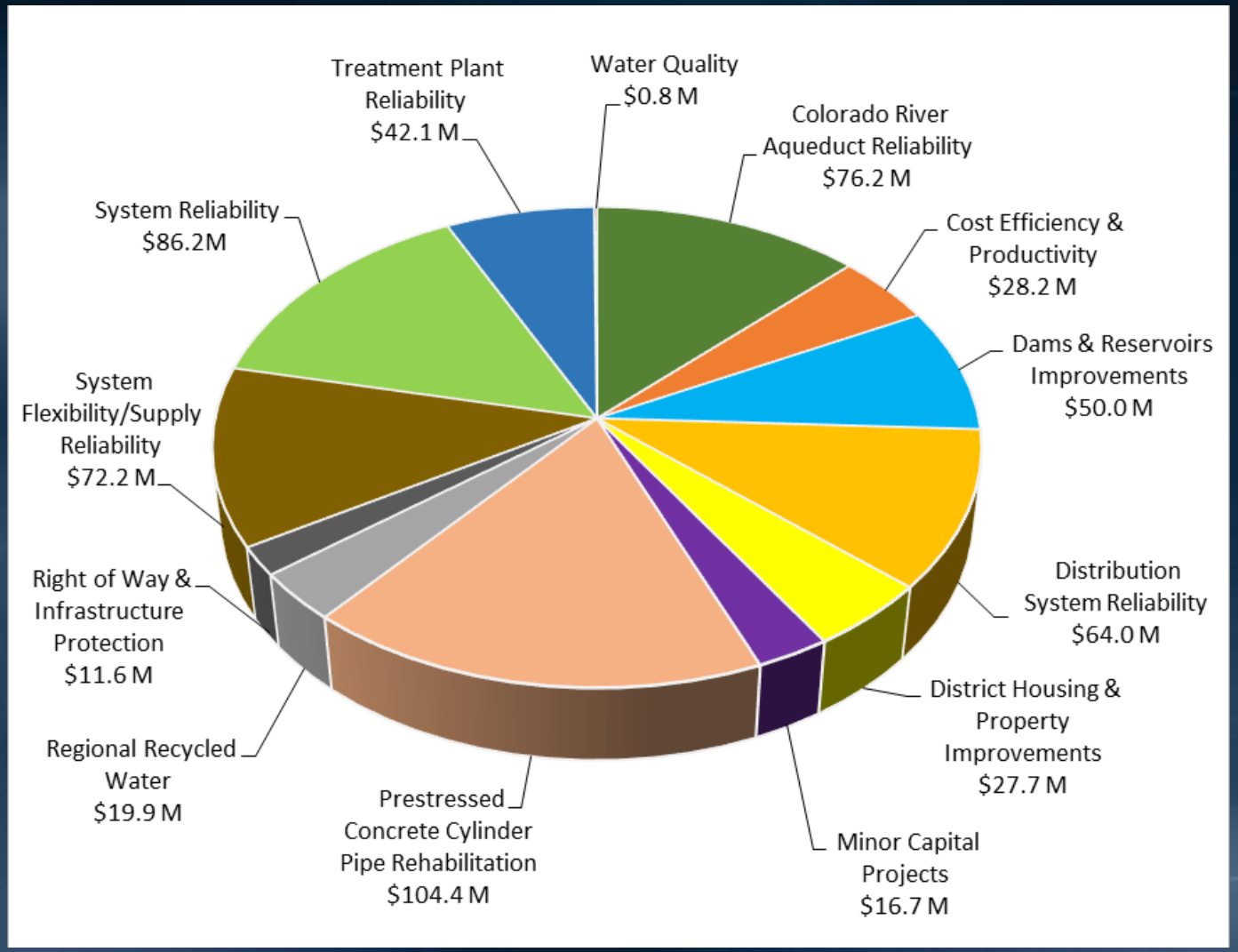


Planned CIP Expenditures by Sponsor Priorities



Proposed CIP for FY 2022/23 - 2023/24
by Program

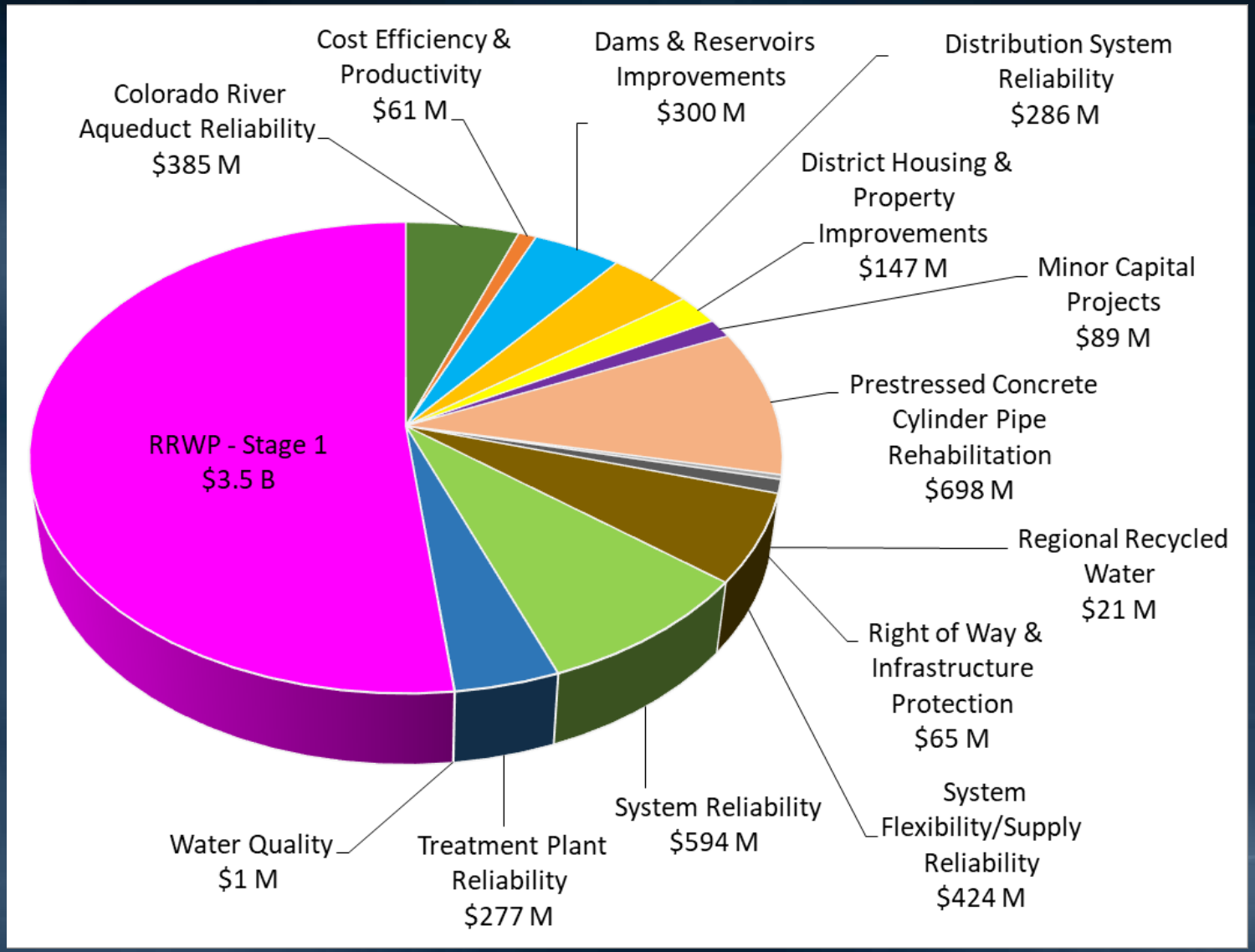
Programs	13
Projects	450*



* Excluding Minor Capital Projects

Ten-Year CIP Projection: FY 2022/23 - 2031/32
by Program

- Planned Expenditures: $7 billion
  - RRWP: $3.5 B
  - PCCP: $698 M
  - CRA: $385 M
  - Drought: $283 M
  - SCADA: $173 M



Proposed CIP for FYs 2022/23 - 2023/24

- 2-Year planned spending of $600 million
  - $300 million each year
  - Projects identified in the CIP Appendix
- April Board actions
  - Appropriate $600 M
  - Authorize GM authority
    - Initiate or proceed with work on planned capital projects identified in CIP Appendix

CIP for FY 2022/23 & FY 2023/24

- Included in the planned expenditures
  - Approx. 450 projects, not including Minor Capital Projects
  - DVL recreation: new and R&R
  - Direct Potable Reuse Demonstration Facility
  - Drought-related projects
- Not included in the planned expenditures
  - Full-scale regional recycled water projects – environmental documentation being prepared using O&M funds
  - New regional reservoir
  - Unplanned projects – projects not identified in CIP Appendix

Potential Early Addition of RRWP to the CIP

- State and Federal funding potentially available for RRWP in the upcoming biennium
- Potential action: move RRWP into CIP
- Impacts of Board moving RRWP into the CIP
  - Facilitates staff pursuit of outside funding
  - Staff can commence preliminary design and detailed program planning
  - Would result in approximately $25M to $30M of additional capital expenditures in upcoming biennium, in addition to currently planned expenditures for environmental planning efforts


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

Engineering & Operations Committee

Water System Operations Manager's Report

Item 7a

Monday, March 7, 2022
08:30 a.m.

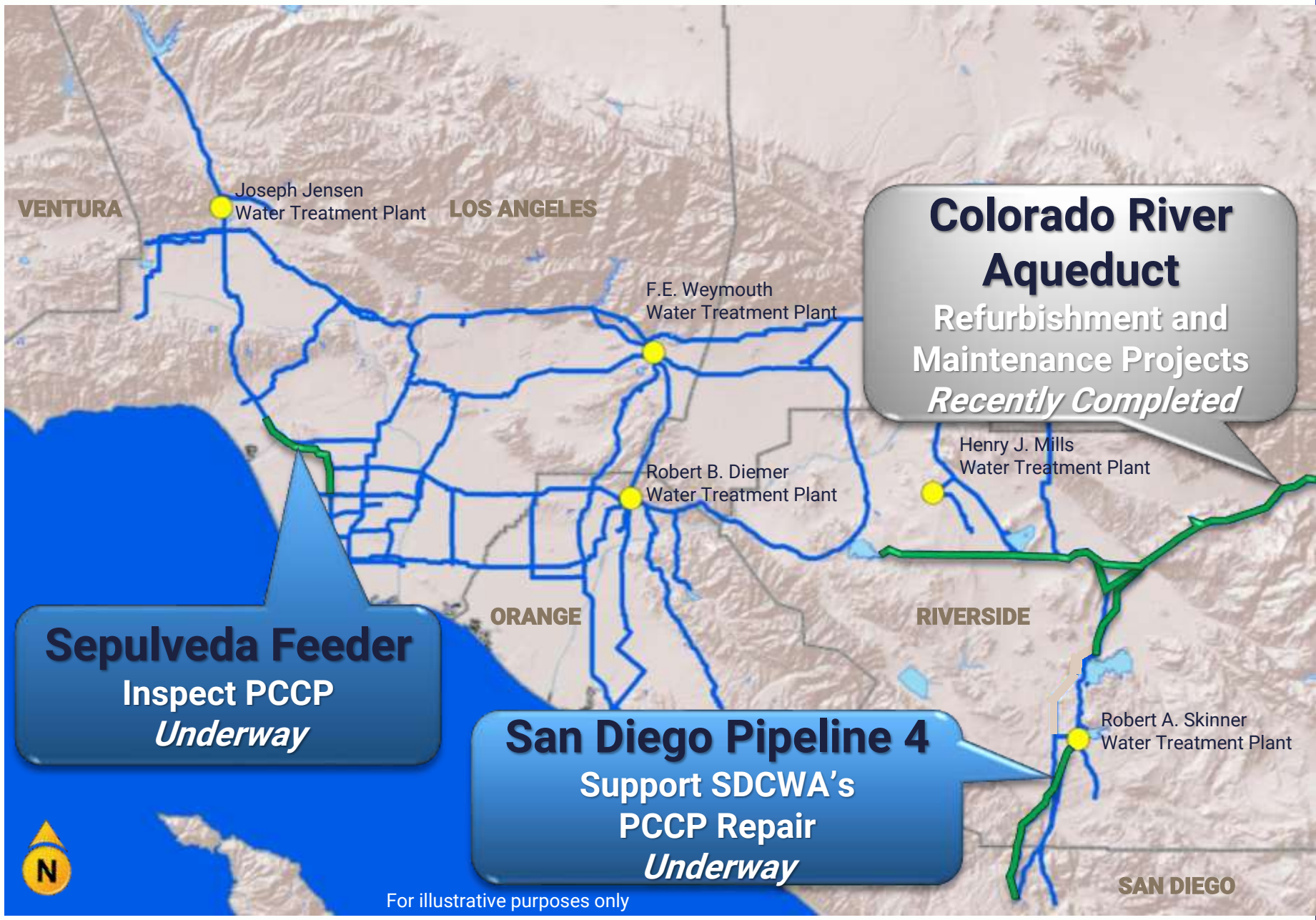
Current Operational Conditions.

Continuing Drought Operations

- 2022 SWP Allocation is 15%
- SWP blend targets are 0% at Weymouth, Diemer, and Skinner plants
- DVL to Mills drought operation continues to perform well
- Managing storage based on WSDM principles
- February 2022 deliveries of 106 TAF were 8 TAF higher than February 2021

WSO Manager's Report

Ensuring Continued System Reliability.



WSO Manager's Report

Colorado River Aqueduct Shutdown.

Preparing for CRA 8-Pump Operation.

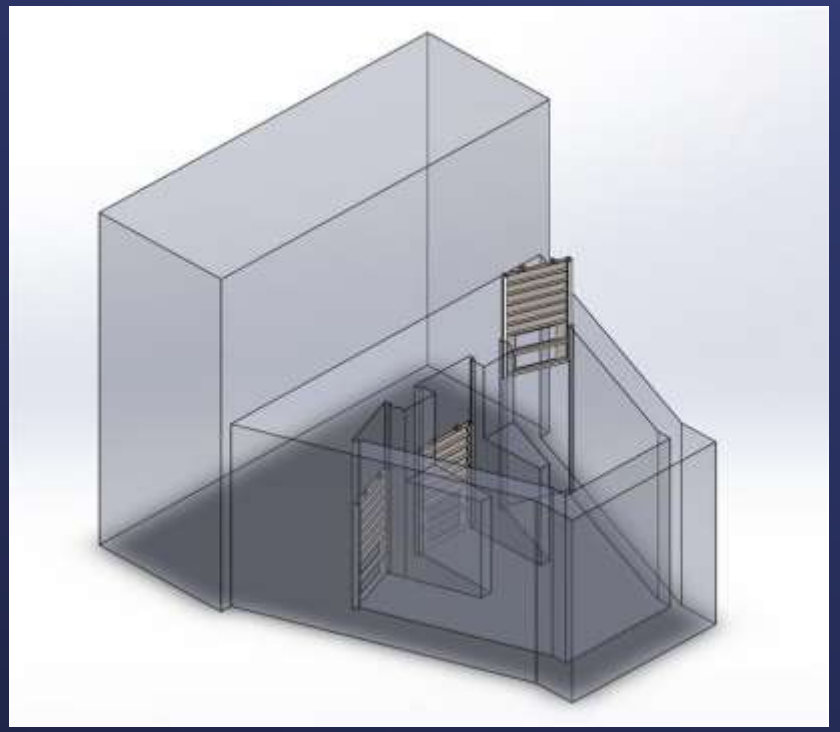
For Illustration Only

- Pinch discharge gates to reduce flow
- Requires more coordination, patrols, and monitoring
- Balancing act with changing conditions
- Supports operation of minimizing SWP deliveries

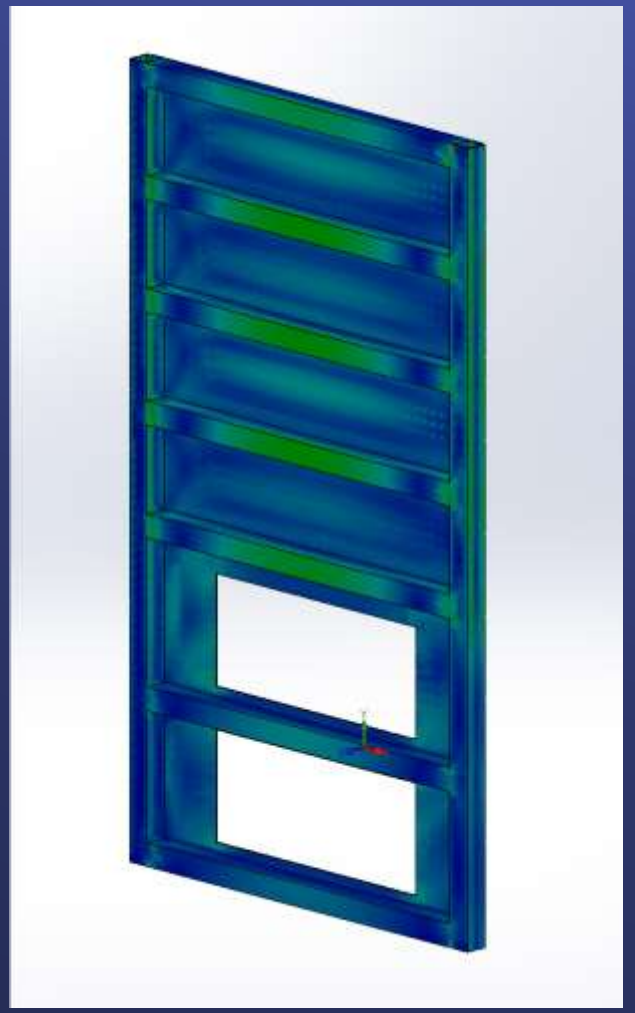
8-Pump Flow Improvement Projects.

Orifice Drop Gates

- 1 gate at Iron Mountain Pumping Plant
- 3 gates at Hinds Pumping Plant
- Reduces need to pinch discharge gates



Surge Chamber (Typ.)



Drop Gate

WSO Manager's Report

8-Pump Flow Improvement Projects.

Orifice Drop Gates

Orifice gate installation at Hinds Pumping Plant

8-Pump Flow Improvement Projects.

Pump Recirculation at Eagle Mountain Pumping Plant

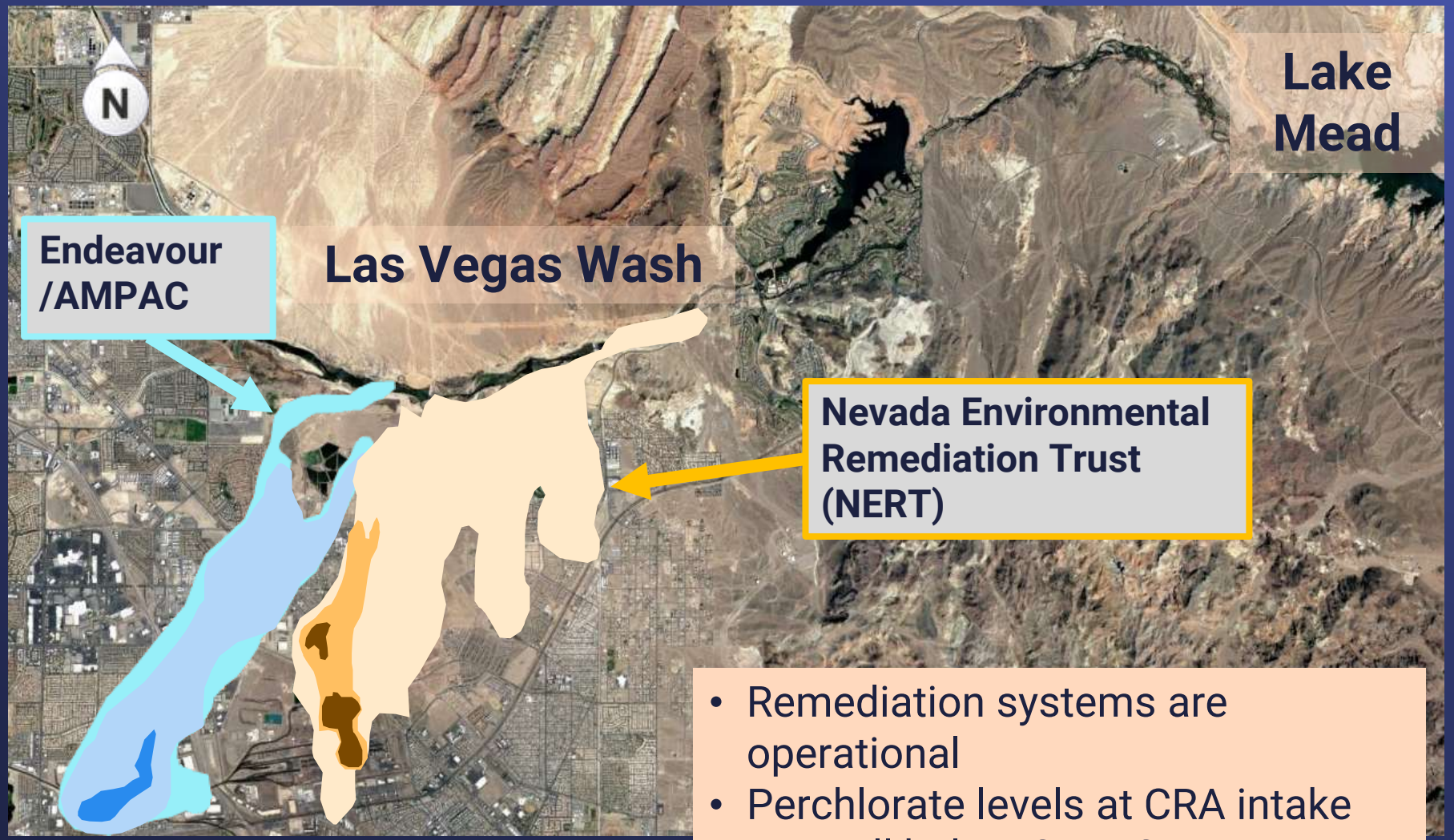
Recirculation line connections at the Eagle Mountain Pumping Plant

8-Pump Flow Improvement Projects.

Pump Recirculation at Eagle Mountain Pumping Plant

Branch tee installation at the Eagle Mountain Pumping Plant

Henderson Perchlorate Remediation Update.



- Remediation systems are operational
- Perchlorate levels at CRA intake are well below CA MCL

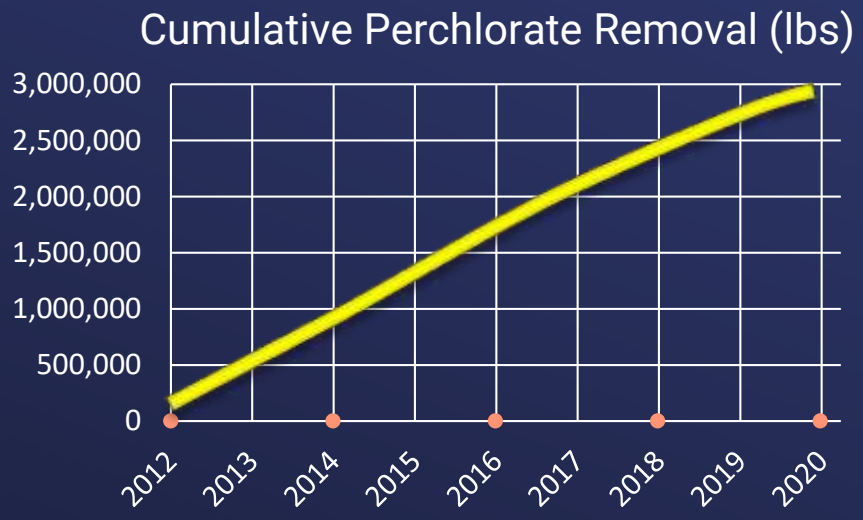
WSO Manager's Report

Henderson Perchlorate Remediation Update.

FBR system at Endeavour site

Endeavour (formerly AMPAC)

- Fluidized Bed Reactors
  - Installed 2012, following challenges with in-situ bioremediation
  - Cumulative perchlorate removal to date
    - 3 million lbs (1,500 tons); 650-800 lbs/day
- Ongoing performance optimization to maximize capture and removal



WSO Manager's Report

Henderson Perchlorate Remediation Update.

Nevada Environmental Remediation Trust (NERT)

- Fluidized Bed Reactors
  - Installed 2004
  - Cumulative perchlorate removal to date
    - 11 million lbs (5,500 tons); 800-1,000 lbs/day
- Long-term remediation plan to accelerate cleanup

FBR system at NERT site


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

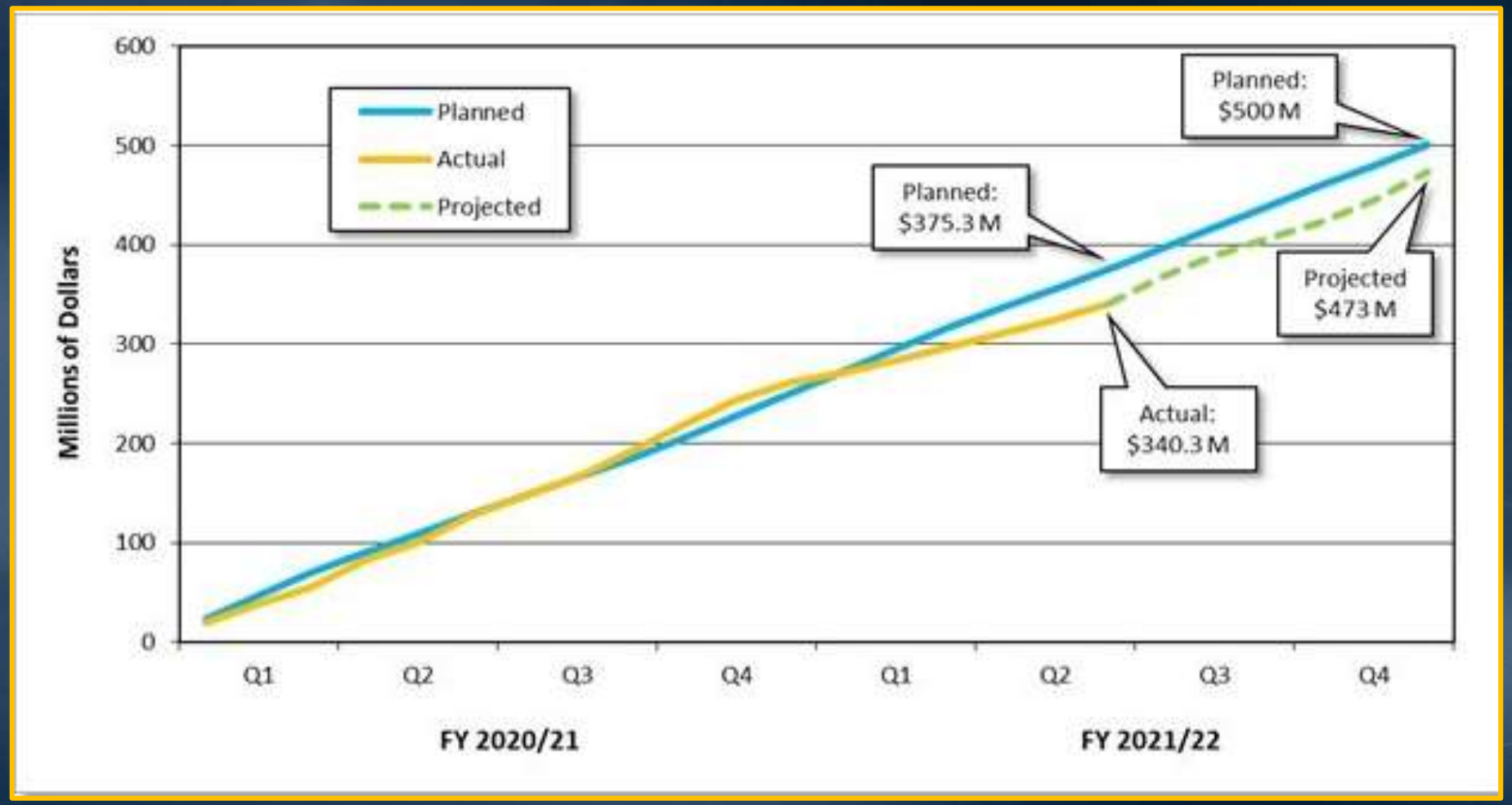
Engineering Services Manager's Report

Engineering and Operations Committee
Item 7b
March 7, 2022

Construction and Procurement Contracts January 2022

Construction & Procurement Contracts Through January 2022	
Number of Contracts at end of January 2022	39
Total Bid Amount of Contracts in Progress at end of January 2022	$282M
Contracts Awarded in January 2022	1
Contracts With Notice To Proceed Issued in January 2022	2
Contracts Completed in January 2022	0
Contract Gross Earnings in January 2022	$3.8M

The Capital Investment Plan
Planned Versus Actual Expenditures



CRA – Cholla Wash Conduit Relining Project

Post Blast Cleanup

Conduit Cleanup

Undercoating

SWP Dependent Area Solutions Update

Drought Action Planning and Development

- Kicked off collaborative idea generation
  - Brainstorming meetings with all SWP dependent area member agencies
  - Collectively developing briefing sheets
  - Examples of ideas
    - Groundwater basin utilization
    - Interconnectivity improvement
    - Local resource development
    - In-region surface storage expansion
    - Alternative source delivery
- Next steps
  - Continue collaboration with member agencies to further develop ideas (follow-up meetings)
  - Conduct workshop with all member agencies to collectively discuss ideas (April)

Cancellation of Awarded Contract

- Spec 2001 awarded to Minako America Corporation dba Minco Construction on November 9, 2021
- Awarded amount $1,477,000
- Metropolitan was notified by the Department of Industrial Relations on November 18, 2021 of Minco's debarment
- Contract cancelled by Metropolitan on January 25, 2022

Ozone Generators

New Power Supply Units (PSU)

Metropolitan's Control System Supervisory Control and Data Acquisition (SCADA)

- Primary method to control operations
- Monitors pumping, conveyance, treatment & distribution of water
- Critical for safety, regulatory compliance & equipment monitoring
- Provides core business data
- Aging system is >25 years old

Control System Improvement Approach

★ = Board actions

Control System Reliability & Security

★ Develop New Control System Requirements for RFQ/RFP

Activity Completed

★ Select Equipment & Integrator

Mills Pilot Testing

Mills Plant Upgrade

April 2022 Board action for P/T agreements

★ Other Facilities

★ Other Facilities

Future


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928