

WORKSHOP MEETING OF THE
BOARD OF DIRECTORS WITH MET DIRECTORS
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY
18700 Ward Street, Board Room, Fountain Valley, California
October 4, 2017, 8:30 a.m.

AGENDA

PLEDGE OF ALLEGIANCE

ROLL CALL

PUBLIC PARTICIPATION/COMMENTS

At this time members of the public will be given an opportunity to address the Board concerning items within the subject matter jurisdiction of the Board. Members of the public may also address the Board about a particular Agenda item at the time it is considered by the Board and before action is taken.

The Board requests, but does not require, that members of the public who want to address the Board complete a voluntary "Request to be Heard" form available from the Board Secretary prior to the meeting.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED

Determine need and take action to agendize item(s), which arose subsequent to the posting of the Agenda. (ROLL CALL VOTE: Adoption of this recommendation requires a two-thirds vote of the Board members present or, if less than two-thirds of the Board members are present, a unanimous vote.)

ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING

Pursuant to Government Code Section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Board less than seventy-two (72) hours prior to the meeting will be available for public inspection in the lobby of the District's business office located at 18700 Ward Street, Fountain Valley, California 92708, during regular business hours. When practical, these public records will also be made available on the District's Internet Web site, accessible at <http://www.mwdoc.com>.

(NEXT RESOLUTION NO. 2060)

PRESENTATION/DISCUSSION/INFORMATION ITEMS

1. INPUT OR QUESTIONS ON MET ISSUES FROM THE MEMBER AGENCIES/MET DIRECTOR REPORTS REGARDING MET COMMITTEE PARTICIPATION

Recommendation: Receive input and discuss the information.

2. PRESENTATION BY BRENT YAMASAKI OF METROPOLITAN REGARDING THE STATUS OF THE OROVILLE DAM SPILLWAY REPAIR

Recommendation: Review and discuss the information presented.

3. UPDATE CALIFORNIA WATERFIX: MET'S FOURTH WHITE PAPER – Q&A DOCUMENT

Recommendation: Review and discuss the information presented.

4. MET ITEMS CRITICAL TO ORANGE COUNTY (The following items are for informational purposes only – a write up on each item is included in the packet. Discussion is not necessary unless requested by a Director)

- a. MET's Water Supply Conditions
- b. MET's Finance and Rate Issues
- c. Colorado River Issues
- d. Bay Delta/State Water Project Issues
- e. MET's Ocean Desalination Policy and Potential Participation by MET in the Doheny Desalination Project and in the Huntington Beach Ocean Desalination Project (Poseidon Desalination Project)
- f. Orange County Reliability Projects
- g. East Orange County Feeder No. 2
- h. South County Projects

Recommendation: Discuss and provide input on information relative to the MET items of critical interest to Orange County.

5. METROPOLITAN (MET) BOARD AND COMMITTEE AGENDA DISCUSSION ITEMS

- a. Summary regarding September Board Meeting
- b. Review items of significance for MET Board and Committee Agendas

Recommendation: Review and discuss the information presented.

ADJOURNMENT

Note: Accommodations for the Disabled. Any person may make a request for a disability-related modification or accommodation needed for that person to be able to participate in the public meeting by telephoning Maribeth Goldsby, District Secretary, at (714) 963-3058, or writing to Municipal Water District of Orange County at P.O. Box 20895, Fountain Valley, CA 92728. Requests must specify the nature of the disability and the type of accommodation requested. A telephone number or other contact information should be included so that District staff may discuss appropriate arrangements. Persons requesting a disability-related accommodation should make the request with adequate time before the meeting for the District to provide the requested accommodation.



Item No. 2

DISCUSSION ITEM

October 4, 2017

TO: Board of Directors

FROM: Robert Hunter,
General Manager

Staff Contact: Harvey De La Torre

**SUBJECT: PRESENTATION BY BRENT YAMASAKI OF METROPOLITAN
REGARDING THE STATUS OF THE OROVILLE DAM SPILLWAY REPAIR**

STAFF RECOMMENDATION

Staff recommends the Board of Directors review and discuss this information

REPORT

MWD OC staff has invited Brent Yamasaki, Metropolitan's Water System Operations Section Manager, to provide a presentation on the background of Lake Oroville Dam Spillway incident damages, response, and cleanup. His presentation will also provide highlights of the forensic evaluation.

In examination of the potential impacts on supply and an update on costs, Mr. Yamasaki will provide a status of the Oroville spillway emergency recovery project and the anticipated November 1, 2017 deadline for the temporary solution that can pass winter flows.

Attachments:

Lake Oroville Spillway Update presentation

| | | | |
|---|----------------------|--|---------------------------------|
| Budgeted (Y/N): N/A | Budgeted amount: N/A | Core <input checked="" type="checkbox"/> | Choice <input type="checkbox"/> |
| Action item amount: N/A | Line item: | | |
| Fiscal Impact (explain if unbudgeted): | | | |



Lake Oroville Spillway Update

Engineering and Operations Committee
Item 6a
September 11, 2017

Overview

- Background on Lake Oroville
- Spillway incident and damages
- Response and cleanup
- Oroville Spillways Emergency Recovery Project
- Forensic evaluation
- Potential supply impacts
- Update on costs

Lake Oroville is an Integral SWP Facility



Lake Oroville

- Main SWP storage facility
- 3.54 MAF capacity
- Operational in 1968



Hyatt Powerplant

- 6 Units
- Generating capacity up to 819 MW at 16,950 cfs

E&O Committee

Slide 3

September 11, 2017

Oroville Dam Facility



Spillway Incident and Damages

E&O Committee

Item 6a Slide 5

September 11, 2017

Oroville Spillway Incident

February 7, 2017



Deck and Foundation Erosion

February 9, 2017



Inflows to Lake
Oroville reach
nearly 200,000 cfs

February 11-12, 2017



Flows over the
Emergency Spillway

E&O Committee

Item 6a Slide 6

September 11, 2017

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Sizeable Inflows and Outflows



Inflows (Jan-May 2017)

- 6.5 Million AF
- Almost 2 times the max reservoir capacity

Outflows (Jan-May 2017)

- 5.2 Million AF through the main spillway
- Twice the previous record
- Nearly 1.5 times the max reservoir capacity

E&O Committee

Item 6a Slide 7

September 11, 2017

Overview of the Damage



Response and Cleanup

E&O Committee

Item 6a Slide 9

September 11, 2017

Interim Repair Work

Erosion Protection



Concrete Repair Work



Rock Bag Reinforcement



Patching, Inspecting, Studies



E&O Committee

Item 6a Slide 10

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Commenced Major Cleanup



Debris Removed from the Thermalito Diversion Pool

Total of 1.9 million cubic yards



E&O Committee

Item 6a Slide 11

September 11, 2017

Hired Contractors and Finalized the Design and Specifications



Inspection Team

E&O Committee

Item 6a Slide 12

September 11, 2017

Oroville Spillways Emergency Recovery Project

E&O Committee

Item 6a Slide 13

September 11, 2017

Large-Scale Recovery Effort

Demolition and Site Preparation



May 2017



June 2017

E&O Committee

Item 6a Slide 14

September 11, 2017

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Large-Scale Recovery Effort

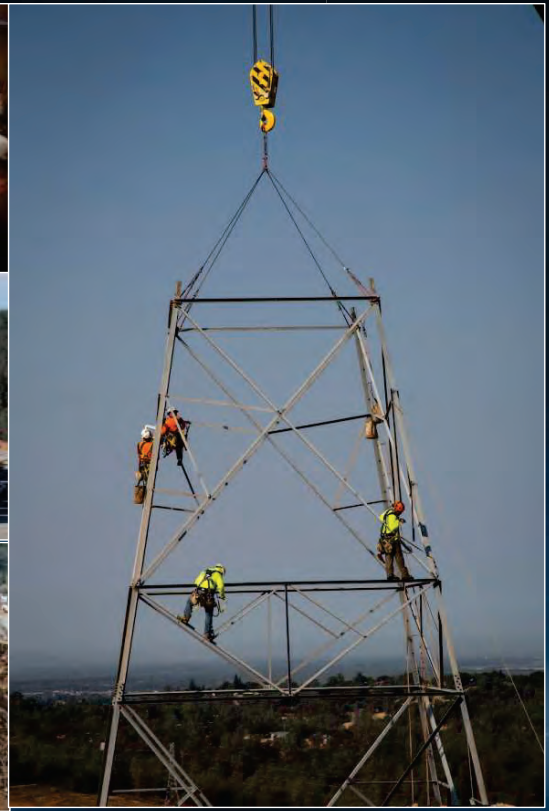
Logistics



Equipment
and
Materials



Access
Roads



E&O Committee

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September 11, 2017

Large-Scale Recovery Effort



E&O Committee

Item 6a Slide 16

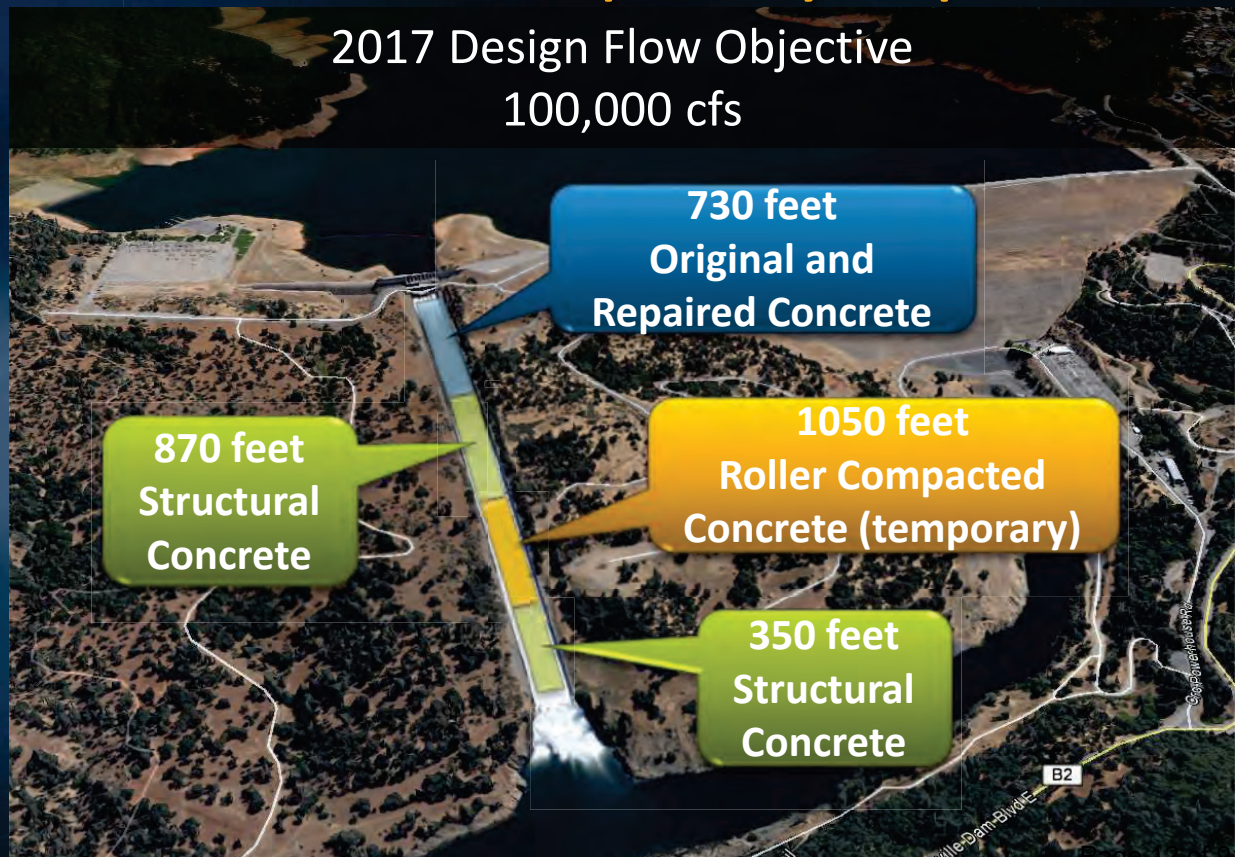
September 11, 2017
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Phased Construction

2 year construction strategy (2017-2018)

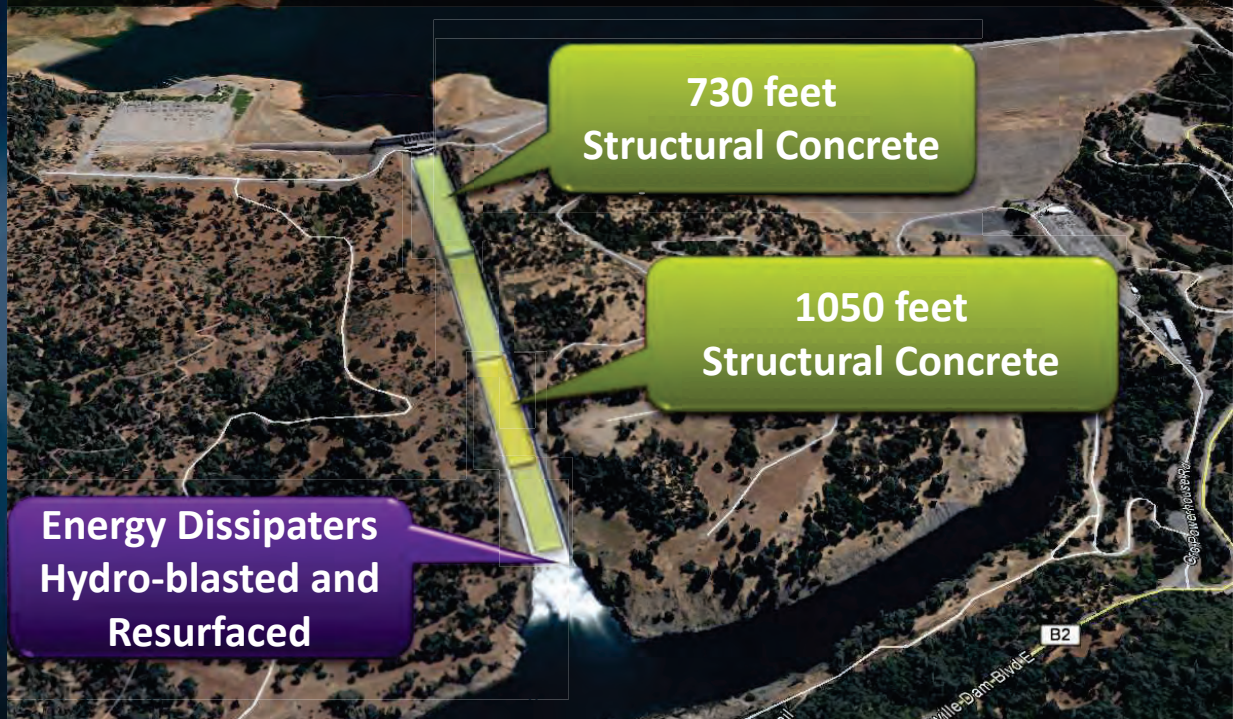
- 2017: Have systems in place by November 1st that can safely pass winter flows
 - Includes temporary solutions of portions of the main spillway to meet timelines
- 2018: Complete permanent solutions of returning both the gated flood control and emergency spillways to service to pass design flows

2017 Main Spillway Repair



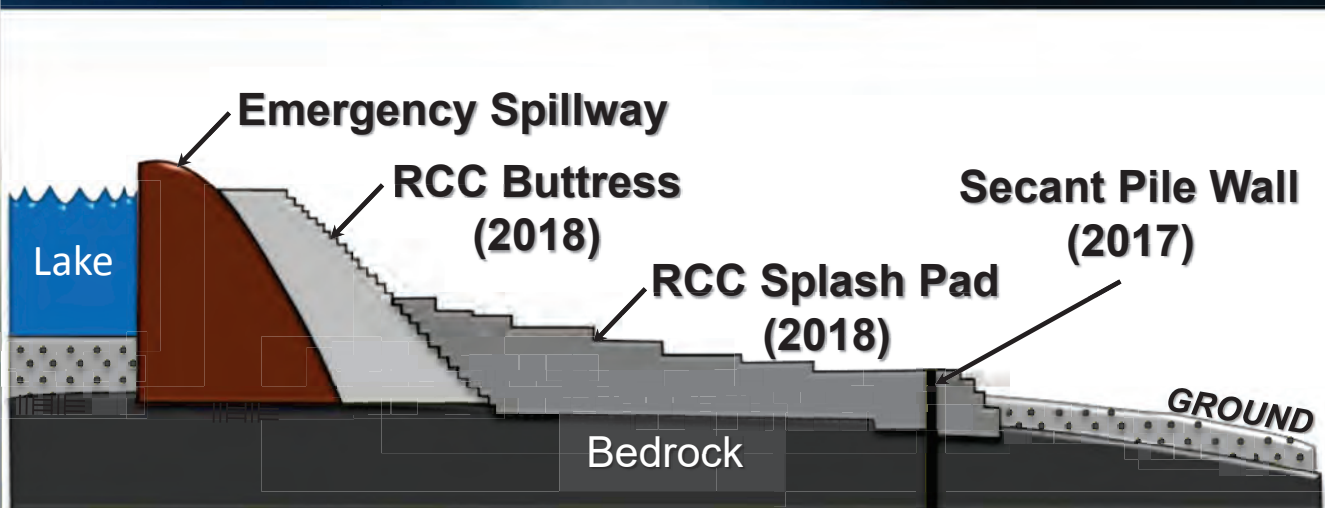
2018 Main Spillway Repair

Scheduled to be completed by late 2018
Return the spillway capacity to 270,000 cfs



Emergency Spillway Repair Plan

- Designed to address erosion concerns
- Scheduled to be completed by late 2018
- Repairs will continue year-round until completed



Cutoff Wall Conceptual Construction



E&O Committee

Item 6a Slide 21

September 11, 2017

Forensic Evaluation

E&O Committee

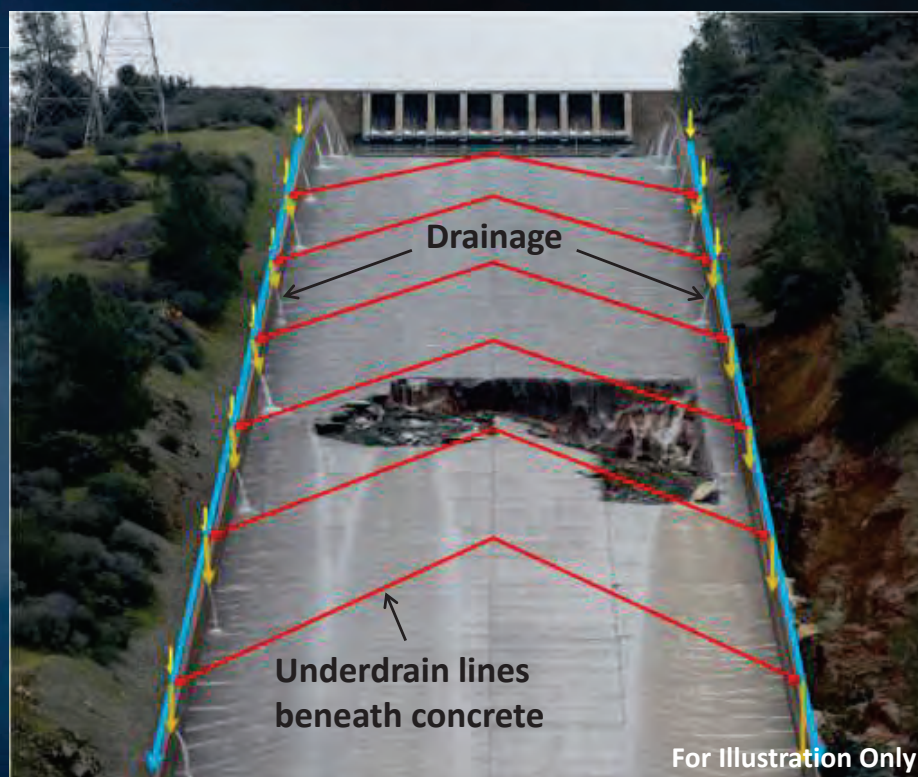
Item 6a Slide 22

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Identified Potential Factors to Spillway Incident

- May 5 and Sept 5, 2017 memos from the Forensic Team with preliminary findings
- Final report due in fall 2017
- Highlights
 - Slab thickness and reinforcement
 - Slab joint design
 - Slab drainage
 - Slab foundation
 - Prior slab repairs
 - Rate of flow change before failure

Incorporating Lessons Learned



Potential Supply Impacts

Impacts Depend on Hydrology

- Oroville storage will start the water year at a lower level
 - Could be around 1.2 MAF (about one-third full)
- This is lower than normal because of the spillway event and project
- Hydrology will play a significant role in the final 2018 SWP allocation
 - More snow than rain is better for supplies
 - Timing of precipitation

Update on Costs

Update on Costs

Response and Cleanup Costs

- Clean-Up Costs - \$250 Million
 - Several FEMA reimbursement applications to date
 - FEMA is reviewing and approving reimbursements
 - \$22.8 Million approved for DWR as of late July 2017
 - Additional FEMA applications pending

2017/2018 Recovery Project

- Main spillway temporary and permanent repairs
- Emergency spillway repairs
- Kiewit Infrastructure West Co.: \$275 Million

Update on Costs

Unknowns

- Change orders
- Additional contracts and staff time
- Total FEMA reimbursement
- Other potential federal/state funding

Summary

- Work is progressing quickly
 - 2017 work is on track for the upcoming rainy season
- Extensive collaboration and coordination
- Dynamic and evolving process
- Metropolitan will continue to monitor the progress and adapt to future conditions





DISCUSSION ITEM

October 4, 2017

TO: Board of Directors

**FROM: Robert Hunter,
General Manager**

Staff Contact: Harvey De La Torre
Melissa Baum-Haley

**SUBJECT: UPDATE CALIFORNIA WATERFIX: MET'S FOURTH WHITE PAPER –
Q&A DOCUMENT**

STAFF RECOMMENDATION

Staff recommends the Board of Directors review and discuss this information

REPORT

On September 26, Metropolitan held its final workshop in preparation for Board action on the California WaterFix. The Board workshop included public comments (more than 60 speakers), staff presentations and Board discussion. Representatives who commented included a diverse group of community and organizational leaders, trade and business groups, water agencies, environmental associations, and residents. Staff estimates two-third spoke in support of the project.

The Metropolitan Board plans to take action on the staff's recommendation for participation in the California WaterFix at its October 10, 2017 regular board meeting. Both the board letter and the questions & answers (Q&A) document are attached. The Q&A document includes many of the most commonly asked questions about the project with responses from Metropolitan staff.

Attachments:

Metropolitan California WaterFix Board Action Letter
Metropolitan California WaterFix Q&A Document

| | | | |
|---|-----------------------|---------------|------------------|
| Budgeted (Y/N): N | Budgeted amount: None | Core <u>X</u> | Choice <u> </u> |
| Action item amount: N/A | | Line item: | |
| Fiscal Impact (explain if unbudgeted): | | | |



● **Board of Directors**

10/10/2017 Board Meeting

8-4

Subject

Adopt CEQA determination and express Metropolitan's support for California WaterFix; authorize participation in the construction of California WaterFix including payment of costs consistent with Metropolitan's 25.9 percent share of overall costs; authorize the General Manager to execute the following agreements having terms as described in this board letter: (1) Agreement for Implementation of an Adaptive Management Program for Project Operations, (2) Joint Powers Agreement Forming the Delta Conveyance Design and Construction Joint Powers Authority, and (3) Joint Powers Agreement Forming the Delta Conveyance Financing Joint Powers Authority; and adopt a Resolution authorizing the General Manager to participate in the Financing Joint Powers Authority, authorizing the purchase of private placement bonds from the California Department of Water Resources and issue public bonds by the Financing Joint Powers Authority, consistent with Metropolitan's share of 25.9 percent of the California WaterFix project costs, including an agreement to secure payment of Metropolitan's share

Executive Summary

The complex approval process for California WaterFix has progressed to the point where formal Board action is needed to guide planning to completion. In December 2016, the final environmental impact report and environmental impact statement were released, identifying the preferred alternative of three new intakes on the Sacramento River and the twin tunnel pipeline system to convey the supplies. In June of 2017, biological opinions by the National Marine Fisheries Service and U.S. Fish and Wildlife Service were released for compliance with the federal Endangered Species Act. And in July of 2017, the Department of Water Resources certified the final environmental impact report, approved the project, and outlined a new governance structure to enhance Metropolitan's participation in construction oversight via a proposed joint powers authority, while the California Department of Fish and Wildlife issued a permit for compliance with the state Endangered Species Act. While future actions are necessary by the State Water Resources Control Board and the Delta Stewardship Council in particular, the majority of the permitting processes have been successfully completed.

Board action is sought to quantify Metropolitan's level of investment and benefits in California WaterFix; to finalize the governance structures; to participate in adaptive management; to join separate joint power authorities to oversee construction and finance; and to take specific actions pertaining to Metropolitan's role as a responsible agency for California WaterFix under the California Environmental Quality Act.

Details

Introduction

After more than a decade of planning, preliminary design, environmental analysis, regulatory review, and public input, California WaterFix has now reached a point where the Board must decide whether to move forward with its implementation. Metropolitan staff believes that California WaterFix represents a viable, comprehensive approach to solving the long-standing problems that have plagued the Sacramento-San Joaquin Delta (Delta), problems that are placing both the state's water supply and the Delta's ecosystem at increasing risk with each passing year.

Accordingly, as detailed more fully below, staff is recommending that the Board: (1) express Metropolitan's support for California WaterFix; (2) authorize participating in construction of California WaterFix, up to a 25.9 percent share of the overall project costs; and (3) subject to this 25.9 percent limitation, authorize the

General Manager to execute various agreements related to: (a) participation in two joint powers authorities for design, construction and financing of California WaterFix, (b) development and implementation of an adaptive management plan for future operations of California WaterFix, and (c) additional documents, in connection with Metropolitan's participation in the financing joint powers authority.

The physical, operational, and financial details of California WaterFix have been discussed extensively in prior Board letters, reports, memoranda, presentations and workshops, including, most recently, in three white papers presented to the Board in July and August. (*See Modernizing the System: California WaterFix Infrastructure* [White Paper #1]; *Modernizing the System: California WaterFix Operations* [White Paper #2]; *Modernizing the System: California WaterFix Finance & Cost Allocation* [White Paper #3].) This Board letter does not attempt to reiterate all of this information. Rather, it presents some of the key details and points for consideration as a preface to the Board actions being recommended by staff.

Project Overview

Major features of California WaterFix include three new intakes on the east bank of the Sacramento River in the northern Delta, three 13.5-mile long tunnels connecting these intakes to a new, 30-acre intermediate forebay, and two 30-mile long tunnels carrying water from this forebay to a new pumping plant connected to an expanded and modified Clifton Court Forebay. From there water would move into the existing SWP and CVP pumping plants located in the south Delta. The total maximum north Delta diversion intake capacity would be 9,000 cubic feet per second (cfs).

The proposed design maximizes the use of public lands, reducing the disruption, time and cost of acquiring private property, easements and rights of way. In addition, a number of changes were made to the original concept in response to input received from various stakeholders during the planning, preliminary design and environmental review processes. These changes were aimed at lessening the impacts to the Delta's environment, ecosystem and existing land uses. They included: (1) downsizing the north Delta intakes from a 15,000 cfs pump-driven system to a 9,000 cfs gravity fed system; (2) using tunnels instead of open canals and pipelines to convey water from the northern intakes to Clifton Court; (3) revising tunnel alignments to minimize the number of water crossings, reduce impacts to sensitive areas, and avoid unnecessary surface disruptions; (4) reducing the size of the intermediate forebay's footprint from 750 acres to approximately 100 acres; (5) reducing the pumping requirements for the overall system, allowing the system to be fully gravity-fed under certain hydrologic conditions and delivery scenarios; (6) reducing the construction impacts along the Sacramento River; and (7) optimizing the location of key construction sites to reduce traffic and other impacts to local residents and agricultural interests.

Construction of California WaterFix is anticipated to take up to 18 years to complete following approval, and would be managed under contract with DWR through a proposed Delta Conveyance Design and Construction Joint Powers Authority (Construction JPA). This approach was successfully used in the mid-1990s when DWR contracted with the Central Coast Water Authority to design and construct a portion of the California Aqueduct's Coastal Branch. In coordination with DWR, the Construction JPA would design and construct the project facilities with the goal of ensuring that they are delivered on time, on budget and in accordance with approved specifications. The Construction JPA would sunset upon the completion and commissioning of California WaterFix, which would be turned over to DWR.

Project Need and Benefits

Modernizing and improving California's water system are essential to ensure reliable delivery of the state's water supplies. Approximately 30 percent of the water used in Southern California homes and businesses comes from Northern California watersheds and flows through the Delta. But the Delta's ecosystem and 1,100 miles of levees are increasingly vulnerable to earthquakes, flooding, saltwater intrusion, climate change and environmental degradation.

Furthermore, SWP and CVP operations have been, and continue to be, severely affected by regulatory restrictions that have decreased operational flexibility and reduced exports to the 25 million Californians and millions of acres of irrigated farmland that depend on this water supply. Over the last three decades, these restrictions are estimated to have reduced exports from the SWP and CVP by over 3 million acre-feet (MAF) per year. This trend will continue if nothing is done. Without California WaterFix, staff estimates that exports from the SWP and CVP would decline to between 3.5 and 3.9 MAF per year on a long-term average basis, representing an additional loss of approximately 800 thousand acre-feet (TAF) to 1.2 MAF per year, when compared to existing conditions.

California WaterFix is intended to address these problems and improve both the reliability and quality of exports from the Delta. Among other things California WaterFix would: (1) allow for isolated deliveries of SWP and CVP water supplies; (2) provide greater flexibility and efficiency in operating the projects; (3) upgrade a decades old system with new, state-of-the-art facilities, fish screens, equipment, and technologies; (4) safely and reliably capture water during periods of heavy rain and high Delta flows; and (5) ensure that more water is available for drought and for emergency needs, such as during a natural disaster.

Beyond this, California WaterFix is an environmentally responsible project that advances the co-equal goals of protecting the Delta ecosystem. As noted above, California WaterFix has been designed and refined to minimize its impacts during construction and operation. Moreover, it would be subject to a host of environmental mitigation measures, including many that involve the creation and restoration of habitat for various fish species and other wildlife within the Delta.

Once online, California WaterFix would allow the SWP and CVP to be operated in a manner that provides a more natural flow in the Delta during critical periods limiting the potential effects of water exports on listed species. In addition, it would improve water quality both for exports from the Delta and for uses within and around the Delta. Likewise, it would reduce the risks associated with climate change, natural disasters, salinity intrusion, and other environmental stressors, which is important not only for water supply reliability, but for protection of the Delta, as well.

Lastly, California WaterFix has a number of elements to ensure the Delta's ecosystem is adequately protected once the facilities are in service. These include flexible, real-time operations that allow adjustments to be made on a day-to-day basis, and a robust, collaborative science and adaptive management program to address uncertainties and make revisions to the operational criteria, as needed, over time.

California WaterFix would not restore SWP and CVP exports to the levels that existed before the first regulatory restrictions were imposed. But it would help to preserve, and potentially increase, the levels of such exports as they exist today. Based on extensive modeling and analysis, it is estimated that with California WaterFix in place, the projects would be able to deliver, on average, between 4.7 and 5.3 MAF per year, and improve the quality and reliability of these deliveries, both of which have been in steady decline for many years.

Project Cost and Financing

The cost to construct California WaterFix is estimated to be \$16.7 billion, and annual operations and maintenance costs are estimated at \$64.4 million. These estimates are in 2017 dollars and were determined through a rigorous analysis by industry professionals. It should be noted that included in these costs are nearly \$900 million for environmental mitigation. These mitigation costs would be in addition to any future state or federal expenditure made pursuant to California EcoRestore, the state's effort to accelerate habitat restoration in the Delta, which is being developed in parallel with California WaterFix.

Consistent with the "beneficiary pays" principle, 55 percent of the costs associated with California WaterFix would be allocated to SWP Contractors, with the remainder allocated to CVP Contractors (55/45 split). For the SWP share, this project would be treated like any other major improvement to the SWP system. Under the California Water Code, DWR is responsible for construction, maintenance, and operation of the SWP, and for securing funding for SWP-related costs. As such, the SWP share of California WaterFix costs would be paid by SWP Contractors in accordance with their long-term water delivery contracts with DWR. With the exception of five north of Delta contractors that would not receive any direct benefit from California WaterFix, all SWP

Contractors would contribute toward the SWP share of project costs in proportion to their baseline Table A contract amount. Thus, Metropolitan's anticipated share of California WaterFix costs would be 25.9 percent (SWP's 55 percent share of total project costs multiplied by Metropolitan's 47.1 percent share of SWP costs).

DWR plans to issue a series of new bonds, California WaterFix Revenue Bonds, to finance the SWP share of capital costs which, based on the 55/45 split, would be approximately \$9.2 billion in 2017 dollars. Proceeds from the sale of these bonds would be used to fund construction, planning, and other preconstruction costs (including reimbursement of funds and services previously provided by various SWP and CVP Contractors), and to pay for various costs associated with bond issuance. However, since the marketability of California WaterFix Revenue Bonds may be affected by judicial challenges to the project, DWR proposes to sell these revenue bonds to a proposed Delta Conveyance Financing Joint Powers Authority (Finance JPA) comprised of certain SWP and CVP Contractors. DWR's direct sale of these revenue bonds is targeted for the middle of calendar year 2018.

With respect to Metropolitan, the anticipated cost impact varies principally based on the interest rate assumed for project financing. The peak annual increase in Metropolitan's costs is estimated to be between \$122 and \$196 per acre-foot of water sold by Metropolitan, based on fixed-interest finance rates ranging from four to eight percent. On an estimated per household basis across Metropolitan's service area, this represents an average monthly cost of \$1.90 to \$3.10. Metropolitan's annual cost increase due to California WaterFix over a 15-year ramp-up to the maximum yearly expenditure is expected to be between 0.9 and 1.4 percent, depending on the interest rate sensitivity analysis. Metropolitan previously estimated California WaterFix costs into its ten-year rate forecast and those projections remain appropriate. The ten-year forecast estimates annual overall rate increases for all anticipated Metropolitan expenditures, including California WaterFix, at 4.5 percent for 2019 through 2026.

Without a doubt, the investment in California WaterFix is a significant one. But it is in line with other projects of this size and scope. Indeed, on a per capita basis, the estimated cost of California WaterFix is significantly less than those of other more recent projects, such as the Coastal Branch of the California Aqueduct, Los Vaqueros Reservoir Expansion Project and the Hetch Hetchy Aqueduct Improvement Project. Moreover, California WaterFix is highly competitive with other alternatives, including recycled water and desalination, the average costs of which are three to four times higher on a dollar per acre-foot basis. And, of course, the cost of doing nothing is likely to be much greater.

Project Development and Outreach

California WaterFix is the product of decades of planning and analysis. A delta conveyance facility of one form or another has been planned since the 1960s, and efforts to address the problems in the Delta began in earnest with the release of the CALFED Bay-Delta Programmatic Record of Decision and Final Environmental Impact Report/Environmental Impact Statement in August 2000. This document outlined a 30-year joint effort by federal and state agencies to improve the Delta's ecosystem, water supply reliability, water quality, and levee stability. Referred to as the CALFED Bay-Delta Program or simply CALFED, the initial concept for conveyance was solely on a through-delta facility, with the understanding that this concept would be reassessed as studies and scientific information evolved.

In April 2006, a 10-Year Action Plan was issued for CALFED which, among other things, called for the program to be restructured and refocused. In particular, the 10-Year Action Plan noted that the question of whether to pursue alternatives to a through-delta conveyance facility needed to be answered in light of new concerns about the seismic stability of such a facility and its potential impacts on the Delta's ecosystem. The result was the creation of the Bay-Delta Conservation Plan (BDCP), a far-reaching plan aimed at addressing both Delta conveyance and ecosystem restoration in one fell swoop. In contrast to the through-Delta facility first proposed as part of CALFED, BDCP called for a dual conveyance system, with delivery facilities located both north and south of the Delta. In April 2015, the conveyance and ecosystem components of BDCP were separated into what we now know as California WaterFix and California EcoRestore.

So while the California WaterFix moniker may be relatively new, the dual conveyance concept embodied by it is not. Indeed, the conveyance facilities proposed under California WaterFix and its predecessor, BDCP, have been subjected to an unprecedented level of analyses, review and scrutiny for more than a decade. The environmental impact report/environmental impact statement (EIR/EIS) for this project was developed in collaboration with DWR, the United States Bureau of Reclamation (Bureau), state and federal fish and wildlife agencies, SWP and CVP Contractors, nongovernmental organizations, agricultural stakeholders, and the general public. More than 100 alternatives were initially considered, and 19 of these were analyzed in detail in the EIR/EIS, which is now over 50,000 pages in length.

Since 2008, over 600 briefings, public meetings, and workgroups have been held throughout California to provide critical information and solicit input on the project. In December 2013, DWR and Reclamation issued a Draft EIR/EIS for BDCP and provided a 228-day period for public comment. Approximately 18,500 comments were received on the draft. Based on public and agency comments and concerns, the project was revised to include the current California WaterFix proposal, and in July 2015 a Recirculated Draft EIR/Supplemental Draft EIS was released for a new 113-day public review period. Roughly 12,500 comments were received on these recirculated documents. In December 2016, DWR and Reclamation issued the Final EIR/EIS, and pursuant to NEPA, Reclamation provided a 30-day notice period. During this period, approximately 49,000 total pages of comment letters and attachments were received from stakeholders and members of the public.

Metropolitan staff has been intimately involved with and an integral part of this process, devoting numerous hours to ensuring that the proposed project would serve Metropolitan's interests and needs. Likewise, staff has endeavored to keep the Board apprised of the project's status and progress. Since 2006, staff has provided monthly updates at the CALFED/Bay-Delta Oversight Special Committee, Special Committee on Bay-Delta, and the Water Planning and Stewardship Committee. California WaterFix and its predecessors have been the subject of several Board retreats and in-depth workshops. In particular, on April 27, 2016, staff held a full-day workshop to review key aspects of California WaterFix and to solicit input and direction from Board members. More recently, staff presented three detailed white papers to the Board at joint meetings of the Special Committee on Bay-Delta and Water Planning and Stewardship Committee held in July and August, each of which focused on a different aspect of the project. And on September 26, staff plans to hold another comprehensive workshop on the project. Staff has also regularly updated the Member Agencies at the Member Agency Managers meetings.

Of course, it is up to each Board member to decide whether he or she has sufficient information regarding the potential costs and benefits of California WaterFix to justify moving forward with the project at this time. But, in staff's view, it does and it should. While there are still some uncertainties regarding how California WaterFix would be operated, those uncertainties would be addressed during implementation of the project and its associated adaptive management plan. Likewise, while certain assumptions have been made regarding which agencies would participate in California WaterFix and how its costs would be allocated among such participants, those assumptions provide both the framework for and the boundaries of the actions being recommended by staff. To that end, the Board's approval of the actions recommended below would not commit Metropolitan to going it alone on California WaterFix or represent an open-ended commitment to this project. Rather, it demonstrates Metropolitan's support for California WaterFix and its willingness to pay a fair share.

Project Consistency with Mission and Policies

Metropolitan's mission is to provide "adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way." For the reasons discussed above, staff believes that California WaterFix furthers this mission, as well as the various policies, principles, programs and plans the Board has adopted in support of it.

Over two decades ago, the Board adopted a set of policy principles for CALFED that formed the basis of the ones that guide us today. These principles included supporting a "comprehensive, long-term Bay-Delta management plan," establishing a balance between "Bay-Delta restoration and local resource and infrastructure development," and promoting "solutions that place costs with beneficiaries." Since then, the Board has taken a myriad of related actions, all with the intent of advancing an effective solution to the seemingly intractable problems facing the Delta.

In April 2006, the Board adopted a new, but similar, set of policy principles related to the long-term sustainability of the Delta. Those principles began with a Delta Mission Statement that read, “Metropolitan supports actions that promote an environmentally and economically sustainable Delta in a manner that: (1) ensures an adequate and reliable supply of high-quality water consistent with statewide integrated resource management practices, and (2) results in a fair and reasonable allocation of costs among all Bay-Delta watershed beneficiaries.” Consistent with this stated mission, these principles described four central themes and 13 strategic goals intended “to ensure a solid foundation for development of future Metropolitan positions and to provide guidance to Metropolitan staff” for actions related to the Delta.

A little over a year later, the Board adopted its Delta Action Plan, which provided a detailed framework for short-, mid- and long-term action plans aimed at stabilizing and maintaining the Delta until an ultimate solution could be selected and implemented. Though the focus was now on BDCP, the overarching goals and objectives remained the same. In particular, the Delta Action Plan noted that the long-term plan “must take a global, comprehensive approach to the fundamental issues and conflicts in the Delta to result in a truly sustainable Delta.” Accordingly, “if water supply is to be maintained, that water must be separated from Delta water through construction of an isolated facility either in or around the Delta” Likewise, “a complete Delta ecosystem restoration plan must address land use, growth, agriculture, water usage and conveyance, and the aquatic and land habitat of the Delta.”

Finally, in September 2007, the Board adopted the following criteria “to further clarify Metropolitan’s position on the water supply conveyance element of the long-term solution” for the Delta: (1) provide water supply reliability; (2) improve export water quality; (3) allow flexible pumping operations in a dynamic fishery environment; (4) enhance Delta ecosystem; (5) reduce seismic risks; and (6) reduce climate change risks. California WaterFix comports with these criteria and all of the policies discussed above.

Southern California’s plan for a reliable water supply future depends on a reliable SWP supply and conveyance system with the capability to move water into storage in wet periods and more flexibly to manage around fishery needs. Metropolitan’s 1996 Integrated Water Resources Plan (IRP) identified the risk and variability associated with future SWP supplies, accurately projecting declines in water supplies because of projected future regulatory restrictions on SWP operations. As a result, Metropolitan embarked on a diversified strategy of local supply development, conservation, storage, and transfers to reduce future reliance on imported supplies, particularly reduced SWP deliveries in dry years. Today, Metropolitan has more than 5.5 MAF of total storage capacity to help manage highly variable imported supplies.

However, much of the investment in local supply development, conservation, storage, and transfers identified in the 1996 IRP has already been made, and still more must be done to ensure that Metropolitan is able to meet the future supply demands of its Member Agencies and their constituents. Thus, ensuring reliable SWP supplies and flexible project operations remain key elements in the 2015 IRP Update. In this regard, the 2015 IRP Update found that under the “Do Nothing” case, Metropolitan’s service area would experience water shortages 33 percent of the time in 2035 and 58 percent of the time in 2040. In addition, the region’s dry-year storage reserves would be drawn down to critical levels (less than 1 MAF dry year supplies) 55 percent of the time in 2035 and 80 percent of the time in 2040.

In contrast, the 2015 IRP Update found that California WaterFix would have a significant positive impact on the total supply reliability for Metropolitan’s service area. Specifically, it estimates that the flexible operations enabled by these facility improvements would provide total average SWP and CVP deliveries of 4.9 MAF, with average SWP deliveries available to Metropolitan of 1.2 MAF starting in 2030. As a result, the likelihood of water shortages would be reduced to 4 percent in 2035 and 10 percent in 2040, and storage reserves also would improve, with reserves being drawn down to critical levels just 9 percent of the time in 2035 and 8 percent of the time in 2040. In short, California WaterFix advances the overall 2015 IRP Update strategy and leverages the investments Metropolitan has made over the past two decades to provide a reliable water supply for the future.

Board Actions Requested

The extensive planning process for California WaterFix has advanced to the point where it is time for Metropolitan and other water agency contractors to decide whether or not to move forward. Admittedly, there are still some issues that must be resolved. Chief among these are a final allocation of costs, benefits, and responsibilities among the SWP and CVP Contractors. However, these cannot be determined without first knowing who is “in.”

Since it is unknown at this juncture exactly which SWP and CVP Contractors will take action and participate in California Fix, the Board is only being asked to consider action consistent with Metropolitan assuming responsibility for 25.9 percent of the overall project costs. In other words, the Board’s decision will not result in Metropolitan being required to fund any more than its 25.9 percent share of California WaterFix or to subsidize other water contractors as part of this project. This sets clear parameters for Metropolitan participation that would not change absent further Board action.

For a typical SWP improvement project, no formal action would be required by Metropolitan or any other SWP contractor for DWR to proceed. But California WaterFix is not a typical SWP improvement project in several respects. It is of historic importance, and unlike a typical SWP improvement project, Metropolitan and certain other SWP and CVP Contractors will be taking an active role in the adaptive management, final design, construction, and financing of the project. And California WaterFix is proposed to benefit and be paid for not just by SWP Contractors, but also CVP Contractors. Because of these differences, action by the Metropolitan Board is sought. Specifically, staff requests that, in addition to adopting the CEQA determination, the Board take the following actions.

- First, staff is requesting that the Board express Metropolitan’s support for California WaterFix. Because of the unique nature of the California WaterFix, the State of California needs assurance of sufficient support among the SWP and CVP Contractors prior to proceeding to construction.
- Second, to facilitate Metropolitan’s involvement in the adaptive management, design and construction, and financing of the California WaterFix, staff is requesting that the Board authorize execution of certain Joint Powers Authority and other agreements having terms as described in this board letter. (See **Attachment 1** – Summary of Agreements, and **Attachment 2** – Term Sheets containing Proposed Agreement Summaries.) Specifically, staff is asking the Board to authorize the General Manager to execute two agreements related to the formation of joint powers authorities – one for design and construction and the other for financing of California WaterFix – and one agreement related to the implementation of an adaptive management plan for operations.
- Third, staff is requesting that the Board authorize the General Manager to, as a member of the Financing Joint Powers Authority, authorize the purchase of private placement bonds from the California Department of Water Resources and issue public bonds by the Financing Joint Powers Authority, consistent with Metropolitan’s share of 25.9 percent of the California WaterFix project costs, including an agreement to secure payment of Metropolitan’s share. To this end, staff is asking the Board to adopt the attached Resolution (**Attachment 3**), which sets forth in more detail the requested authorizations for Metropolitan’s participation in the financing and funding of the California WaterFix Project, including that Metropolitan’s financial participation in any financing of the Project shall not exceed 25.9 percent of the estimated total capital costs of the project.

If the Board and other public water agencies take actions that result in the project moving forward, there will be future actions that will have to come to the Board for authorization, including appropriating funds to continue design and other preconstruction activities until bonds are issued to reimburse Metropolitan and continue pre-construction, and ultimately construction work. In addition, any opportunities for Metropolitan to enter long-term Table A transfer or banking agreements with other SWP contractors would require subsequent Board action and independent CEQA review.

To summarize, if the Board approves participation in the project, and other water agency contractors participate at the levels assumed, only certain ancillary actions will come to the Board to implement Metropolitan's participation at 25.9 percent and keep the project moving forward on schedule. But if other water contractors decide not to participate in the project, staff will come back to the Board with options for supplementing any decisions based on the 25.9 percent participation level. Or recommend not participating in any project.

Policy

By Minute Item 50358, dated January 12, 2016, board adoption of the 2015 Integrated Resources Plan Update

By Minute Item 46637, dated April 11, 2006, the board adopted policy principles regarding long-term actions for the Sacramento-San Joaquin River Delta

By Minute Item 47135, dated June 12, 2007, board adopted the proposed Delta Action Plan

By Minute Item 47232, dated September 11, 2007, board adopted criteria for support of conveyance options in Implementation of a Long-term Delta Improvement Plan

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

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

Pursuant to the provisions of CEQA and the State CEQA Guidelines, DWR, acting as Lead Agency, prepared and processed a Final Environmental Impact Report (Final EIR) for the California WaterFix Project. The Final EIR was certified and the project was approved by the Lead Agency on July 21, 2017. DWR also adopted the Findings of Fact (Findings), the Statement of Overriding Considerations (SOC) and the Mitigation Monitoring and Reporting Program (MMRP), and filed a Notice of Determination (NOD). The Final EIR identifies Metropolitan as a responsible agency for actions related to the project.

The California WaterFix planning process started in 2006 and was initially proposed as the Bay-Delta Conservation Plan (BDCP), a Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) that included 22 conservation measures, with new Delta conveyance infrastructure identified as Conservation Measure 1. In December 2013, DWR, as the CEQA lead agency, and U.S. Bureau of Reclamation (Reclamation), U.S. Fish and Wildlife Service, and National Marine Fisheries Service, as the co-lead agencies under the National Environmental Policy Act (NEPA), released for public review a draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) to analyze the BDCP and 14 project alternatives as well as the no action alternative.

In 2015, in response to comments from the public and various natural resource agencies, DWR and USBR added three sub-alternatives to the project that would update the SWP Delta conveyance infrastructure without the large-scale conservation efforts that were included in the BDCP, and, in July 2015 released the BDCP/California WaterFix Partially Recirculated Draft EIR/Supplemental Draft EIS (RDEIR/SDEIS) for public comment.

The Proposed Final EIR/Final EIS was made available to the public on December 22, 2016, and includes DWR's responses to comments on the Draft EIR and RDEIR. Prior to certifying that the Final EIR complies with CEQA, DWR prepared a document titled Developments after Publication of the Proposed Final Environmental Impact Report (Developments), containing corrections to the December 2016 Proposed Final EIR, an assessment of public comments received after posting the Proposed Final EIR and other information received, a summary of the SWB Change Petition Hearing process along with additional evidence submitted in that proceeding that DWR considered, and a summary of the Federal Endangered Species Act section 7 consultation process and the California Endangered Species Act section 2081 incidental take permit process.

The December 2016 Proposed Final EIR, along with the Developments document, constitutes the Final EIR for purposes of CEQA, certified on July 21, 2017. The NOD, Final EIR, Findings, SOC, and MMRP can be found on the official DWR website at: <http://baydeltaconservationplan.com/NoticeofDetermination.aspx>.

Prior to adopting Option 1, it is recommended that Metropolitan, as a responsible agency under CEQA: Consider the Lead Agency's certified Final EIR and the impacts of the project as disclosed and analyzed in the Final EIR;

- Make certain Findings with respect to each potentially significant impact of the project;
- Adopt a SOC in view of potentially significant and unavoidable impacts; and
- Adopt the MMRP in view of Metropolitan funding its share of project costs, including the mitigation to be carried out by DWR or others.

Note that DWR, as the Lead Agency, is ultimately responsible for ensuring that feasible mitigation measures are implemented.

The CEQA determination is: Review and consider information provided in the Lead Agency's certified Final EIR, and adopt the Lead Agency's Findings, SOC, and MMRP for the California WaterFix Project.

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the Board has reviewed and considered BDCP/California WaterFix environmental documentation; adopt the lead agency's findings, SOC, and MMRP; and

- a. Express Metropolitan's support for California WaterFix and authorize participation in the construction of California WaterFix including payment of costs consistent with Metropolitan's 25.9 percent share of overall project costs;
- b. Authorize the General Manager to Execute the following agreements having terms as described in this board letter:
 - (i) Agreement for Implementation of an Adaptive Management Program for Project Operations (AMP Agreement);
 - (ii) Joint Powers Agreement Forming the Delta Conveyance Design and Construction Joint Powers Authority (Construction JPA Formation Agreement);
 - (iii) Joint Powers Agreement Forming the Delta Conveyance Financing Joint Powers Authority (Financing JPA Formation Agreement); and
- c. Adopt Resolution __ authorizing the General Manager to, as a member of the Financing Joint Powers Authority, authorize the purchase of private placement bonds from the California Department of Water Resources and issue public bonds by the Financing Joint Powers Authority, consistent with Metropolitan's share of 25.9 percent of the California WaterFix project costs, including an agreement to secure payment of Metropolitan's share.

Fiscal Impact: Present value costs (in 2017 dollars) would be Metropolitan's 25.9 percent share (\$4.3 billion) of the overall project costs (\$16.7 billion). Anticipated cost increases for California WaterFix have already been incorporated into Metropolitan's ten-year Financial Forecast and are included as part of the long-term projected average 4.5 percent rate increases.

Business Analysis: This option would achieve the goal in Metropolitan's IRP Update to ensure reliability of SWP supplies, to pursue a successful outcome with California WaterFix, and to establish dependable and stable long-term average water supplies of about 1.2 million or more acre-feet annually. This option also meets all of the Delta Conveyance Criteria adopted by the Board in 2007.

Option #2

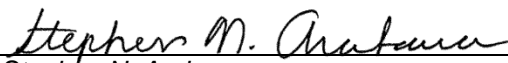
Do not consider the lead agency's environmental documentation and do not authorize additional activities related to BDCP/California WaterFix at this time.

Fiscal Impact: Developing additional local resources as an alternative to California WaterFix would be significantly more expensive and result in much higher average cost for households in the Metropolitan service area, i.e., by two or more times as much depending on whether the alternatives are recycled water or seawater desalination.

Business Analysis: This option would forego an opportunity to implement the Board's direction to stabilize SWP water supplies and to ensure completion of California WaterFix.

Staff Recommendation

Option #1



Stephen N. Arakawa
Manager, Bay-Delta Initiatives

9/21/2017
Date



Jeffrey Kightlinger
General Manager

9/21/2017
Date

Attachment 1 – Summary of Agreements

Attachment 2 – Term Sheets of Main Agreements

Attachment 3 – CDF Resolution

Ref# eo12651166

SUMMARY OF PROPOSED METROPOLITAN AGREEMENTS RELATED TO CALIFORNIA WATERFIX

| Proposed Agreement | Signatories | Summary of Basic Provisions |
|--|--|---|
| 1. Agreement for Implementation of an Adaptive Management Program for Project Operations | <ul style="list-style-type: none"> • DWR • CDFW • Various SWP and CVP water agencies, • Reclamation • USFWS • NMFS | Confirms the Parties' commitment to implementation of an Adaptive Management Program for the California Water Fix, clarifies the provisions related to Adaptive Management expressed in related documents and the processes the Parties intend to follow, and delineates responsibilities among the Parties in implementing the Adaptive Management Program |
| 2. Joint Powers Agreement Forming the Delta Conveyance Design and Construction Joint Powers Authority (Construction JPA Formation Agreement) | <ul style="list-style-type: none"> • Various SWP and CVP water agencies | Creates a new public entity separate from its members with the single purpose of designing and constructing the California WaterFix. |
| 3. Joint Powers Agreement Forming the Delta Conveyance Financing Joint Powers Authority (Financing JPA Formation Agreement) | <ul style="list-style-type: none"> • Various SWP and CVP water agencies | Creates a new public entity separate from its members with the single purpose of financing the design and construction of the California WaterFix. |

1.

**Major Terms of
Agreement for Implementation of an Adaptive Management Program for Project Operations
(AMP Agreement)**

1. Basic Provisions:
 - a. Confirms the Parties' commitment to implementation of an Adaptive Management Program for the California Water Fix, clarifies the provisions related to Adaptive Management expressed in related documents and the processes the Parties intend to follow, and delineates responsibilities among the Parties in implementing the Adaptive Management Program
 - b. Establishes an "Interagency Implementation Coordination Group" (IICG) with primary responsibility for coordination and implementation of the Adaptive Management Program.
2. Parties:
 - a. DWR
 - b. CDFW
 - c. Various SWP and CVP water agencies,
 - d. Reclamation
 - e. USFWS
 - f. NMFS
3. Scope: Components that are subject to the Adaptive Management Program:
 - a. Operation of CVP/SWP facilities within the Delta under
 - i. Biological Opinions and Permits existing prior to the Conveyance Facilities becoming operational
 - ii. new Biological Opinions and Permits for California WaterFix
 - b. Design and operations of fish facilities (including existing fish facilities and intake screens)
 - c. Habitat restoration and non-operational mitigation relative to in-Delta CVP/SWP operations under:
 - i. Biological Opinions and Permits existing prior to the Conveyance Facilities becoming operational
 - ii. new Biological Opinions and Permit for California WaterFix
 - d. Other CVP/SWP-related actions as agreed by the "Interagency Implementation Coordination Group"
 - e. Monitoring associated with all of the foregoing within the bounds of the Biological Opinions and Permits.

4. Time-scale of adaptive management changes
 - a. Applies to changes generally implemented on an annual or longer basis, not intended to apply to real-time operations.
5. Interagency Implementation Coordination Group (IICG)
 - a. The Interagency Implementation Coordination Group will have primary responsibility for coordination and implementation of the Adaptive Management Program.
 - b. Members will include a designee from each of USFWS, NMFS, CDFW, DWR, Reclamation, a CVP Contractor and a SWP Contractor.
 - c. DWR or Reclamation will retain an IICG Manager to assist with implementation of the Adaptive Management Program.
6. Decision-making:
 - a. Recommendations by the IICG shall be by consensus
 - b. In the event of a dispute, any member of the IICG may initiate a non-binding process for review within the IICG.
 - c. In the event that resolution of the dispute cannot be reached within the IICG, panel review of as part of the Long-term operations biological opinions annual review or a separate independent science review convened by the Delta Science Program.
 - d. The entity with final decision-making authority over the matter shall consider the panel opinions and provide a written response prior to final decision.
7. Reinitiation of Consultation or Permit Amendment
 - a. Agreement that any decision on the operational criteria will be based on the best scientific and commercial data available at that time, including data collected and analysis conducted through the Adaptive Management Program.
 - b. If data and analyses indicate that one or more of the water operations flow criteria should be changed, Reclamation will, if required, reinitiate consultation pursuant to Section 7 of the ESA and/or DWR will, if required, commence a permit amendment process under California law to modify the operating criteria, as appropriate.

2.

**Major Terms of Joint Powers Agreement Forming the Delta Conveyance Design and Construction
Joint Powers Authority
(Construction JPA Formation Agreement)**

1. Basic Provisions:
 - a. Creates Design-Construction Authority (DCA), a new public entity separate from its members with the single purpose of designing and constructing the conveyance project.
2. Parties/Membership:
 - a. Individual participating CVP and SWP contractors that elect to become member agencies.
 - b. Termination of Membership: Upon a finding that the Member is:
 - i. No longer possesses powers common to the other Members
 - ii. No longer willing to meet its obligations for the Conveyance Project.
3. Term:
 - a. Effective when member agencies execute the agreement and provide their respective shares of “stand-up” costs.
 - b. DCA will dissolve after DWR’s final acceptance of conveyance project.
4. Powers:
 - a. To exercise common and independent and supplementary powers necessary or to design and construct the conveyance project.
 - b. Government Code section 6509 agency for manner and methods of exercising powers to be [To Be Determined]
5. Governance:
 - a. 7-member Board of Directors consisting of:
 - i. MWD
 - ii. KCWA
 - iii. SCVWD
 - iv. SWP Contractor at Large, selected by otherwise non-represented SWP contractor members
 - v. [CVP Participant 1 TBD]
 - vi. [CVP Participant 2 TBD]
 - vii. [CVP Participant 3 TBD]

- b. Board members and officers:
 - i. A board member may be either an employee or a director of the member agency.
 - ii. Chair/Vice-chair of the board and committees of the board serve 2-year terms and rotate between SWP chair/CVP vice-chair and vice versa with each rotation. SCVWD can be considered both a CVP Contractor or a SWP Contractor for purposes of this provision, but cannot serve consecutive terms.
- c. Voting:
 - i. One member, one vote.
 - ii. All decisions must be by majority vote (4 out of 7), except that 70 percent (5 out of 7) needed:
 - 1. To endorse or otherwise support any legislation,
 - 2. For termination of membership
 - 3. For the issuance of notes or other forms of indebtedness, including entering into leases for real property or equipment.
- d. Board Committees:
 - i. There will be an Environmental Compliance and Mitigation Committee
 - ii. Other Committees or as needed
- e. Staff:
 - i. There shall be an Executive Director, Auditor, and Treasurer. Additional staff as determined by DCA.
 - ii. Executive Director shall be the chief administrative officer of the DCA and set the overall direction of the Conveyance Project's design and construction.
- f. Stand-Up Costs:
 - i. Stand-up costs are budgeted at [\$1,000,000] and shall be allocated proportionate to each member's participation in the project

3.
Major Terms of
Joint Powers Agreement Forming the Delta Conveyance Financing
Joint Powers Authority
(Financing JPA Formation Agreement)

1. Basic Provisions:
 - a. Creates Delta Conveyance Finance Authority (DCFA), a new public entity separate from its members with the single purpose of financing the design and construction of the conveyance project.
2. Parties/Membership:
 - a. Individual participating CVP and SWP contractors that elect to become member agencies.
3. Term:
 - a. Effective when member agencies execute the agreement.
 - b. Remains effective for 50 years or until such later date that all bonds and notes of the DCFA and interest have been paid in full, or provision for such payment has been made.
4. Powers:
 - a. To exercise common and independent and supplementary powers necessary to finance or assist in the financing of the design and construct the conveyance project.
 - b. To issue, sell, and deliver, bonds, refunding bonds, or notes.
 - c. Government Code section 6509 agency for manner and methods of exercising powers to be [To Be Determined].
5. Governance:
 - a. Board of Directors consisting of 1 director for each member.
 - b. A board member may be either an employee or a director of the member agency.
 - c. Officers: President, Vice-President, Treasurer/Auditor
 - d. JPA staff limited to ED, CFO, general counsel, outside auditor
 - e. Board will approve rolling three year schedule of when proceeds are needed from each operating committee and committees could modify from time to time.
 - f. Operating committees will be created for specific bond issuances of CVP/not including SCVWD side, State Water Contractor side bonds, and CVP/SCVWD respectively. Those operating committees will make all decisions with respect to bonds, refunding bonds, notes and other obligations, including but not limited to structuring of debt, terms of debt, security for debt, hiring of consultants, municipal advisors, underwriters, banks and bond counsel, disclosure counsel and other professionals.

- g. Members of the SWC Operating Committee will be selected from among the state water contractors and shall include MWD. Members of CVP Operating Committee will not include SCVWD.
 - h. The CVP/SCVWD Operating Committee shall consist of one member, representing SCVWD.
 - i. Voting:
 - i. For all decisions except those to be made by the Operating Committees, votes shall be by weighted vote based on amount of step-up guarantee pledged by each member.
 - j. Any decision by the DCFA with respect to accepting a transfer of CWF from DWR, designating an entity to operate the CWF if transferred to the DCFA by DWR or any decision by the DCFA or the designated entity in connection with the CWF, which could in the reasonable opinion of any member of the DCFA adversely affect water delivery capability, reduce project life, or significantly increase operations and maintenance costs shall require a supermajority vote.
6. Staff:
- a. The Board shall appoint an Executive Director
 - b. The Board may appoint other staff as it deems necessary.
7. Expenses of JPA
- a. Administrative Costs to be allocated by the JPA board among JPA members first based on the allocation between SWC and CVP (55/45) and then within those families, based upon capacity or Table A amounts, as applicable.
 - b. All other costs will be allocated by the SWP Operating Committee or CVP Operating Committee, as applicable, in accordance with policies, procedures and agreements applicable thereto.
8. Accounts and Reports:
- a. Treasurer/Auditor to require annual independent audit
9. If all SWP bond, refunding bonds, notes and other obligations incurred by SWP have been refunded by DWR or otherwise no longer outstanding, SWP members of JPA may terminate their membership in JPA.
10. If all CVP bond, refunding bonds, notes and other obligations incurred by CVP have been refunded or otherwise no longer outstanding, CVP members of JPA may terminate their membership in JPA.

**THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA**

RESOLUTION _____

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
AUTHORIZING DISTRICT'S FINANCIAL PARTICIPATION IN THE CALIFORNIA
WATERFIX
AND AUTHORIZING THE GENERAL MANAGER TO NEGOTIATE,
EXECUTE AND DELIVER VARIOUS FINANCING IMPLEMENTATION
AGREEMENTS AND RELATED DOCUMENTS**

The Board of Directors of The Metropolitan Water District of Southern California (the "Board") hereby finds that:

1. The California Department of Water Resources ("DWR") has proposed the construction of the California WaterFix, which consists of the construction of three new intakes on the east bank of the Sacramento River in the northern California Delta, tunnels connecting these intakes to a new, 30-acre intermediate forebay, and two 30-mile long tunnels carrying water from this forebay to a new pumping plant connected to an expanded and modified Clifton Court Forebay; and

2. Various participants in the California State Water Project and in the Central Valley Project (the "Project Participating Members") have proposed assisting DWR in the financing and construction of California WaterFix, among others, in the following ways (collectively, the "CWF Project Arrangements"):

- (a) The Project Participating Members have proposed forming a joint powers authority (the "Construction JPA") that would undertake the construction of the California WaterFix through a contract with DWR;
- (b) The Project Participating Members have proposed forming a joint powers authority (the "Financing JPA") that would facilitate the issuance of revenue bonds by DWR (the "DWR Bonds") through different actions, including (without limitation) through the issuance of bonds of its own (the "Financing JPA Bonds") directly or indirectly supported by the DWR Bonds; and
- (c) The Project Participating Members have proposed supporting the Financing JPA Bonds by protecting the purchasers of such bonds from the risk of nonpayment or invalidity of DWR Bonds through various agreements (any such agreement, a

“support agreement”), including, without limitation, in the form of debt service support agreements, or through the purchase by the Project Participating Members of DWR Bonds or other property through installment purchase agreements; and

3. The District’s participation allocation in the State Water Project under the State Water Contracts (determined by reference to Table A of such State Water Contracts) equals 47% of the state water contractor share of the project or 25.9% of the total project costs; and

4. The Board of Directors of the District desires to authorize the General Manager of the District to negotiate, execute, and deliver financing agreements and documents, in addition to the formation of the Financing JPA, to effect the District’s financial participation in the CWF Project Arrangements, consistent with the District’s Table A allocation; provided, however, the District’s direct financial participation in the CWF Project Arrangement shall not exceed 25.9% of the estimated overall \$16.7 billion total capital cost, in 2017 dollars, of the California WaterFix, said 25.9% amounting to \$4.3 billion in 2017 dollars (provided, however, that for all purposes of this Resolution and all of the limitations contained in this Resolution, any payments that the District would otherwise pay under its State Water Contract are not included in that participation);

NOW, THEREFORE, the Board of Directors (the “Board”) of The Metropolitan Water District of Southern California, DOES HEREBY RESOLVE, DETERMINE AND ORDER as follows:

1. Approval of the District’s Financial Participation in California WaterFix. Each of the above recitals is true and correct and is adopted by the Board. The Board hereby authorizes and approves the District’s participation in the financing of the California WaterFix, as set forth in more detail in this Resolution; provided that the District’s participation in any financing of the California WaterFix shall not exceed 25.9% of the \$16.7 billion estimated total capital costs of the project (\$4.3 billion in 2017 dollars).

2. Authorization of General Manager. The Board hereby authorizes the General Manager of the District, and any of the designees of the General Manager of the District, to do any and all things necessary or convenient in the best interests of the District to effect any financing of the California WaterFix through the Financing JPA (referred to herein as a “District Participation Action”) consistent with the CWF Project Arrangements, and to enter into any and all agreements and documents that the General Manager or his designee determines, in his or her sole discretion, to be necessary or convenient in the best interests of the District to carry out any District Participation Action, and to execute all papers, documents, certificates, agreements or other instruments that may be required in order to carry out any District Participation Action or to evidence said authority and its exercise; provided, however, that the District shall not make financial commitments to the California WaterFix in excess of \$4.3 billion in 2017 dollars, which amounts to 25.9% of the estimated \$16.7 billion in total capital costs of the California WaterFix. The term of bonds issued for the project shall not exceed 40 years and the total interest cost on debt issued will not exceed 8%. In implementing these actions, the General Manager of the District shall be authorized to use such reasonable assumptions, methods, approaches and calculations that it believes, in good faith, to be consistent with the authorizations herein and necessary to the implementation of the matters provided for in this Resolution.

3. Severability. If any provision of this Resolution is held invalid, that invalidity shall not affect other provisions of this Resolution which can be given effect without the invalid portion or application, and to that end the provisions of this Resolution are severable.

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of a Resolution adopted by the affirmative votes of members representing more than 50 percent of the total number of votes of all members of the Board of Directors of The Metropolitan Water District of Southern California at its meeting held on October 10, 2017.

Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

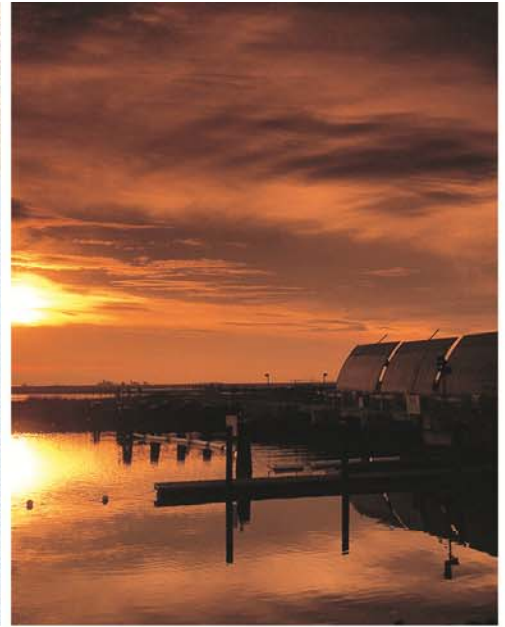


MODERNIZING THE SYSTEM: CALIFORNIA WATERFIX
INFRASTRUCTURE . OPERATIONS . FINANCE AND COST ALLOCATION



A California WaterFix Dialogue: QUESTIONS AND ANSWERS

SEPTEMBER 2017



MODERNIZING THE SYSTEM: CALIFORNIA WATERFIX
INFRASTRUCTURE . OPERATIONS . FINANCE AND COST ALLOCATION

A California WaterFix Dialogue:
QUESTIONS AND ANSWERS

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INTRODUCTION

For more than a decade, Metropolitan and other public water agencies throughout California have been working toward a solution to address problems in the Sacramento-San Joaquin Delta that are reducing the reliability of water deliveries and contributing to a declining ecosystem. About one-third of the water that flows out of taps in Southern California comes from Northern California watersheds. Reliance on these supplies will continue even as our region makes advances in conservation and build new local supplies.

California WaterFix is the product of rigorous review, planning, scientific and environmental analysis and unprecedented public comment, including:

- Significant planning work for the design and construction of the project to address public comment about impacts to Delta communities and providing appropriate risk management strategies.
- Extensive analysis by water and wildlife agencies for conveyance system improvements and an operations framework that will improve water supply reliability, enhance fishery habitat and address climate change impacts.
- Development of project costs, cost allocation information and financing approaches.

Over the past several months, Metropolitan staff has provided detailed information on these and other issues in a series of policy white papers and other outreach materials, and made more than 100 presentations to elected officials, community leaders, businesses, water agencies and other organizations who have an important voice in the water policies and decisions that affect them. That essential public dialogue has included significant discussion, questions and responses about California WaterFix, its operations, construction, benefits and costs.

This document includes many of the most commonly asked questions about the project with responses from Metropolitan staff who are subject matter experts on a wide range of water management and planning, system operations, Delta science, construction, financing, and other related issues. These questions are organized into the following sections:

- Benefit Analysis and Assumptions
- Cost/Cost-Effectiveness
- Environmental Stewardship/Sustainability
- Equity
- Governance/Implementation
- Investment in Local Resources
- Uncertainties
- Other
- Comparison of Economic Studies



California WaterFix Benefit Analysis and Assumptions

What are the benefits of the California WaterFix?

Recognizing the significance of the State Water Project (SWP) supply, and the need to modernize the state's conveyance system, Metropolitan's Board of Directors adopted the Delta Action Plan and Delta Conveyance Criteria in June 2007 and September 2007, respectively. As explained in the second White Paper, "Modernizing the System: California WaterFix Operations," the operational aspects of California WaterFix meet the board's adopted Delta Conveyance Criteria by providing water supply reliability and improved water quality in an environmentally responsible manner.

Table 5 of White Paper 2 summarizes the benefits to Metropolitan:

TABLE 5: DELTA CONVEYANCE CRITERIA

| Board-Adopted Delta Conveyance Criteria | California WaterFix |
|--|--|
| Enhance Ecosystem Fishery Habitat Throughout Delta | <ul style="list-style-type: none">Provides extensive restoration of tidal marshes and channel margin habitat. |
| Allow Flexible Pumping Operations in a Dynamic Fishery Environment | <ul style="list-style-type: none">Three new intakes in the northern Delta, along with the existing State Water Project intake in southern Delta, create the necessary flexibility to avoid conflicts between different fishery needs.The ability to manage the system using north and south Delta diversion locations, allow for improved flow patterns in the Delta to benefit fish during fish sensitive times. |
| Provide Water Supply Reliability | <ul style="list-style-type: none">The California WaterFix proposal is consistent with Metropolitan's IRP. |
| Improve Export Water Quality | <ul style="list-style-type: none">Water quality from new northern Delta intakes is improved; salinity, for example, is improved approximately 20 percent. |
| Reduce Seismic Risks | <ul style="list-style-type: none">Twin tunnels to convey water from northern Delta would protect future critical supply needs from natural disasters. |
| Reduce Climate Change Risks | <ul style="list-style-type: none">Intakes in northern Delta are upstream of predicted long-term salinity intrusion due to climate change. |



California WaterFix Benefit Analysis and Assumptions

Do costs follow benefits and “beneficiary pays” principle? What is the basis for the 45/55 CVP/SWP cost split?

As explained in the third White Paper, “Modernizing the System: California WaterFix Finance and Cost Allocation,” the costs of California WaterFix follow water supply benefits and the beneficiary pays principle. For the SWP 55 percent share of costs, California WaterFix would be treated like any other major improvement to the SWP system. Under the California Water Code, the Department of Water Resources (DWR) is responsible for the construction, maintenance, and operation of the SWP and for securing funding for related costs. The SWP share of California WaterFix costs would be paid by the SWP contractors in accordance with the long-term DWR State Water contracts.

SWP contractors must make fixed cost payments regardless of the amount of SWP water actually received. The State Water Contracts require payments to DWR in return for participation in the SWP storage and conveyance system. All SWP contractors must make payments according to their respective Table A contract amounts and for the portion of the SWP conveyance system needed to deliver their contracted water. The cost of power to deliver water varies with the amount of water delivered.

Therefore, each SWP contractor’s share of the costs of the SWP, including California WaterFix, are in proportion to their respective participation rights, the beneficiaries pay for their proportionate share of the new infrastructure.

With respect to the Central Valley Project (CVP) 45 percent share of costs, CVP contractors who commit to paying their respective shares of the cost will receive proportionate benefits, consistent with the beneficiary pays principle.

The CVP/SWP split is based on the historic water split in deliveries between the two projects, which in general has been approximately 45 percent CVP and 55 percent SWP. San Luis Reservoir is also split 45 percent CVP and 55 percent SWP.

What is the basis for Metropolitan’s estimate of water supply benefits of California WaterFix? Why don’t Metropolitan and other public agencies use the CEQA water yield baseline to estimate water supply benefits of California WaterFix?

In order to reasonably estimate what future water yields with and without California Water Fix would be, Metropolitan started with DWR’s modeling of future conditions and regulations with California WaterFix as modeled for the EIR/EIS. It then compared future water yield with modeling of the identical set of conditions but without California WaterFix. This is an appropriate comparison because it assumes consistent future conditions with and without California WaterFix. This modeling was also published by DWR in its 2015 Delivery Capability Report. It is reasonable to use the same modeling of anticipated future SWP reliability that DWR published in its 2015 Delivery Capability Report, which are the same modeled future conditions Metropolitan relied on in its 2015 Update to the IRP.



California WaterFix Benefit Analysis and Assumptions

Consistent with the state's CEQA Guidelines, DWR as the lead agency evaluated the potentially significant environmental impacts of California WaterFix with reference to the existing conditions baseline, which includes regulations that were in place at the time it issued the Notice of Preparation for the Environmental Impact Report in February 2009, along with regulations in the NMFS biological opinion that became operative shortly thereafter. This makes the CEQA existing conditions environmental baseline an inappropriate basis of comparison with regard to comparing future SWP water supplies with and without California WaterFix because the underlying conditions and regulations do not allow for an apples-to-apples comparison of future SWP water supplies with and without California WaterFix.

What percentage of export water flow is diverted at the northern intake? Will that reduce the amount of water flowing out of the Delta? Will this result in greater salinity intrusion into the Delta?

Operating criteria for California WaterFix will define the amount of water that can be diverted from the northern intakes based on a number of different conditions. Chief among these are what is known as by-pass flow criteria, which restrict diversions at lower Sacramento River flows but allow for greater diversions as river flows increase. Thus, during low river flow conditions, the percentage of export water diverted from the northern intakes will generally be lower than from the south, and during high river flows, the percentage from the north will generally be higher than from the south. On a long-term average basis, the split between north and south diversions is expected to be roughly 50/50. For the average of wet years, the amount from the northern intakes will be closer to 60 percent. For dry and critical years the average from the northern intakes will be closer to 30 percent.

Water diverted from the northern intakes will obviously reduce water flowing in the Sacramento River, but it will not necessarily reduce the amount of water flowing out of the Delta, and thus will not have an appreciable effect on seawater salinity intrusion. The total water flowing through the Delta will meet all applicable existing and new regulatory requirements to protect beneficial uses, including fish and wildlife, Delta agriculture, and in-Delta municipal and industrial uses. Compliance with D-1641 salinity standards is a requirement of the SWP and CVP water rights permits.

Does the project require new storage to be effective?

The modeling analysis shows that California WaterFix is effective in improving the operations and yield of the SWP without assuming any new storage. With California WaterFix, Metropolitan will be able to better utilize its historic investment in its groundwater and surface storage. Additional system storage elsewhere in the state, e.g., Sites Reservoir, would further increase the benefit of California WaterFix.



California WaterFix Benefit Analysis and Assumptions

Do the final biological opinions make a difference to the analysis of the potential water yield?

No. The “Modernizing the System: California WaterFix Operations” White Paper was informed by the Recirculated and Final EIR/S, revised biological assessment, and biological opinions. The biological assessment was amended earlier this year but those edits did not change the modeling approach or water supply results reported in the Final EIR/S. The biological opinions analyzed the project described in the amended biological assessment and did not change the proposed initial California WaterFix operation

Can the SWP Contractors opt out of their shares? If Metropolitan will pick up transferred shares from others, how will those be paid? Will Metropolitan have to guarantee to accept transfer or purchase of unwanted allocations in order to finance the project?

While all SWP contractors south of the Delta would participate in California WaterFix, some contractors may wish to balance the increased reliability of the project against its increased costs. This would be accomplished by adjusting their contractual rights to Table A water through voluntary agreements with other SWP contractors, consistent with the tools and flexibility available under the existing SWP long-term contracts. The mechanisms being explored include permanent Table A transfers, multi-year transfers, and water banking. Payment would be on terms as negotiated by the SWP contractor parties. While staff has been engaged in constructive discussions with other SWP Contractors to explore such options, no authorization to enter into a transfer or banking agreement is being requested at this time. Metropolitan’s Board is being asked only to consider its action consistent with Metropolitan’s 25.9 percent share of overall project costs.

Why are the California WaterFix benefits different in the 2015 IRP and the 2015 UWMP?

The long term projected deliveries from the SWP with the California WaterFix are identical in both the IRP and the UWMP, 1.213 million- acre-feet on average.

The difference in the reports comes from what is reported as additional water supply due to California WaterFix. In the 2015 IRP it was assumed that, with no action to address long-term flow and fisheries issues through a long-term commitment to California WaterFix, more stringent flow regulations would be established for fishery protection resulting in SWP supplies of 837,000 acre-feet on average between 2020 and 2030. In 2030, the difference between this condition and with California WaterFix was shown as 376,000 acre-feet. In the 2015 UWMP, it was assumed that adaptive management and collaborative science actions would be established prior to the implementation of California WaterFix resulting in less stringent flow regulations resulting in SWP supplies of 984,000 acre-feet on average. In 2030, the difference between this condition and with California WaterFix is 229,000 acre-feet. The 2015 UWMP shows a total of 248,000 acre-feet of Delta Improvements in 2030, this number includes 19,000 acre-feet of improvement in Desert Water Agency and Coachella Valley Water District supplies in addition to the 229,000 acre-feet described above.



California WaterFix Benefit Analysis and Assumptions

What assumptions are being made by Metropolitan in calculating the cost impacts to member agencies?

Cost analysis on California WaterFix has been provided with all costs (capital, O&M, and mitigation). In the analysis, costs are assumed to be recovered through the volumetric water rate with a total sales assumption of 1.7 MAF. None of the costs were estimated as being recovered through fixed charges like property taxes. Member agency impacts from the cost of California WaterFix are thus dependent on their total consumption of Metropolitan services. Household impacts shown by Metropolitan were estimated by spreading the residential proportion of the total cost over the current number of households in the service area. Actual household impacts will be a function of the particular household's water use and the proportion of services that their retail water purveyors purchase from Metropolitan.

Note that the Department of Water Resources has not yet determined what proportion of the facilities will be classified as Conservation and Transportation within the SWP system.

On slide 30 of "Modernizing the System: California Water Fix Operations" White Paper, in estimating the water supply benefit, does the analysis assume that the north Delta diversions are always operated at full capacity of 9,000 cfs?

No. The modeling analysis is based on a range of hydrologic conditions that includes river flows. In turn, the river flows dictate the amount that would be diverted from the north Delta intakes, ranging from 0 to 9,000 cfs. Thus, there is no explicit assumption that river flows and operations operate at the upper end of its range in order to generate the modeled results that have been shown.

Are the assumed operations modeled out to 2040 to correspond with the IRP?

The IRP modeling projections through year 2040 use DWR modeling of SWP supplies that incorporate future climate change, population, and land use conditions. For the California WaterFix Biological Assessment, DWR developed modeling studies that reflect 2030 conditions. These studies are used to represent future conditions in the early long-term time period.

Can we meet the water quality goal of 500 TDS without a reliable SWP supply?

Metropolitan currently meets its regional water quality salinity goal of 500 total dissolved solids (TDS) by blending lower salinity State Water Project supplies with the higher salinity Colorado River Aqueduct supplies. To meet these blending goals, on average Metropolitan needs about 950,000 acre-feet of SWP supplies. Without the water supply reliability improvements provided by the California WaterFix, Metropolitan will be less likely to meet this salinity goal.



California WaterFix Cost/Cost-Effectiveness

Why are there so many different cost estimates? Which one is right?

The cost estimates for the project were developed by industry professionals after a rigorous review process. DWR used the most conservative estimate for project planning purposes (i.e., the highest cost estimate). This amount was adopted in 2014 by DWR and was later updated to 2017 dollars for ease of consideration. These estimates were summarized in the Modernizing the System: California WaterFix Finance and Cost Allocation white paper as follows:

| Capital | State's Estimate (2014 \$) | 2017 \$ ¹ |
|----------------------|-------------------------------|----------------------|
| Conveyance Facility | \$14.9B | \$16.3B |
| Mitigation | \$.4B | \$.4B |
| Total Capital | \$15.3B | \$16.7B |

| O & M | 2014 \$ | 2017 \$ |
|----------------------------------|--------------------|--------------------|
| Conveyance Facility ² | \$40.3M | \$44.1M |
| Mitigation | \$18.6M | \$20.3M |
| Total O&M (Annual) | \$58.9 M/YR | \$64.4 M/YR |

1. Based on annual escalation rate of 3 percent
2. When project is fully operational

What changed from the 2013 estimated household impact of \$5 per month to current estimates?

The 2013 estimated impact of the California WaterFix was based on similar capital and O&M costs but was based on a capital financing rate of 6.135%, a Metropolitan project share of between 25 percent and 30 percent and household water use of 20 hundred cubic feet. This resulted in an average household impact from \$3 to \$4 per month which was rounded up to \$5, as a conservative estimate.

The current estimate assumes capital financing rates of between 4 percent and 8 percent and a Metropolitan project share of 25.9 percent. Also the average household water use of 20 hundred cubic feet was a high assumption for household consumption. As such, the average household impact calculation has been revised and is now based on the number of households in the service area (see details on page 14 of California WaterFix "Modernizing the System: Financing/Cost Allocation" White Paper). The current estimated average household impact for the California WaterFix is \$2 to \$3 per month.

Do the water user and household costs include the financing costs, interest rates and potential cost overruns?

Yes. The cost estimates include all financing costs (principle and interest) and include contingencies to cover cost adjustments (36 percent on the water facility, 20 percent on land acquisition and 35 percent on the cost of environmental mitigation).



I'm hearing different estimates of project costs in the media and the internet. What's the cost of California WaterFix?

The overall costs for California WaterFix's proposed infrastructure improvements and environmental mitigation are described in the "Modernizing the System: California WaterFix Infrastructure" White Paper. These materials are drawn from cost estimates developed by DWR and rigorously analyzed by industry professionals.

These cost estimates reflect a significant engineering analysis that formulates and defines the design criteria for each major component of California WaterFix, resulting in the optimal alignment and other features. Based on these estimates, California WaterFix's capital costs are estimated to total \$14.9 billion in 2014 dollars. For White Paper 3, the cost estimates have been converted to 2017 dollars based on an annual escalation rate of 3 percent. In 2017 dollars, the capital cost for California WaterFix is estimated to be \$16.3 billion, excluding mitigation costs.

Will funding California WaterFix preclude Metropolitan and its member agencies from investing in the kinds of local water supply actions identified in the IRP and Metropolitan's and its member agencies' UWMPs?

The IRP has been and will continue to be a diversified and comprehensive approach to developing regional water supply reliability. Metropolitan, its member agencies and local agencies have made historic regional investments in conservation and local resources developments since the inaugural IRP in 1996, all while making multi-billion dollar regional investments in Metropolitan's storage portfolio, treatment and distribution system. California WaterFix is part of the overall regional strategy of stabilizing imported supplies and building increased water use efficiency and local supplies, and investments will continue to be pursued in each of the specified areas.

When do the costs for California WaterFix start showing up in the water bill?

If California WaterFix is approved by Metropolitan's Board and other public water agencies and the project starts in 2019, the costs for the California WaterFix will be incorporated in Metropolitan's rates and charges as soon as 2019. The initial impact will be very small and the full impact of the project will ramp up slowly and peak around 2033, when the project is completed and fully operational.

California WaterFix costs make up what percent of Metropolitan's 4.5 percent projected annual expected rate increase?

Metropolitan's Ten-Year Financial Forecast, produced as part of the fiscal year 2016/17 and 2017/18 Biennial Budget, estimated annual rate increases of 4.5 percent for 2019 through 2026, which included cost estimates for California WaterFix. The California WaterFix makes up 1 percent to 2 percent of the annual increases.



Where did the \$67 billion figure come from?

The San Jose Mercury News reported in December 2013 that a staff member of the Westlands Water District and a Citigroup bond consultant told the Westlands board that including long-term financing, the project would cost between \$51 billion and \$67 billion. The Westlands presentation looked at three scenarios. Each considered bonds issued for 30 years at 5 percent interest. They pegged the cost to build the tunnels at \$18 billion, and overall cost with financing at \$42 billion to \$58 billion. With the \$9 billion more in wetlands restoration, monitoring, and other costs included, the grand total is \$51 billion to \$67 billion.

These high cost scenarios are the result of using a costly financing technique called capitalized interest. When interest is capitalized, no interest payments are made but instead the interest charges are added to the principal balance of the loan. Due to the very long fifteen year construction period of California WaterFix capitalizing interest can substantially increase the cost of the project. As such, Metropolitan does not support capitalizing interest. Metropolitan's estimates for California WaterFix are based on financing with traditional, level annual debt service with no interest or principal deferment during construction.

What are the impacts when financing capital with 30-year term bonds?

Metropolitan's base case estimate for California WaterFix is based on financing with 40-year fixed rate bonds at an interest rate of 4 percent. When the project is fully operational this results in a Metropolitan cost impact of 13 percent and an average household impact within Metropolitan's service area of \$1.90 per month. See White Paper #3 for full details.

If however the project was financed with 30-year fixed rate bonds at an interest rate of 4 percent, Metropolitan's cost impact would increase to 15 percent and the average household impact would increase to \$2.20 per month.

What is included in the capital cost estimate? Do DWR's California WaterFix cost estimates include the cost of CCWD settlement or additional tidal marsh required in the biological opinions?

The capital cost estimate includes facility construction; program management, construction management and engineering; land acquisition; mitigation; and contingencies. Contingency as a percent of construction was established at 36 percent, which is appropriate for the level of design completed for the California WaterFix to date. Contingency as a percent of environmental mitigation was established at 35 percent. The cost of the CCWD settlement, as well as other future settlements or such things as additional, unanticipated costs of tidal marsh habitat or other additional mitigation requirements are covered within the overall contingencies contingency.



Is investment in local resources more cost effective than California WaterFix?

Developing new local supplies is an essential part of Metropolitan's IRP and local supplies benefit by the lower salinity water that the SWP provides as compared to imported Colorado River supplies.

New local supplies are expected to be much more costly to develop than California WaterFix. There is no savings if Metropolitan does not invest in California WaterFix. Instead, to meet the region's reliability goals, the region would need to spend two to three times more, based on our analysis of existing local supply projects and those that have been evaluated to date.

In addition, local water supplies are not immune from future risks and uncertainty, including changing hydrology and regulatory and permitting constraints.

The Operations White Paper and the Finance and Cost Allocation White Paper collectively showed the range of costs for an approximate 25.9 percent share of the costs and total water supply from a system with California WaterFix. Surveyed information from the 2015 IRP Update from the member agencies showed that the ranges of cost to develop specifically identified future projects in distributed storm water capture, recycled water and seawater desalination are two or more times the cost of California WaterFix (annual and per household). In addition, the investment in California WaterFix will make continued investment in local supplies more viable. The State Water Project with California WaterFix will play a role in sustaining the groundwater supplies of southern California through the replenishment and recharge of higher quality and more reliable water supply. The higher quality imported water also enables blending with Colorado River supplies to enable more efficient reuse of water through recycled water projects as it is easier to treat and allows for multiple treatments than more highly saline supplies.

Will the project disproportionately impact fixed-income and low-income households?

No. California WaterFix is favorable for fixed- and low-income households.

First, California WaterFix is more cost-effective than other local supply alternatives. A comparison of household impacts showed that California WaterFix would add \$2 to \$3 per household per month in the service area. Providing a similar level of water supply reliability with recycled water or seawater desalination would add \$5 to \$7 per month to those same households, thus California WaterFix will result in a savings of \$3 to \$5 per household per month.

Second, California WaterFix will help sustain the agricultural industry in California, resulting in more stable food prices in the future.

Third, California WaterFix will help to sustain and grow California's economic base. A reliable water supply is tied to a thriving economy and a thriving economy provides jobs and economic welfare to the state.



California WaterFix Environmental Stewardship/Sustainability

Instead of building a twin-tunnel California WaterFix project, would it be better to engage in a scaled-down project?

The California WaterFix is already a scaled-down project relative to the original design, and has been sized in a manner intended to meet regulatory requirements, including the ESA and CESA. The EIR/EIS evaluated even smaller-scale conveyance alternatives consisting of only one 3,000 cfs intake. Under this alternative, the limited ability to divert water in the north Delta would be greatly reduced and approximately 75 percent of Delta exports on a long-term average basis would continue to be diverted from the south Delta intakes. This level of dependence on south Delta intakes would greatly reduce operational flexibility and reliability, and reduce the ecological benefits of the project. Continued heavy reliance on the south Delta pumps would also leave the SWP more vulnerable in the event of levee failures from a seismic event, and less able to adapt to the effects of climate change.

How will environmental mitigation be funded and implemented?

Environmental mitigation required for California WaterFix will be funded by the public water agencies along with all other capital, operations and maintenance project costs, and is already included in the cost estimate. The cost estimate for environmental mitigation includes a 35 percent contingency.

Environmental mitigation for temporary and permanent impacts of construction impacts will be implemented in step with construction impacts, consistent with DWR's mitigation monitoring and reporting program (MMRP) and the requirements of the biological opinions and California Endangered Species Act incidental take permit. While DWR is ultimately responsible for ensuring implementation of the MMRP, the Delta Conveyance Design and Construction Joint Powers Authority (DCA) will be responsible for planning, land and conservation easement acquisition, and implementation, monitoring and reporting of mitigation measures during construction. After the DCA sunsets after construction and commissioning is completed, DWR, as the owner/operator, will be responsible for ensuring that any remaining monitoring and reporting requirements are met.

How does California WaterFix fit in with California EcoRestore?

California WaterFix and California EcoRestore are parallel state efforts intended to complement one another, and together advance the state's coequal goals for the Delta of reliable water supplies and restoration, enhancement and protection of the Delta ecosystem. Governor Brown has affirmed the state's commitment to furthering large-scale habitat restoration in the Delta in a separate program called California EcoRestore. While DWR is responsible for implementing California WaterFix, and that project includes habitat restoration as mitigation for construction and operational impacts, California Natural Resources Agency is tasked with implementing California EcoRestore in coordination with state and federal agencies to advance the restoration of at least 30,000 acres of habitat by 2020, including specific goals for restoration or enhancement of tidal wetlands, floodplain, upland, riparian, and fish passage improvements to benefit native species that spend all or part of their life cycles in the Delta.



California WaterFix Environmental Stewardship/Sustainability

More details on the relationship between California WaterFix, California EcoRestore, and other programs to advance environmental restoration in the Delta watershed is available at pages 19-21 of the “Modernizing the System: California WaterFix Operations” White Paper.

Why aren't the California WaterFix northern intake diversion criteria linear with respect to diversion amounts and Sacramento flow?

The bypass flow criteria controlling the operation of the North Delta Diversion ensure that Sacramento River flows remain at levels that are protective of the fisheries. The criteria vary by time of year and the status of the river flows with regard to monitored “pulse” flows. The bypass flow criteria are designed to be appropriately protective of the fishery needs and thus are not linear with regard to Sacramento River flow.

How will the project impact Greenhouse Gas emissions?

Construction-related GHG emissions will be net zero, meaning emissions will be reduced to the maximum extent feasible and any remaining emissions from the project will be offset elsewhere by emissions reductions of equal amount. This is an enforceable commitment and is included in DWR’s adopted Mitigation Monitoring and Reporting Program, and will be achieved in consultation with the relevant regional air quality districts, the U.S. Environmental Protection Agency, and the California Energy Commission.

While operations would increase GHG emissions from the SWP, the Final EIR determined that operational GHG impacts will be less than significant. DWR has adopted a Climate Action Plan (CAP), which calls for a reduction of GHG emissions to 50 percent of 1990 levels by 2020 and to 80 percent of 1990 levels by 2050. The implementation of California WaterFix would not affect achievement of these goals.

What is the real purpose of Metropolitan’s purchase of the Delta islands? Is it to be used on EcoRestore? If so, will the dollars spent on the purchase of the islands counts towards the Metropolitan contribution on the California WaterFix? Who else is paying for EcoRestore?

Metropolitan’s Board approved the purchase agreement for these lands to assist in improving Metropolitan’s SWP supply reliability, ensure continued high quality supplies, and enhance long-term ecosystem stability in the Delta.

These values are consistent with the state’s co-equal goals of an enhance Delta ecosystem and reliable water supply for California.



These lands could also provide future opportunities to reduce subsidence through carbon sequestration, develop food and shelter (i.e., tidal wetlands) for migrating salmon and delta smelt, strengthen levees against flooding and earthquakes along the fresh water corridor, and support state efforts in the proposed California WaterFix.

Metropolitan would be compensated for lands that are needed for the project, including lands for temporary construction areas or permanent facility sites or for mitigation areas.

Funding for habitat enhancements unassociated with California WaterFix mitigation will come primarily from Propositions 1 and 1E, AB 32 Greenhouse Gas Reduction Fund, and local, federal, and private investment. Funding used for developing projects to meet regulatory compliance responsibilities for California WaterFix and for the SWP/CVP in general, will come from state and federal water users.

How will the project benefit listed fish species?

As explained in the second White Paper, “Modernizing the System: California WaterFix Operations,” the environmental benefits of California WaterFix for listed fish species include reduced south Delta pumping, providing a more natural upstream-to-downstream flow pattern during periods important for fishery protection and less direct fish entrainment in the south Delta diversion facilities.

The California WaterFix biological opinions and the EIR/EIS incorporate a variety of measures designed to mitigate potential construction and operation impacts, and to enhance environmental conditions in the Delta, including habitat restoration, protection, enhancement, and management activities.

Are there any adverse impacts to listed fish species?

There are localized impacts on listed species, but overall, the project will have less than significant impacts on all listed fish species, and the fish agencies have concluded that the project will not jeopardize listed species and will meet the fully mitigated requirements of the California Endangered Species Act.

Would the tunnels increase the amount of energy used to transport water?

The tunnels can operate up to half capacity under certain river conditions with full gravity flow, requiring no additional energy. When there is a need for the tunnels to divert higher flows at the north intakes, there will be some increase in energy needed to convey the water south to the pump facilities.



California WaterFix Equity

Will urban and municipal water districts end up subsidizing the costs of agricultural users in the California WaterFix project?

No. The option being presented for board action assumes the SWP/CVP cost share of 55/45 percent, with Metropolitan's share of total costs at 25.9 percent. Metropolitan would not be committed to paying any more than its 25.9 percent share, and would not subsidize any other water contractor's share of project costs.

Can California WaterFix be funded? What if the federal water contractors don't fully participate? How many SWP/CVP agencies/members are needed to make the California WaterFix financially work?

California WaterFix funding was addressed in "Modernizing the System: California WaterFix Finance and Cost Allocation" White Paper. Metropolitan's share of funding is 25.9 percent share of overall project costs based on the assumption that the other public water agencies also decide to participate in the project. With respect to participation by the CVP contractors, or other SWP contractors, it is important to note that Metropolitan's Board will be asked only to consider its action consistent with Metropolitan's 25.9 percent share of overall project costs. In other words, Metropolitan's decision will not result in Metropolitan being required to fund more than its 25.9 percent share, nor will it authorize the general manager to commit Metropolitan to funding continued design and other pre-construction work. If other public water agencies decide not to participate in the project, staff will come back to the board with options for consideration.

Staff's analysis is on the current allocation of costs between CVP/SWP, and Metropolitan assuming a total of 25.9% of costs and benefits.



California WaterFix Governance/Implementation

What is a joint exercise of powers authority and why is one being used to construct the California WaterFix?

A joint powers authority (JPA) enables two or more public agencies to enter a contract to jointly exercise any powers common to the individual agencies to achieve a specified purpose. While the JPA agreement need not establish a new public entity separate from its members, such agreements often do. As public agencies, JPAs are subject to California's open meeting laws and Public Records Act requirements, and they must meet strict financial accountability requirements and provide for regular audits, among other things, in compliance with the California Joint Exercise of Powers Act. JPAs are often formed to carry out a variety of public functions, including construction and operation of regional airports, transit (e.g., highways, commuter rail service, subways, etc.), parks and open space, water supply, and fire protection, to name a few.

Forming a Delta Conveyance Design and Construction JPA (DCA) that will contract with DWR for the design and construction of California WaterFix provides a means for the beneficiaries of the project who will ultimately fund it, including Metropolitan, to pool expertise and resources to safely design, construct and deliver the project on time, on budget and in accordance with approved specifications, while managing risk prudently. A single-purpose entity is also more efficient as it can hire the exact expertise required and will have a mission solely focused on completing California WaterFix on time and within budget.

Is it appropriate that a JPA will buy DWR's bonds and issue bonds of its own?

DWR has filed a validation action seeking a judicial confirmation of DWR's authority to issue revenue bonds for State Water Project facilities, including California WaterFix. Validation actions are common in agency financing matters. During the pendency of the validation action, the marketability of California WaterFix Revenue Bonds to private investors may be affected. Therefore, DWR proposes the direct placement sales of bonds to a Finance JPA until resolution of the validation action. This approach is appropriate to allow financing to move forward and as a means of controlling financing costs.

Has staff considered the possibility of extending the DCA's duties to include operations of the WaterFix?

No. Under current law, DWR is charged with operating and maintaining the State Water Project, including California WaterFix. Delta Conveyance Design and Construction Joint Powers Authority (DCA) will be a single-purpose entity formed to complete design and oversee project construction, which is more efficient than DWR hiring additional staff, then downsizing at the end of construction. Operations would require different staff with different skill sets. The DCA sunsets when project construction and commissioning and any necessary follow-up actions are completed.



California WaterFix Governance/Implementation

How will the Adaptive Management Program work? How will Metropolitan be represented in that process? Is the Interagency Implementation and Coordination Group going to be a voting body?

The Adaptive Management Program (AMP) will enhance application of science to support decision making related to SWP/CVP operations of SWP/CVP Delta facilities and construction and operations of the California WaterFix. A key aspect of the AMP is the creation of an Interagency Implementation and Coordination Group (IICG) that will be responsible for coordinating and implementing the program. The IICG will have a designated representative from DWR, Reclamation, USFWS, NMFS, CDFW, a SWP contractor, and a CVP contractor. Adaptive management recommendations by the IICG shall be by consensus of the representatives. In the event of a dispute within the IICG, a representative may invoke a non-binding review panel process. In this event, a final decision will be by the entity with decision-making authority over the matter, after considering the panel opinions.



California WaterFix Investment in Local Resources

Is seawater desalination a feasible alternative to the California WaterFix?

Although Metropolitan and its member agencies are pursuing seawater desalination projects as part of its regional integrated resources program, the size and cost of replacing 300,000 to 400,000 AF of SWP supplies with seawater desalination makes desalination infeasible.

The current cost of desalination projects are around three times more expensive than California WaterFix. In addition, desalination projects have significant environmental, project siting, and product reliability hurdles to overcome as well.

Further, Metropolitan has made significant investments (including Diamond Valley Lake reservoir, Inland Feeder, etc.) over the last few decades to ensure a reliable, high quality SWP supply. Moving away from this strategy would strand all or a portion of these significant investments.

California WaterFix provides seismic reliability, adaptation to climate change, and water quality benefits for the SWP as a whole, which seawater desalination does not address.

How did staff calculate costs of alternative water supplies?

As part of the technical process of the 2015 IRP Update, staff surveyed its member agencies to identify potential local projects with their development status and estimated costs of construction and production. These costs, specific to each project identified by the member agencies, were used to develop the range of costs of alternatives, by type. For the comparisons to recycled water and seawater desalination, staff used the cost of a specific project as representative of the cost. For recycled water, the Regional Recycled Water Project was selected because cost information on that project was recently assessed and documented in the Feasibility Study finalized this year by Metropolitan. For seawater desalination, the Carlsbad Desalination facility was selected because it represented a recent and in-service larger scale project in the service area. The costs of both selected projects fell near or within the range of the surveyed costs of projects from the member agencies. The alternative costs are likely on the low side, given that the costs of future projects will likely increase as the required yield increases.



California WaterFix Uncertainties

What happens if a state or federal regulatory agency puts more restrictions on imported water supplies?

The primary purpose and water supply reliability benefit of California WaterFix is that the dual conveyance from the addition of the north Delta diversions, isolated tunnels and modernized fishery protections provide flexibility that allows the SWP/CVP to operate more effectively in the face of current and anticipated future regulations. Future regulations will affect the overall reliability of water supplies from the Delta, but the flexibility and redundancy from the dual-conveyance intake system will provide higher water supply reliability than the current system with only the south Delta intakes. In an uncertain future, whether that uncertainty arises from potential new regulations, climate change or potential seismic threats, the flexibility provided by California WaterFix will be more resilient and reliable than the current system. It should also be noted that other alternatives to California WaterFix are not immune to future regulatory challenges. Large-scale storm water capture, recycled water and seawater desalination are all subject to water quality and contaminant regulations that can and have affected their operations and projected yields and are susceptible to climate change effects.

What is the timing and potential impact of the litigation in which the Delta Plan was held to be invalid? If the Delta Plan is amended to comply with the trial court order, how might that affect water supply benefits, implementation schedule, and cost of California WaterFix?

The seven coordinated Delta Stewardship Council Cases are on appeal. The trial court has yet to file the record with the Court of Appeal, but is anticipated to do so soon. Once filed, that triggers a one-year briefing schedule, after which the Court of Appeal must set and hold a hearing, after which it will have 90 days to issue its opinion. Absent an order of the court, the appeals automatically stay the trial court's order, so the Delta Plan remains in effect. DWR is expected to file its Certification of Consistency in the coming months, prior to start of construction, which will precede the Court of Appeal's opinion.

If the Delta Stewardship Council were to amend the Delta Plan to comply with the trial court's order, it is unknown what targets it would adopt for achieving reduced reliance on water from the Delta, reduced environmental harm from invasive species, restoring more natural flows in the Delta, and increased water supply reliability, or what regulatory policy it may adopt to promote options for new conveyance, storage, and the operations of both to achieve the coequal goals. If those amendments occur after DWR certifies consistency, they would not apply retroactively.

Does the modeling take climate change into account, including Sea Level Rise, salt water intrusion, change in amount, type and timing of precipitation in the watershed?

Yes. The modeling of California WaterFix supporting the EIR/EIS incorporated anticipated impacts of climate change, and thus is incorporated in the estimated total project yields. California WaterFix is designed to be resilient to long-term estimates of sea-level rise (up to 55 inches) and provide higher water quality in the face of future salinity intrusion in the delta. The addition of the north Delta diversions and the isolated tunnel conveyance provide flexibility and capacity to adapt to changes in the amount, type and timing of precipitation because it increases the diversion capacity that can operate in conditions of periodic higher river flows that will result from warmer and more intense rain-driven storms as well as earlier snowmelt runoff periods

Has DWR performed sufficient engineering and collected adequate geotechnical data for the WaterFix alignment?

Yes, the amount of information collected to date is appropriate for this stage of the planning/decision process and corresponding level of design that has been completed to date. As the project moves toward construction, DWR or the DCA will obtain more information, and this information will be used to design the specific components of the system (tunnels, shafts, intakes and forebays).

The geotechnical program planned for the California WaterFix consists of multiple technologies to collect data. The total number of samples to be collected could be a maximum of 2,000, but if initial data shows good uniformity and consistency, then the number of samples collected could be less.

What are the costs estimates for the 50 percent confidence level and 100 percent confidence level?

As displayed in Figure 11 of White Paper 1, the Base plus Risk (with mitigation) shows the cost estimate at approximately \$10.4 billion for the 50 percent confidence interval and approximately \$12.7 billion for the 100 percent confidence interval (in 2014 dollars). In 2017 dollars, this is \$11.4 billion for the 50 percent confidence interval and \$13.9 billion for the 100 percent confidence interval.

What was the makeup of the risk assessment cost estimate focus group? Was it contractors, owners, or a mix of the two?

The group included owners' experts from both Metropolitan and DWR, and consultants with knowledge of the program and experience in heavy construction, cost estimating, tunnel contracting and TBM procurement.

Can California WaterFix be constructed on time and under budget?

Staff is confident that with the proposed structure of the DCA, and Metropolitan's continued involvement in the implementation of the project, California WaterFix will be constructed on time and on budget.

Experts who have reviewed the project implementation plans have determined that budget and schedule for California WaterFix can be properly managed with planning and the use of risk management strategies. For example, the cost estimates for the project have been scrutinized through extensive review and include sizeable contingencies. The Design and Construction JPA will consist of a program team of owners' representatives as well as consultants that are proven experts not only in technical subjects, but also in project/program management-related work dedicated to risk management in order to ensure effective management of schedule and budget. The program team will be continuously looking ahead to anticipate the potential for specific issues to arise and developing a plan to ensure that all risks are cost-effectively managed throughout the project.

Has the risk that some kind of invasive shelled aquatic species fouling up the intakes been considered?

Yes. Specifically the new fish screens will be continually cleaned with an automated screen-cleaning system that is monitored to ensure debris and aquatic build up is kept to a minimum. Those will be a different approach from what Metropolitan uses on the Colorado River Aqueduct Intake Pump Plant screens which are periodically taken out of service for massive cleaning operations. The automated system for California WaterFix will scrub the screens on a regular basis to remove invasive species. Also, the intakes are designed to be isolated in a modular form so that portions of the intake conduits can be taken out of service for cleaning while the rest of the structure remains in service, however, there should be very few occasions where the entire intake is removed from service for invasive species cleaning.

If Metropolitan moves forward with supporting the California WaterFix, what might cause Southern California to not receive the anticipated water supply benefits?

Even with California WaterFix, the SWP would continue to be regulated in the future. California WaterFix provides north intakes, which are critical for improved operational capability to manage for environmental and regulatory needs, while at the same time providing a reliable water supply. That improved capability along with a robust adaptive management plan that includes public water agency participation would contribute towards identifying management and regulatory actions that protect the fisheries needs as well as water supply reliability.

What are the top three reasons cited by opponents as to why Metropolitan should not participate in California WaterFix?

The top three reasons opponents cite are that California WaterFix is too costly, is a water grab that is bad for the Delta environment, and will not result in any new water supply. Each of these assertions is addressed in the White Papers. The third White Paper explains in detail how and why California WaterFix is an affordable, cost-effective project. In addition, the LADWP Ratepayer Advocate recently confirmed that the project would be affordable to households in Los Angeles. And while the project will have some significant and unavoidable impacts disclosed and analyzed in the Final EIR/EIS, the majority of impacts, including impacts to Delta water quality and sensitive environmental resources, including native fish species in the Delta and Delta watershed, will be less than significant, and the state and federal fishery agencies have determined that the project will not jeopardize listed fish species. And while some have claimed that California WaterFix will not result in “new” water supplies relative to current average SWP supplies, reasonable and reliable modeling indicates that SWP supplies will become less reliable without California WaterFix and that the project is a cost-effective means of restoring and protecting current average water supplies.

What happens if Metropolitan’s Board does not approve the project?

The state of California has indicated that without sufficient support from the public water agencies like Metropolitan, it would not proceed with the project.

Would both tunnels operate at the same time?

Except in the case of maintenance or repair outage, both tunnels would be operated at the same time.

If farmers use less water, is there more for urban areas?

In general, if farmers use less water for direct agricultural purposes, they have the ability nonetheless to transfer water to third parties through agreements and recharge their groundwater systems. If farmers do not divert the water and the water stays in the system, that additional water would follow water rights and contractual procedures to benefit other users.

How does the proposed project relate to the Delta Plan?

The Delta Reform Act established the coequal goals for the Delta and required the adoption of the Delta Plan to achieve those goals. It also expressly recognizes the need for new and improved conveyance infrastructure in the Delta to achieve the coequal goals. If DWR had adopted the BDCP, as originally proposed, and it met certain criteria in the Delta Reform Act, the BDCP would have been incorporated into the Delta Plan. As explained in the second White Paper, Modernizing the System: California WaterFix Operations, California WaterFix will further the coequal goals, consistent with the Delta Reform Act and the Delta Plan, but the project is now considered a covered action, which means DWR must certify consistency with applicable Delta Plan policies including the coequal goals before it can begin construction. DWR is expected to submit its certification in the coming months.

How is the project the same/different from the canals proposed in the 1980s?

The approach to Delta conveyance has changed since the Peripheral Canal was proposed. The proposed project is similar in that it proposes conveying water from a diversion point located in the north Delta to the existing CVP and SWP pumps located in the south Delta. Although similar in concept, the scope, goals and regulatory compliance of the proposed project are vastly different from the Peripheral Canal proposal. Key differences between the Peripheral Canal (1982) and California WaterFix include:

| | Peripheral Canal (1982) | California WaterFix |
|------------|--|--|
| Capacity | 21,800 cfs | 9,00 cfs |
| Type | 43 miles of above ground, open channels with 1,000 foot right-of-way | 35 miles of gravity-based underground tunnels |
| Conveyance | Fully isolated with no through Delta operations | Dual conveyance, allowing for through-Delta operations and more flexibility to maintain in-Delta water quality |

The proposed CWF project considers threats to the Delta that were previously unknown or not well understood, changed circumstances, new scientific information, and a regulatory framework intended to better protect the environment. Water managers in decades past had limited information about climate change, sea level rise, subsidence and seismic risks to water supplies in the Delta. Today, new information is available and has been incorporated into the proposed project.

Are the seismic risks to Delta levees being overstated? What studies support the two in three chance of a major earthquake? Are the studies that support the two in three chance of a major earthquake outdated by more recent USGS or other studies?

US Geological Survey scientific earthquake probability reports published in 2003 and 2014 calculated a high probability for one or more large-scale earthquakes to occur in the San Francisco Bay Region (including the Delta) in 30 years. Participants in the USGS studies included scientific experts from federal and state governments, private industry, consulting firms, and academia.

The USGS and URS have also looked at individual faults in the region to assess specific ground movement and liquefaction.

In 2013, URS analyzed the Southern Midland fault near the west Delta and the West Tracy fault near the southwest Delta and found that they are capable of causing severe earthquakes and significant damage to Delta levees.

In 2015-16, USGS and URS analyzed the West Napa fault and found that although observed ground motions in the Delta were less than model predictions, the difference between predicted and observed ground motions would not significantly change calculated deformation to Delta levees.



California WaterFix Comparison of Economic Studies

Report:
Dr. Jeffrey Michael
Center for Business and Policy Research
Benefit-Cost Analysis of the California WaterFix
August 2016

Synopsis

The benefit-cost analysis presented in this report asserts that California WaterFix costs are four times larger than its benefits and that the project is thus not economically justified.

Key Findings

- The analysis is based on a project yield improvement of 225 TAF arrived from the biological opinion. This assumes that existing conditions continue, and this is not an appropriate assumption as it does not take into account the future degradation in water supply that is expected if nothing is done. The supply benefit should be based on the difference between the future yield of the project with and without California WaterFix. As such, the appropriate project yield is 1.3 MAF.
- When estimating the unit value of agricultural water, the report uses historic figures to arrive at \$150 per AF. While this might represent historic costs, it does not represent the value of water or the cost of alternatives.
- The report also uses a value of \$800 per AF for the value of alternative urban water supplies. This value is too low. Metropolitan's estimate of alternative supplies from recycling and desalination range from \$1,658 to \$2,412 per AF.
- While it is common for benefit-cost analysis to use discount rates above inflation (i.e., a real discount rate) to reflect a rate of return, this assumption might not provide a useful result for long-term water projects such as this. This is because discounting costs above inflation will underestimate the cost impact felt by future rate payers, and discounting the value of water above inflation implies a diminishing value of water in the future. In the report, the capital costs occur over the first 15 years and the supply benefits occur over the next 100 years. Since the supply benefits occur much later in time the report heavily discounted the supply benefits resulting in a low benefit-cost ratio. Lastly, the costs of alternative supplies were evaluated in simple unit cost terms with no discounting resulting in an apples-to-oranges comparison.



California WaterFix Comparison of Economic Studies

Report:

City of Los Angeles Office of Public Accountability/Ratepayer Advocate
California WaterFix Cost to City Ratepayers
August 2017

Synopsis

The report finds that California WaterFix is affordable to the city of Los Angeles households under a wide array of cost and water demand scenarios. The estimated impact to the medium single family resident household bill is \$1.73 per month.

Key Finding

- The report's cost impacts are within the range of Metropolitan's estimates.
-

Report (presentation):

Christopher Thornberg
Beacon Economics
The Bay Delta Conservation Plan: Should we DIG the tunnels?
November 2013

Synopsis

The report finds that without California WaterFix, water supplies are likely to be reduced from current levels. Based on a replacement cost analysis, the cost of California WaterFix are on average \$1000 per AF cheaper than alternative sources. And based on an economic cost-benefit analyses, "We think it is clear that the Tunnels' NPV is >0."

Key Finding

- The report's findings are consistent with Metropolitan's findings.
-

Report:

Blue Sky Consulting Group
The California State Treasurer's Office
The Bay Delta Conveyance Facility: Affordability and Financing Considerations
2014

Synopsis

The study finds that the cost of the Delta conveyance facility is within the range of urban and agricultural users' capacity to pay. On average the supply cost of California WaterFix is competitive when compared to alternative supplies. The report also found that the dry year cost per acre-feet is high. For agriculture, the project is affordable for high value crops but the Central Valley Project contractors will need to develop a financing mechanism to fund their share of the water facility.

Key Finding

- Urban impacts are similar to Metropolitan's estimates when displayed on same basis.
-



California WaterFix Comparison of Economic Studies

Report:
David Sunding
The Brattle Group
Statewide Economic Impacts
August 2013¹

Synopsis

This report studied the overall statewide benefits from the Bay Delta Conservation Plan, the predecessor of the California WaterFix and EcoRestore. As such, the report included environmental and other benefits that would not apply to a benefit cost analysis of California WaterFix alone.

Key Findings

The findings associated with the cost of the conveyance facility and the reliability and overall welfare benefits to the water contractors are consistent with WaterFix. The study found that the water supply reliability provided by the conveyance facility would result in a net improvement in the economic welfare of California residents of between \$4.8 billion and \$5.4 billion over the costs of the program. In addition to the net improvement in economic welfare, the report also identified job creation benefits and increases in statewide economic activity, much of which was due to the construction and water supply reliability provided by the conveyance facility.

¹ Study based on cost estimate in 2012 dollars.

Report:
David Sunding
The Brattle Group
DRAFT: CalWater Fix Economic Analysis
November 15, 2015

Synopsis

This report is an incomplete draft prepared for the California Natural Resources Agency.

Key Finding

Draft finding shows that the quantified net direct benefits for urban users were positive and slightly negative for agricultural users. The report did not finish quantifying indirect benefits.



DISCUSSION ITEM

October 4, 2017

TO: Board of Directors

**FROM: Robert Hunter,
General Manager**

Staff Contact: Karl Seckel
Harvey De La Torre
Melissa Baum-Haley

**SUBJECT: METROPOLITAN WATER DISTRICT (MET) ITEMS CRITICAL TO
ORANGE COUNTY**

STAFF RECOMMENDATION

Staff recommends the Board of Directors to review and discuss this information.

DETAILED REPORT

This report provides a brief update on the current status of the following key MET issues that may affect Orange County:

- a) MET's Water Supply Conditions
- b) MET's Finance and Rate Issues
- c) Colorado River Issues
- d) Bay Delta/State Water Project Issues
- e) MET's Ocean Desalination Policy and Potential Participation in the Doheny and Huntington Beach Ocean (Poseidon) Desalination Projects
- f) Orange County Reliability Projects
- g) East Orange County Feeder No. 2
- h) South Orange County Projects

| | | | |
|---|------------------|------------|-------------|
| Budgeted (Y/N): | Budgeted amount: | Core ____ | Choice ____ |
| Action item amount: | | Line item: | |
| Fiscal Impact (explain if unbudgeted): | | | |

ISSUE BRIEF # A**SUBJECT: MET's Water Supply Conditions****RECENT ACTIVITY****2017 Water Supply Balance**

With the Department of Water Resources (DWR) setting the State Water Project (SWP) "Table A" allocation at 85%, Metropolitan will have approximately 1.624 million acre-feet (MAF) in SWP deliveries this water year. In addition, Metropolitan has received approximately 124 TAF of Article 21 supplies through July. On the Colorado River system, MET estimates a total delivery of 960 TAF.

Metropolitan is projecting that supplies will exceed demand levels in CY 2017. With a current demand trend of 1.47 MAF, Metropolitan is expected to increase their dry-year supplies by 1.28 MAF, which is the highest they have ever stored. Based on this estimated recovery and a beginning dry-year storage balance of 1.3 MAF, this will bring Metropolitan's total dry-year storage to 2.5 MAF.

Limitations with recharging groundwater basins due to the "suspect" of quagga mussels and to secure all of the available imported water supplies for 2017, the Metropolitan Board approved last month a one-year In-Lieu storage program. The purpose of this program is to store additional imported water locally that would have been otherwise been lost if no action was taken. For August 2017, MWDOC has requested that Metropolitan certify 10,106 AF of imported treated deliveries as In-Lieu. In-Lieu deliveries for September 2017 are estimated to be around 11,000 AF to 14,500 AF.



ISSUE BRIEF # B**SUBJECT: MET's Finance and Rate Issues****RECENT ACTIVITY**

MET Financial Report

The financial portfolio performance report through the August 31, 2017 resulted in a short-term portfolio with a market value of \$719.9 million, a decrease of \$16.8 million since July 31, 2017. From inception, the short-term portfolio has outperformed the benchmark by 0.58% or \$0.8 million.



For the month of August, the total return of the long-term portfolio resulted in an outperformance of the benchmark by \$2.1 million or -0.06%. However, from inception, the long term portfolio has outperformed the benchmark by 0.29%.

August water sales were 100.7 TAF lower than budget and 45.6 TAF lower than the 5-year average. Low sales in August remain due to decreased untreated water sales, this is in part due to LA purchasing very little imported water as a result of this year's snow pack in the Eastern Sierras as well as lower than expected replenishment purchases due to the "suspect" of quagga mussels in the SWP system.

ISSUE BRIEF # C

SUBJECT: Colorado River Issues

RECENT ACTIVITY

Minute 323 Update

Significant progress has been made over the past month in securing the necessary review and approvals for the proposed Minute 323 and related domestic implementation agreements. The United States has reported that the State Department's and Senate Foreign Relations Committee reviews have both been successfully completed. The U.S. and Mexico representatives of the International Boundary and Water Commission anticipate signing the minute during the last two weeks of September, contingent upon agreement by all of the U.S. entities to the related domestic implementation agreements.

The following entities have completed their review and secured approval of the relevant domestic implementation agreements: Arizona Department of Water Resources, Central Arizona Water Conservation District, Palo Verde Irrigation District, Southern Nevada Water Authority and the State of New Mexico.

Metropolitan, the U.S. Bureau of Reclamation (USBR) and the Imperial Irrigation District (IID) have also made progress in agreeing on proposed terms for IID's participation in the Minute 323 pilot project, resolution of IID's delivery of otherwise unused water to the Salton Sea in 2010 and IID's commitment to be bound by the Minute 319 domestic implementation agreements as though IID had signed the original agreements in 2012. Metropolitan's draft agreement with IID would allow IID the opportunity to participate in the 2017 funding agreement for water conservation projects in Mexico under Minute No. 323 and receive a proportionate share of Binational Intentionally Created Surplus (Binational ICS), however this water would not be available to IID until the outstanding issues related to IID's 2010 delivery of otherwise unused Colorado River water to the Salton Sea have been resolved to USBR's satisfaction. Under the draft agreement, IID would be allowed to use Binational ICS to resolve those issues. Once resolved, IID could use any remaining Binational ICS for non-agricultural demands within IID's service area or to eliminate, reduce, or pay back an inadvertent overrun, but IID would not be allowed to use Binational ICS to meet water transfer obligations. IID would also share in reductions of any surplus water supplies that are made available to Mexico pursuant to Minute No. 323.

System Conservation Pilot Program Update

USBR notified the Colorado River Indian Tribe (CRIT) of the System Conservation Pilot Program funding partners' intent to exercise the second year option for an additional year of land fallowing with CRIT. Exercising the option will extend the CRIT land fallowing program from October 1, 2017 through September 30, 2018. CRIT can now move forward to implement the additional year of fallowing of 1,591 acres

SNWA and ADWR Send Letters of Support to Metropolitan for the Effort to Find Solutions for the Bay Delta

In Southern Nevada Water Authority (SNWA) and the Arizona Department of Water Resources (ADWR) have sent letters stating their support for Metropolitan's commitment to finding a solution to the problems facing the BayDelta. SNWA and ADWR acknowledge their work with Metropolitan to develop a drought contingency plan designed to help avoid serious shortages in Lake Mead and their understanding that Metropolitan lacks the flexibility to make commitments on the Colorado River while facing great uncertainty in Metropolitan's long-term State Water Project supply. SNWA and ADWR note that in this way, Colorado River Basin water users are connected and that we all have a stake in the successful implementation of sound solutions in the California BayDelta.

ISSUE BRIEF # D

SUBJECT: Bay Delta/State Water Project Issues

RECENT ACTIVITY

California WaterFix

The California Department of Fish and Wildlife issued an incidental take permit for the construction and operation of California WaterFix in compliance with Section 2081(b) of the California Endangered Species Act. This permit authorizes the incidental take of state-listed species associated with future operation of the State Water Project (SWP) with the addition of the California WaterFix. This includes construction of proposed water conveyance facilities within the Sacramento-San Joaquin River Delta (Delta), along with operation of the SWP subsequent to and incorporating the newly constructed facilities for California WaterFix and future SWP operations. As described in the permit application, California WaterFix will implement measures for construction and operation of the project to fully mitigate the impacts of any incidental take of state-listed species, and will provide additional protection through real-time operation of the facilities in a manner that avoids and minimizes incidental take. Issuance of this permit represents another significant milestone in the California WaterFix planning process.

State Water Resources Control Board

The California WaterFix Petition proceedings before the State Water Resources Control Board (SWRCB) are ongoing. Part 1 of the hearings addresses the effects of the proposed project on legal users of water. Staff participated in the rebuttal phase of Part 1 in collaboration with the State Water Contractors. On August 10, the SWRCB issued an order setting November 8, 2017 as the deadline for submission of closing briefs for Part 1. Staff anticipates that the SWRCB will soon issue notices to initiate Part 2 of the hearings, which will address the effects of the proposed project on fish and wildlife, including consideration of appropriate Delta flow criteria.

Science Activities

Metropolitan staff participated in the Collaborative Adaptive Management Team Delta Smelt Scoping Team Outflow Group, and the Flow Alteration Project Work Team. This included helping to prepare the scope of work for the Fall X2 sampling that will be completed in 2017 and participating in the development of a Decision Support Tool based on the Delta Smelt Resiliency Strategy. In addition, Metropolitan staff, in collaboration with the State and Federal water contractors, is developing an effects analysis on potential alternative actions for Fall X2 (contained in the Delta Smelt Biological Opinion) for 2017.

Metropolitan staff is working with ESSA Technologies consultants on a project to evaluate the reliability of environmental correlations with fish populations in the Delta. The project will consist of a literature search of environmental correlations that have been used in the Delta, a reanalysis of the correlations to determine if they hold up in the face of updated data, and recommendations for best practices when using environmental correlations as policy tools. Metropolitan staff attended a Yolo Bypass Biological Opinion meeting on the six alternatives proposed to modify the Fremont Weir. Initial results were presented from analyses on the economic impacts on Yolo Bypass farming and fish entrainment models. A public peer-

review panel will be held in September to evaluate the models being used to assess the Fremont Weir alternatives in the EIR/EIS.

Staff participated in field work being conducted by Metropolitan's consultant ICF International to study Longfin Smelt. The purpose of the study is to examine the abundance and distribution of juvenile Longfin Smelt in the upper San Francisco Estuary.

Metropolitan staff toured completed and proposed restoration sites along the Stanislaus River with U.S. Fish and Wildlife Service staff as part of an effort to identify non-flow actions that can be taken to support salmon recovery.

Metropolitan staff also met with the Friends of Butte Creek, a community organization trying to identify a buyer for the DeSabra-Centerville Pacific Gas and Electric project on Butte Creek. Local interests are seeking a buyer that is prepared to meet the regulatory requirements for ESA-listed spring-run Chinook Salmon in Butte Creek and potentially complete habitat improvements or expansions through the removal of decommissioned dams and canals.

Delta Flood Emergency Management Plan

Metropolitan staff is reviewing updated drafts of the California Department of Water Resources (DWR) Delta Flood Emergency Management Plan (DFEMP) and the DWR/U.S. Army Corps of Engineers Delta Emergency Operations Integration Plan. The Integration Plan incorporates federal permit authorities for emergency work in the Delta region when an imminent threat to life or property is demonstrated. These are the primary reports controlling emergency operations in the Delta. The schedule for publication of the DFEMP may be delayed to the end of the year because of management priorities of the current flood season.

The DWR Division of Engineering has stated that they will be acquiring additional sheet pile as a levee break closure method in the Delta through procurement mechanisms that will include broader statewide acquisitions. Additional 2014 Proposition 1 funding sources are being made available to Delta Flood Emergency Management activities. Funding amounts are being identified and will be reported.

ISSUE BRIEF # E

SUBJECT: MET's Ocean Desalination Policy and Potential Participation in the Doheny and Huntington Beach Ocean (Poseidon) Desalination Projects

RECENT ACTIVITY

Doheny Desal

The details of this have been moved to briefing Issue H as it pertains only to South Orange County.

Poseidon Huntington Beach

(Nothing New to Report) Poseidon is still working on the permitting process. The public review period for the Draft Supplemental Environmental Impact Report (EIR) was extended to July 27, 2017. Poseidon anticipates a decision by the State Lands Commission on October 19 and then will continue working their way towards the Santa Ana Regional Water Quality Control permit and then on to the California Coastal Commission, likely in the first half of 2018. OCWD is still working on the system integration concepts.

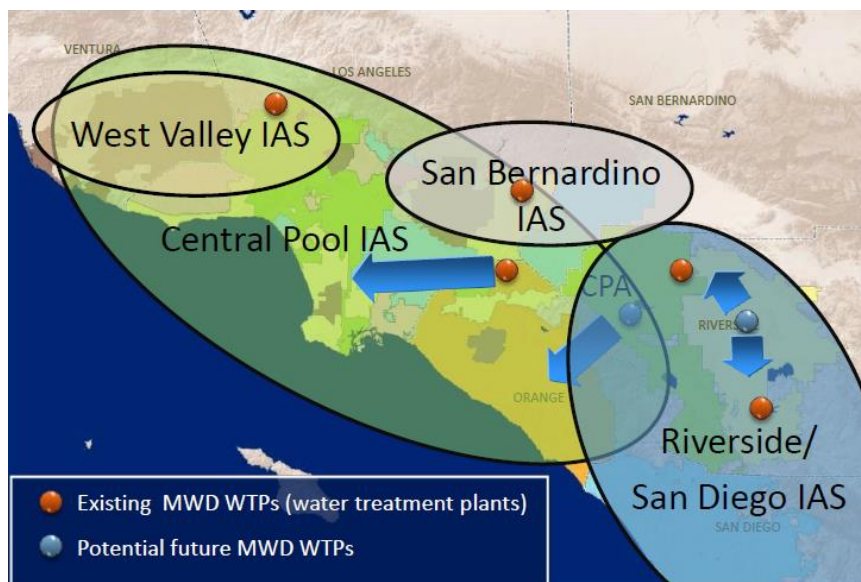
ISSUE BRIEF # F

SUBJECT: Orange County Reliability Projects

RECENT ACTIVITY

Central Pool Augmentation Project

The intention of the Central Pool Augmentation (CPA) Project is a major water conveyance and treatment system that augments deliveries of potable water to Metropolitan's Central Pool. Water from Lake Mathews would be treated at a new regional treatment plant located at Eagle Valley, and delivered to the Central Pool area through a pipeline and tunnel system extending under the Santa Ana Mountains into Orange County. Metropolitan's Central Pool area is an operational area located in the center of its service territory, comprising all areas served by the Jensen, Weymouth, and Diemer treatment plants. The purpose of this report is to provide a brief history of the CPA Project, the key changes through the years, and status as of today.



CPA Project History

The primary purpose for the CPA Project was to provide additional system capacity to meet long-term treated water demands in Metropolitan's Central Pool area. Additionally, it would increase regional system flexibility and strengthen system reliability by augmenting treatment plants serving portions of Orange and Riverside Counties during emergencies (the conveyance route crossed different faults than the other MET supplies feeding the Diemer Plant).

In the early 1990's, when Metropolitan's water demands were increasing at a tremendous rate due to development and a strong economy particularly in areas of Orange, Riverside and San Bernardino Counties there was a need for staff to identify ways to provide for additional system capacity to its growing sectors. In August of 1995, the Metropolitan Board adopted the final EIR of the CPA Project called for taking water from Lake Mathews, treating it at a new regional treatment plant in Eagle Valley, and delivering such water through a pipeline and tunnel system extending under the Santa Ana Mountains into Orange County. In 1995, the CPA Project's main components included:

- A new Lake Mathews Outlet Tower to feed water to the new water treatment plant, as well as to the existing distribution system; and
- A new 400 cubic feet per second (cfs) drinking water treatment plant located in nearby Eagle Valley; and
- An 18-mile long, 12-13 foot diameter pipeline and tunnel system extending from Eagle Valley across the city of Corona, under the Santa Ana Mountains in the Cleveland National Forest, and terminating with a connection to the Allen-McColloch Pipeline (AMP) and South County Pipeline (SCP) near El Toro.

However, due to the success of water conservation efforts, new development projections and the development of local resources in the mid 1990's and early 2000's within the Central Pool area, the need for the CPA Project was pushed further and further into the future. Concurrently, due to other tunneling issues MET had faced, further technical analysis was needed to review the constructability of the CPA tunnel due to concerns over high groundwater levels along the proposed tunnel alignment and the increased development along and adjacent to the project alignment.

CPA Project Studies

In July 2004, the Metropolitan Board authorized staff to evaluate the feasibility of an alternative pipeline alignment around the Santa Ana Mountains and along the 91 Freeway corridor compared to the assessment of the technical feasibility of a new tunnel alignment, as well as initiate negotiation on key properties to preserve the existing project tunnel portals and other property. The evaluation confirmed the feasibility of both a pipeline and a tunnel alignment; however, further detailed investigations of groundwater and rock conditions were needed along the tunnel alignment to better determine constructability and project cost.

Metropolitan engaged the firms of Kleinfelder, Inc. and GeoPentech, Inc. to perform additional geotechnical work and help assess the constructability of the CPA tunnel, including cost. The geotechnical work consisted of drilling deep borings to reach the approximate tunnel depth, field and laboratory testing, and installation of observation wells.

Kleinfelder and GeoPentech concluded that there are no insurmountable impediments to tunnel constructability, but the rock structure density and groundwater levels as well as the U.S Forest permitting requirements, which called for a tunnel liner system, increased the mining duration and dramatically increased the construction costs of the project.

The original 1995 EIR construction cost estimate for the CPA Project totaled \$240 million, in 1994 dollars. However, with these new technical studies and changes in the alignment, the approximate construction costs increased to a range from \$680 to \$770 million, in 2008 dollars. Furthermore, the construction duration increased from 36 months to 80-90 months. The overall cost of the project had grown to over a billion dollars.

Metropolitan's 2007 Integrated Area Study

As part of an effort to better assess the regional system current and future needs, Metropolitan and its member agencies conducted an Integrated Area Study (IAS) aimed at better integrating local and regional planning. A primary focus of the IAS was the future water demands of the Central Pool area; the results of this study showed that the Central Pool *"has adequate treatment capacity to meet supplemental peak demands beyond 2040."*

In addition, within Metropolitan's 2010 Integrated Resources Plan update, staff included a 20% reduction in per capita water usage to comply with the State's 20% by 2020 goal. This requirement shifted the need for new regional facilities further into the future and reinforced the IAS findings of adequate treatment capacity. The IAS studies also involved discussions of cost-sharing of projects with some agencies declaring that any new treatment plants need to be funded directly by the new developing areas. A similar point was made with respect to the CPA Project. The IAS studies were the first by MET to distinguish between "capacity to meet new demands versus capacity to provide redundancy or reliability".

Status of the CPA Project

The combination of the IAS findings along with the increased construction costs resulted in further deferment of the CPA Project and placed this project beyond the 25 year time horizon for CIP projects for Metropolitan. However, Metropolitan continues to preserve the project's viability by monitoring activity along the project's proposed alignment, including the tunnel portals, and also maintaining coordination with member agencies to see if water demands increase, and to maintain key right-of-way areas (MET owns the Eagle Valley water treatment plant site).

Orange County Water Reliability Study

(Nothing New to Report) CDM-Smith and MWDOC staff are in the process of completing follow-up work to the 2016 study. The work includes modeling of more recently available information, updating Colorado River assumptions, assessment of additional scenarios for the Huntington Beach Desalination Plant, and assessment of the value of new storage. MWDOC staff met with CDM Smith on July 10, 2017 to discuss technical details of the climate modeling work. The update is expected to be completed in the next few months.

ISSUE BRIEF # G

SUBJECT: East Orange County Feeder No. 2

RECENT ACTIVITY

Use of East Orange County Feeder No. 2 for Conveyance of Groundwater and/or Poseidon Water

MWDOC has been discussing concepts for pumping groundwater into the EOCF No. 2 for conveyance to South Orange County during an emergency event. Upcoming discussions will be held with OCWD and then the Groundwater Producers.

ISSUE BRIEF # H

SUBJECT: South Orange County Projects

RECENT ACTIVITY

UPDATED - Doheny Desal Project

South Coast WD is continuing to move the project forward, as follows:

STATUS INFORMATION BY TASK ORDER

Task Order # 1 – Program Management

Work on the DWR Water Desalination Grant Application was completed and submitted by the due date of September 1, 2017.

DWR is anticipating announcement of Draft Funding Decision (Awards) November 3, 2017.

DWR anticipates announcing Desalination Final Funding Decision on December 1, 2017.

Task Order # 5A – Public Outreach Phase 2

The SCWD Water Reliability Public Working Group has conducted meetings; on August 30th, September 13th and September 19th.

Task Order # 7 – Project Delivery Analysis

Project Delivery Workshop 5 upcoming.

Next Major Deliverable Milestones are:

Workshop 5, timing to be determined (tentatively for mid-November).

Task Order # 8B– Environmental Impact Report

Work on the Administrative Draft EIR has continued, with additional technical studies on the South East Intake area wrapping up. These include:

- Coastal Hazards and Brine Modeling
- Cultural
- Update to piping alignments/sizing and construction impacts
- Updating Regional Conveyance conceptual option

Future milestones are:

- October 13, 2017: Submit Administrative Draft to District for Review
- Mid October, 2017: 2nd NOP Scoping Meeting (tentatively October 17th) to discuss revised possible slant well locations and regional conveyance advancements.
- November 13, 2017: Draft EIR Released for Public Comments
- March 23, 2018: Final EIR Publication

Task Order # 12 – Desal Plant Site Hydrology Study

The Draft Report has been submitted to the District for Review.

District is currently reviewing the Report.

Task Order # 13 – Value for Money Analysis (VfM)

The VfM Board Workshop was held on March 22, 2017, and follow up meetings took place with Directors to review the Risk Register in more detail and understand additional concerns.

The team is finalizing customer impact numbers, including an evaluation of the existing planned rate increases through 2021.

Next Major Deliverable Milestones are:

- 1) Board briefing to be scheduled
- 2) Final VfM Report, including additional information to address Director's specific concerns, including customer rate impact, after Board briefing

Task Order # 14 – Updated Slant Well Modeling

Task 1 – Additional Data Analysis has been completed. Data analysis resulted in modifications to preliminary paleochannel configuration that warrants slightly different approach for exploratory boreholes.

Next Major Deliverable Milestones are:

- 1) Task 2 - Exploratory borehole work to be conducted upon receipt of Part 2 Permit from OC Parks, still pending, but anticipated to be complete by September 31, 2017
- 2) Task 3 – Refinement and recalibration of model has based on geophone work has been completed.
- 3) Task 4 – Modeling of initial scenarios to support the Draft EIR is underway, early key results expected by September 22nd.
- 4) Draft Report – Estimated at October 18, 2017
- 5) Final Report – Estimated at October 31, 2017

Task Order # 15 – Alternative Power Supply Analysis

- Final Alternative Power Supply Analysis by August 31, 2017
- SDG&E has indicated their ability to provide power for a desalination plant up to 5 MGD in size. Anything over 5 MGD will require additional energy infrastructure which SDG&E estimates will take 3 years to complete.

San Juan Watershed Project

Santa Margarita WD continues working on the San Juan Watershed Project. Phase 1, which is being designed to capture wet and dry weather runoff, with subsequent phases looking to introduce recycled water into San Juan Creek for Indirect Potable Reuse. The Draft Environmental Impact Report (DEIR) is now scheduled for public review at the end of September 2017 with a Public Meeting anticipated in early October 2017. An overview video is available at: <http://sanjuanwatershed.com/project-overview-video/>

SMWD Trampas Canyon Recycled Water Reservoir

The Trampas Dam and Reservoir Construction Project was advertised for bids on June 19, 2017. Bids were received on August 15, 2017 with Sukut Construction, Inc. as the apparent low bidder at \$82,289,000. SMWD staff are currently performing a value engineering review of the project to determine options for reducing the cost.

Other Information on South County Projects:

Expansion of the Irvine Interconnection Project to South Orange County

(Nothing New to Report) An agreement completed in 2006 resulted in an investment by South Orange County (SOC) agencies in the Irvine Ranch Water District (IRWD) system to allow exchanges of water to be delivered by IRWD into SOC under emergency situations. Project capacity was committed by IRWD to move up to 30 cfs of emergency supplies whereas the agreement allows moving up to 50 cfs, not to exceed 3,000 AF per emergency event. In accordance with the Agreement with IRWD, the emergency capacity committed to the SOC agencies declines over time and goes to zero by 2030. IRWD is examining their ability to increase the exchange and conveyance of water under this arrangement or extend to extend the end date of the agreement and the capacity thereunder. MWDOC is working on other options with OCWD and MET to move groundwater via the EOCF#2 to SOC during emergency events.

Laguna Beach County Water District Groundwater Project with Newport Beach

(Nothing new to report) MWDOC, MET, Laguna Beach County Water District and Newport Beach have been working to activate Laguna Beach County's access to 2,025 AF of groundwater from within the Orange County Water District Basin. Deliveries began in September 2016. MWDOC staff met individually with Laguna Beach County and Newport Beach in August to discuss possible future facility and operational modifications to the MET system as LBCWD now sources some of its supplies from the basin.

Camp Pendleton Seawater Desalination Project

(Nothing New to Report). San Diego County Water Authority (SDCWA) is studying the feasibility of a desalination project at the southwest corner of Camp Pendleton Marine Corps Base adjacent to the Santa Margarita River. The project is still in the feasibility study stage and SDCWA is conducting geological surveys, analyzing intake options, and studying the effect on ocean life and routes to bring desalinated water to SDCWA's delivery system. Michael Baker International has been retained to conduct the intake study and they are looking to lease the Doheny Mobile Test Facility from MWDOC and the Doheny Desal Participants. The intake study has been postponed for another year.

If any agencies would like to have updates included herein on any projects within your service area, please email the updates to Karl Seckel at kseckel@mwdoc.com

**Summary Report for
The Metropolitan Water District of Southern California
Board Meeting
September 12, 2017**

COMMITTEE ASSIGNMENTS

None. (Agenda Item 5C)

WATER PLANNING AND STEWARDSHIP COMMITTEE

Authorized: 1) entering into multiple agreements in support of a program to augment Metropolitan's Colorado River supply through the funding of international projects in Mexico, consistent with the terms described in the 8-1 board letter, and in a form approved by the General Manager and General Counsel, 2) payment of up to \$7.5 million for acquisition of supplies from the international projects, 3) the General Manager to continue to participate in the pilot program for funding the creation of Colorado River system water through voluntary reductions in use, and 4) payment of up to an additional \$2 million for partially funding the pilot program.
(Agenda Item 8-1)

ENGINEERING AND OPERATIONS COMMITTEE

Appropriated \$7.12 million; and awarded \$5,961,003 procurement contract to Flowserve Corporation for valve actuators for the Diemer plant. (Appropriation No. 15436)
(Agenda Item 8-2)

ORGANIZATION, PERSONNEL AND TECHNOLOGY COMMITTEE

Authorized the General Manager to exercise discretion under Administrative Code Section 6101(k) to enter into the 2017-2021 Memorandum of Understanding with The American Federation of State, County and Municipal Employees (AFSCME), Local 1902.
(Agenda Item 8-3; heard in closed session)

CONSENT CALENDAR

In other action, the Board:

Appropriated \$1.9 million; awarded \$748,353.67 procurement contract to Allen Instruments & Supplies to provide deformation monitoring equipment; and authorized upgrades to the geodetic deformation monitoring system at Diamond Valley Lake.
(Appropriation No. 15419) (Agenda Item 7-1)

Appropriated \$1.81 million; awarded \$556,944 procurement contract to Southwest Valve & Equipment to provide plug valves for the Orange County Feeder; and authorized design and construction to replace valves at the Fairplex and Walnut Pressure Control Structures.
(Appropriation Nos. 15377 and 15480) (Agenda Item 7-2)

OTHER MATTERS

In other action, the Board:

Presented a 10-year Service Pin to Sylvia Ballin, representing the City of San Fernando.
(Agenda Item 5E)

Reviewed Department Head Performance Evaluations for the General Manager, General Counsel, General Auditor, and Ethics Officer.
(Agenda Item 10-1; heard in closed session)

Discussed Public Employee Discipline/Dismissal/Release.
(Agenda Item 10-2; heard in closed session)

Report on 2017 Department Head Salary Survey. **(Agenda Item 10-3 DEFERRED)**

Discuss and approve compensation recommendations for General Manager, General Counsel, General Auditor, and Ethics Officer. **(Agenda Item 10-4 DEFERRED)**

Added Item 10-5 to the agenda to consider the Ethics Officer resignation.
(Agenda Item 10-5 ADDED; heard in closed session)

Accepted the Ethics Officer's tender of voluntary resignation effective October 10, 2017 and approved paid administrative leave effective immediately.
(Agenda Item 10-5; heard in closed session)

Added Item 10-6 to the agenda to consider appointing an Interim Ethics Officer.
(Agenda Item 10-6 ADDED)

Appointed Gerry Riss as Interim Ethics Officer. **(Agenda Item 10-6)**

THIS INFORMATION SHOULD NOT BE CONSIDERED THE OFFICIAL MINUTES OF THE MEETING.

Board letters related to the items in this summary are generally posted in the Board Letter Archive approximately one week after the board meeting. In order to view them and their attachments, please copy and paste the following into your browser
<http://edmsidm.mwdh2o.com/idmweb/home.asp>

All current month materials, before they are moved to the Board Letter Archive, are available on the public website here: <http://mwdh2o.com/WhoWeAre/archived-board-meetings>



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

MWD MEETING AGENDA

Board Meeting

October 10, 2017

12:00 p.m. – Boardroom

| October 10, 2017 Meeting Schedule | | |
|--------------------------------------|-----------|---------------|
| 9:00 a.m. | Rm. 2-145 | L&C |
| 10:00 a.m. | Rm. 2-456 | C&LR |
| 12:00 p.m. | Boardroom | Board Meeting |

MWD Headquarters Building

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700 N. Alameda Street

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Los Angeles, CA 90012

1. Call to Order

- (a) Invocation: Marcia Ferreira, Associate Resource Specialist, Water Resource Management
- (b) Pledge of Allegiance: Director Mark Gold, City of Los Angeles

2. Roll Call

3. Determination of a Quorum

- 4. Opportunity for members of the public to address the Board on matters within the Board's jurisdiction. (As required by Gov. Code § 54954.3(a))

5. OTHER MATTERS

- A. Approval of the Minutes of the Regular Meeting on September 12, 2017, and Special Board Meeting on September 26, 2017
(A copy has been mailed to each Director)
Any additions, corrections, or omissions
- B. Report on Directors' events attended at Metropolitan expense for month of September

- C. Induction of new Director Barry Pressman, from the City of Beverly Hills
 - (a) Receive credentials
 - (b) Report on credentials by General Counsel
 - (c) File credentials
 - (d) Administer Oath of Office
 - (e) File Oath
- D. Approve Commendatory Resolutions for Director Robert Wunderlich, representing the City of Beverly Hills
- E. Approve committee assignments
- F. Chairman's Monthly Activity Report

6. DEPARTMENT HEADS' REPORTS

- A. General Manager's summary of activities for the month of September
- B. General Counsel's summary of activities for the month of September
- C. General Auditor's summary of activities for the month of September
- D. Interim Ethics Officer's summary of activities for the month of September

7. CONSENT CALENDAR ITEMS — ACTION

- 7-1** Adopt CEQA determination and appropriate \$200,000; and authorize preliminary design of security and erosion control improvements at the Henry J. Mills Water Treatment Plant (Appropriation No. 15479). (E&O)

Recommendation:

Option #1:

Adopt the CEQA determination that the proposed action is categorically exempt; and

- a. Appropriate \$200,000; and**
- b. Authorize preliminary design of security and erosion control improvements at the Mills plant.**

- 7-2** Adopt CEQA determination and appropriate \$900,000; and authorize design of Stage 3 improvements for West Valley Feeder No. 1 (Appropriation No. 15377). (E&O)

Recommendation:

Option #1:

Adopt the CEQA determination that the proposed actions are categorically exempt; and

- a. Appropriate \$900,000; and**
- b. Authorize design of Stage 3 improvements for West Valley Feeder No. 1.**

- 7-3** Adopt CEQA determination and appropriate \$1.12 million; and authorize: (1) design and procurement to replace valves on the West Orange County Feeder; and (2) preliminary design to rehabilitate Service Connection OC-09 (Appropriation No. 15480). (E&O)

Recommendation:

Option #1:

Adopt the CEQA determination that the proposed actions are exempt; and

- a. Appropriate \$1.12 million;**
- b. Authorize design and procurement to replace valves on the West Orange County Feeder; and**
- c. Authorize preliminary design to rehabilitate Service Connection OC-09.**

- 7-4** Adopt CEQA determination and appropriate \$1.4 million; and award \$787,906 contract to Environmental Construction, Inc. to relocate the turnout for Service Connection OC-76 on the Allen-McColloch Pipeline (Appropriation No. 15480) (E&O)

Recommendation:

Option #1:

Adopt the CEQA determination that the proposed action is exempt; and

- a. Appropriate \$1.4 million; and**
- b. Award \$787,906 contract to Environmental Construction, Inc. to relocate the turnout for Service Connection OC-76 on the Allen-McColloch Pipeline.**

- 7-5** Adopt CEQA determination and approve amendments to the Metropolitan Water District Administrative Code to conform to current law, practices and regulations. (L&C) **[To be mailed separately]**

END OF CONSENT CALENDAR

8. OTHER BOARD ITEMS — ACTION

- 8-1** Adopt CEQA determination and appropriate \$4.41 million; and authorize: (1) agreement with Project Partners, LLC in an amount not to exceed \$2,722,000 for deployment of Metropolitan's Project Controls and Reporting System; and (2) agreement with Oracle Corporation in an amount not to exceed \$600,000 for procurement of application licenses; and authorize the General Manager to amend the agreement with Project Partners by up to \$250,000 (Appropriation No. 15490). (E&O) **[To be mailed separately]**

- 8-2** Adopt CEQA determination and express support, if amended, for S. 1272 (Feinstein, D-CA) – Drone Federalism Act of 2017. (C&L)

Recommendation:

Option #1:

Adopt the CEQA determination that the proposed action is not defined as a project and is not subject to CEQA; and

Authorize the General Manager to express support, if amended, for S. 1272.

- 8-3** Withdrawn

- 8-4** Adopt CEQA determination and express Metropolitan's support for California WaterFix; authorize participation in the construction of California WaterFix including payment of costs consistent with Metropolitan's 25.9 percent share of overall costs; authorize the General Manager to execute the following agreements having terms as described in this board letter: (1) Agreement for Implementation of an Adaptive Management Program for Project Operations, (2) Joint Powers Agreement Forming the Delta Conveyance Design and Construction Joint Powers Authority, and (3) Joint Powers Agreement Forming the Delta Conveyance Financing Joint Powers Authority; and adopt a Resolution authorizing the General Manager to participate in the Financing Joint Powers Authority, authorizing the purchase of private placement bonds from the California Department of Water Resources and issue public bonds by the Financing Joint Powers Authority, consistent with Metropolitan's share of 25.9 percent of the California WaterFix project costs, including an agreement to secure payment of Metropolitan's share.

Recommendation:

Option #1:

Adopt the CEQA determination that the Board has reviewed and considered BDCP/California WaterFix environmental documentation; adopt the lead agency's findings, SOC, and MMRP; and

- a. Express Metropolitan's support for California WaterFix and authorize participation in the construction of California WaterFix including payment of costs consistent with Metropolitan's 25.9 percent share of overall project costs;**
- b. Authorize the General Manager to Execute the following agreements having terms as described in the board letter dated October 10, 2017:**
 - (i) Agreement for Implementation of an Adaptive Management Program for Project Operations (AMP Agreement);**
 - (ii) Joint Powers Agreement Forming the Delta Conveyance Design and Construction Joint Powers Authority (Construction JPA Formation Agreement);**
 - (iii) Joint Powers Agreement Forming the Delta Conveyance Financing Joint Powers Authority (Financing JPA Formation Agreement); and**
- c. Adopt Resolution authorizing the General Manager to, as a member of the Financing Joint Powers Authority, authorize the purchase of private placement bonds from the California Department of Water Resources and issue public bonds by the Financing Joint Powers Authority, consistent with Metropolitan's share of 25.9 percent of the California WaterFix project costs, including an agreement to secure payment of Metropolitan's share.**

9. BOARD INFORMATION ITEMS

- 9-1** Update on Conservation Program

10. OTHER MATTERS

- 10-1** Report on 2017 Department Head Salary Survey
- 10-2** Adopt the CEQA determination and discuss and approve compensation recommendations for General Manager, General Counsel, and General Auditor

11. FOLLOW-UP ITEMS

12. FUTURE AGENDA ITEMS

13. ADJOURNMENT

NOTE: At the discretion of the Board, all items appearing on this agenda and all committee agendas, whether or not expressly listed for action, may be deliberated and may be subject to action by the Board.

Each agenda item with a committee designation will be considered and a recommendation may be made by one or more committees prior to consideration and final action by the full Board of Directors. The committee designation appears in parentheses at the end of the description of the agenda item e.g., (E&O, F&I). Committee agendas may be obtained from the Board Executive Secretary.

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.