RTD-1010

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7
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ORIGINATING SECTION: INTEGRATED PLANNING
CONTACT: AMPARO FLORES/JARNAIL CHAHAL

AGENDA DATE: September 20, 2017 ITEM NO. 9

SUBJECT: Support for California WaterFix and Related Actions

SUMMARY:

- The California WaterFix is a key component of the California Water Action Plan, the State of California's blueprint for "a sustainable and resilient future".
- The California WaterFix is critical to protecting and restoring the Tri-Valley's water supply reliability by upgrading aging 50-year old infrastructure, thereby reducing the SWP's vulnerability to seismic events in the Delta and climate change impacts.
- On July 21, 2017, the Department of Water Resources certified the final environmental analysis for the California WaterFix and signed the Notice of Determination thereby approving California WaterFix as the proposed project under the California Environmental Quality Act.
- The formation of a Finance Joint Powers Authority and a Design and Construction Joint Powers Authority is proposed for the implementation of California WaterFix, providing fiscal control and oversight and protecting the public's investment.
- A survey in the Tri-Valley regarding the public's level of support for California WaterFix and other matters has been recently completed and the consultant will be presenting the results to the Board.
- Staff recommends that the Board adopt the attached resolution endorsing California WaterFix and related environmental and other actions to support the project's progress, including a gap funding agreement up to $250,000 to cover costs for California WaterFix starting on January 1, 2018. The resolution authorizes the General Manager to negotiate Zone 7's participation in the Finance Joint Powers Authority and the Design and Construction Authority, and to execute any associated agreements.

FUNDING: Fund 310 (Water Supply and Reliability Fund)

RECOMMENDATION: Adopt attached resolution.

ATTACHMENTS: a) Memo and b) Resolution

Interoffice Memo

Date: September 20, 2017

To: Jill Duerig, General Manager

From: Amparo Flores, Integrated Planning Manager
Jarnail Chahal, Manager of Engineering Services

Subject: Support for California WaterFix and Related Actions

BACKGROUND

On June 18, 2014, the Zone 7 Board adopted a resolution of support for the California Water Action Plan (CalWAP). In early 2016, there were discussions about a second resolution of support for a 2016 update to CalWAP but no action was taken at that time. A key component of CalWAP is the California WaterFix.

The final Bay Delta Conservation Plan/ California Water Fix Environmental Impact Report/Statement EIR/S was released in 2016. On July 21, 2017, the Department of Water Resources (DWR) certified the final environmental analysis for the California WaterFix and signed the Notice of Determination (NOD). With finalization of the NOD and associated decision documents, DWR has approved WaterFix as the proposed project under the California Environmental Quality Act (CEQA). Consistent with the Board's direction, staff is therefore presenting a resolution on actions related to the continued progress of California WaterFix for the Board's consideration.

The following sections provide an overview and status update of the project, and a discussion of the project's benefits to the Tri-Valley.

DISCUSSION

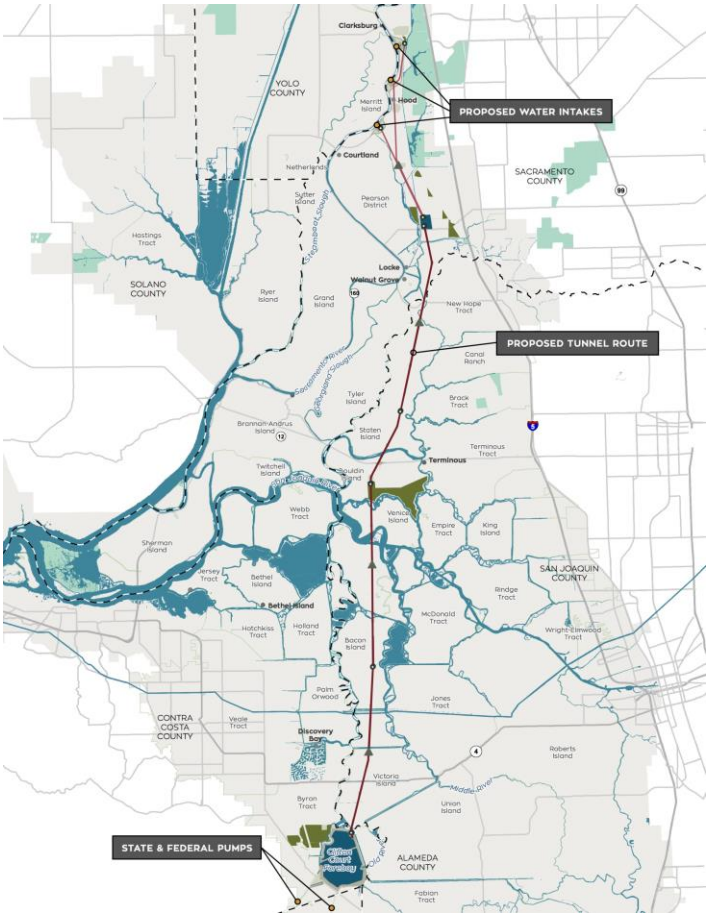
A. California WaterFix: Overview

Proposed Project and Benefits

The California WaterFix, which would provide infrastructure upgrades to the 50-year old through-Delta conveyance of the State Water Project (SWP), is a key component of the CalWAP, the State of California's blueprint for "a sustainable and resilient future." California WaterFix would provide water supply reliability and water quality improvement, and would help protect the SWP—the State's largest source of supply—from disruptions due to failure of levees in the Sacramento-San Joaquin Delta (Delta) and saltwater intrusion. The likelihood of failure increases with time due to seismic vulnerability, climate change, and aging infrastructure. While other proposals to address the challenges in the Delta have been put forward, the California WaterFix is the only one that has undergone an unprecedented level of public engagement with over 600 public meetings conducted

and over 300 days of public comment period. The project has been developed based on the best scientific information available; for example, the intakes have been sited so that they avoid the highest densities of sensitive fish species and are designed with state-of-the-art screening facilities. It is the joint State and Federal preferred alternative.

Figure 1. California Water Fix Proposed Upgrades



Source: DWR

The proposed infrastructure (**Figure 1**) for the California Water Fix includes dual forty-foot diameter pipelines that will stretch about 38 miles from the three intakes on the Sacramento River to Clifton Court. Each of the three new intakes would have a 3,000 cfs capacity.

Extensive modeling, involving forecasts of SWP and Central Valley Project (CVP) deliveries for a number of scenarios involving climate change, both with and without California WaterFix, has been done to evaluate the operational water supply benefits water users are likely to see as a result of the project. As illustrated on **Figure 2**, the combined export capability of the SWP and CVP has been steadily decreasing due to a number of regulatory restrictions and increasing maintenance-related outages (typical of aging infrastructure). With existing and future regulatory constraints alone, the combined annual yield from the SWP and CVP water system is expected to drop further from the current average of 4.7 million acre-feet (MAF) (equivalent to 62% SWP reliability) to 3.5 to 3.9 MAF (46-51% SWP reliability)[1].

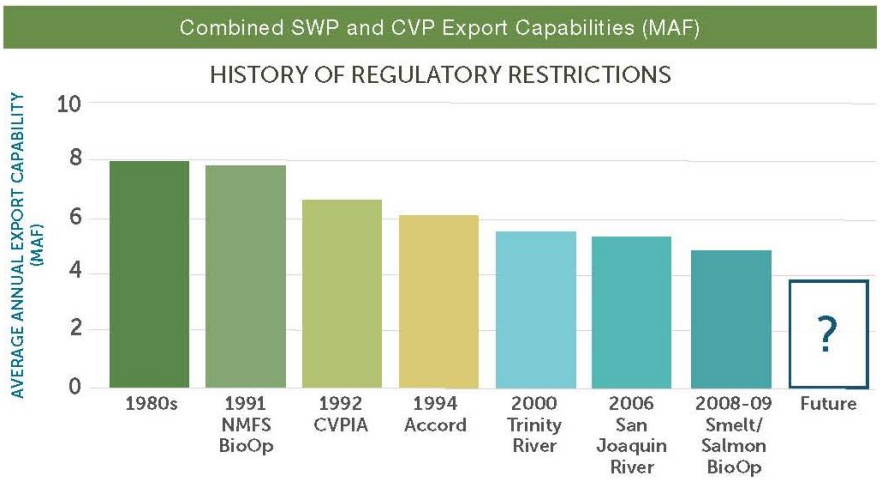
California WaterFix may increase water supplies in a given year by affording operational flexibility that does not currently exist. Operators can take better advantage of intermittent high-flow events, which occur even during dry years. For example, over the period January to early March 2016—in the middle of the drought—an additional 500,000 AF could have been captured if California WaterFix had been in place[2]. The project will also increase the system's capacity to facilitate transfers between north and south of the Delta.

[1] DWR, 2015. The State Water Project Final Delivery Capability Report 2015. Accessible at: https://msb.water.ca.gov/documents/86800/144575dd-0be1-4d2d-aeff-8d7a2a7b21e4

[2] March 16, 2016 Zone 7 Board Agenda Item: Support for California Water Action Plan and California WaterFix.

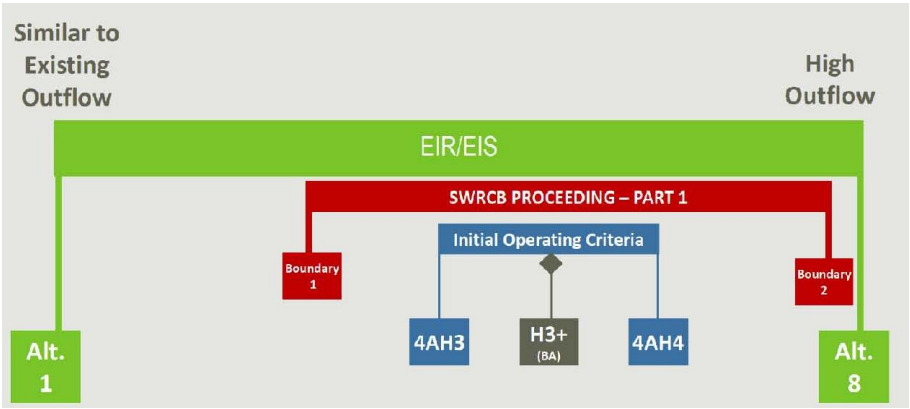
The California WaterFix preferred alternative is identified in the final EIR/S as Alternative 4A. However, a range of alternative scenarios has been analyzed under the State Water Resources Control Board (SWRCB) water rights proceedings to evaluate yield impacts over a broad range of key operating criteria, including Delta outflows (**Figure 3** and **Figure 4**). For planning purposes, the Alternative 4A yields under a range of initial Delta outflows[3] known as H3 to H4 are a reasonable assumption for SWP/CVP yields under California WaterFix: 4.7 to 5.3 MAF annually. Note that the proposed initial operations scenario, known as H3+, falls within this range. Actual, initial, and future operating criteria would be modified as part of an adaptive management approach. DWR and its contractors have prepared benefit and construction animations available on the internet at: https://www.californiawaterfix.com/resources/outreach-materials/videos/.

Figure 2. Impacts of Regulatory Restrictions on SWP/CVP Export Capabilities



Source: Policy Paper 2: Modernizing the System: California WaterFix Operations (Metropolitan Water District, 2017)

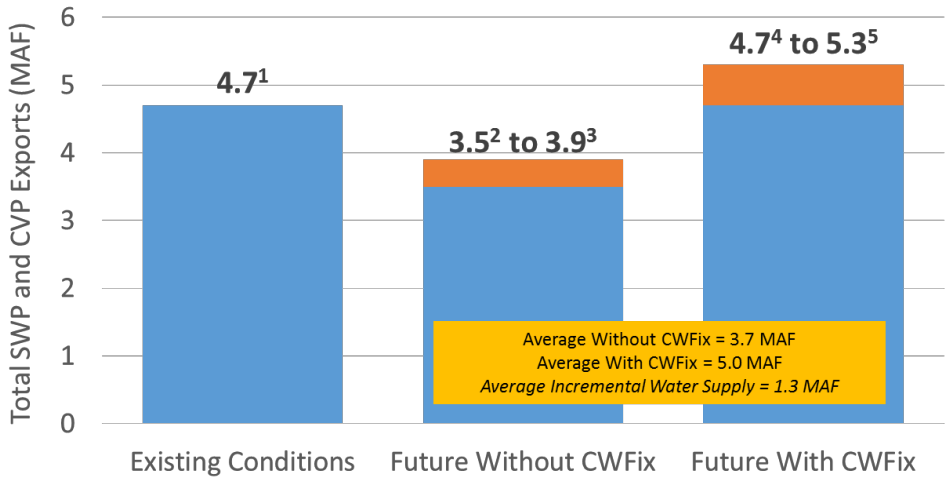
Figure 3. Range of Alternative Scenarios Analyzed for California WaterFix



Source: Department of Water Resources

[3] The higher the Delta outflows required, the lower the amount of water that can be exported.

Figure 4. Projected Annual SWP/CVP Export Capabilities under California WaterFix Alternatives 4A-H3 and 4A-H4



[1]California WaterFix EIR/EIS No Action Alternative, existing conditions with 2025 climate change impacts
[2]2015 Delivery Capability Report Existing Conveyance High Outflow scenario
[3]2015 Delivery Capability Report Existing Conveyance Low Outflow scenario
[4]California WaterFix EIR/EIS Alternative 4A-H4, initial operating criteria lower range
[5]California WaterFix EIR/EIS Alternative 4A-H3, initial operating criteria upper range

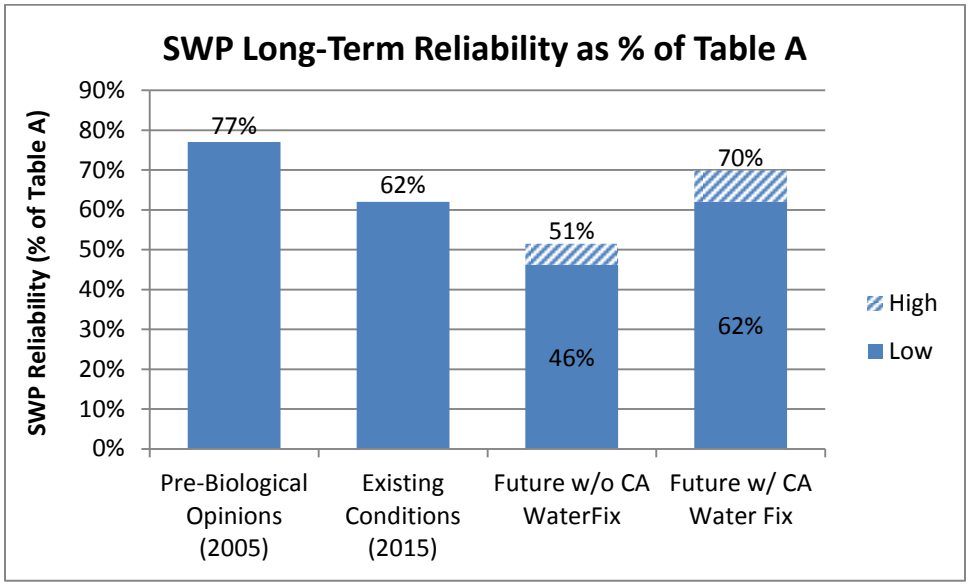
Table 1 summarizes the projected water supply yields under existing and future conditions for the SWP and CVP combined, and for the SWP only. It also presents the yields in terms of percent SWP Table A reliability. Figure 5 summarizes historical, existing, and potential future SWP Table A reliability.

Table 1. Summary of Projected Water Supply Yields from California WaterFix

CONDITIONS	SWP+CVP Yields (Million AF)		SWP Yield (55% Share) (Million AF)		SWP Table A (%)	
	Low	*High*	*Low*	*High*	*Low*	*High*
Existing Conditions (62%)	4.7		2.6		62.0%	
Future w/o CA WaterFix	3.5	3.9	1.9	2.1	46%	51%
CA WaterFix Yield	1.2	1.4	0.7	0.8	16%	18%
Future w/ CA WaterFix	4.7	5.3	2.6	2.9	62%	70%
Range of Incremental Yield	0.8	1.8	0.4	1.0	11%	24%
Average Incremental Yield	1.3		**0.72**		**17%**	

a. 2015 DWR Delivery Capability Report
b. Alternatives H3 to H4
c. This is the yield to the entire SWP; only contractors south of the Delta are actually going to receive the incremental yield, resulting in a slightly higher yield percentage.

Figure 5. SWP Long-Term Reliability as Percent of Table A



Project Cost Estimates

Project Capital and O&M Costs

California WaterFix's capital costs are estimated to total $14.9 billion in 2014 dollars. With an annual inflation rate of three percent, this is equivalent to $16.3 billion in 2017 dollars, excluding mitigation costs. Between 2014 and 2017, cost estimates originally prepared by DWR were rigorously analyzed by three separate groups of industry experts; all three estimates show that the California WaterFix could be constructed within the proposed budget. The estimated mitigation costs[4] total $796 million in 2014 dollars, of which $367 million is capital ($400 million in 2017 dollars) and the remainder represents O&M for 25 years. The project's total capital cost is therefore estimated at $16.7 billion in 2017 dollars. The total annual O&M costs when the project is fully operational are estimated at $64 million in 2017 dollars ($44 million for the water facility operations and $20 million for mitigation).

Based on the 55/45 split, SWP Contractor project costs would be $9.2 billion in capital and $35 million in annual O&M costs in 2017 dollars. Note that only SWP contractors south of the Delta are expected to cover the costs of California WaterFix, since they are the beneficiaries of the project. Zone 7 is part of this "Southern California" group, with the Delta serving as a boundary for water supply purposes between north and south. **Table 2** shows the cost breakdowns in 2014 and 2017 dollars.

[4] Based on likely requirements of the US Army Corps of Engineers (U.S. Army Corps) Section 404 permit. The preliminary mitigation cost estimate will be revised to incorporate the terms of the final regulatory permits (e.g., Endangered Species authorization).

Table 2. California WaterFix Cost Estimates

COSTS	2014 ($ millions)	2017 ($ millions)
Total Capital Cost		
Water Facility	$14,943	$16,330
Mitigation	$367	$401
Total Capital Cost	**$15,310**	**$16,731**
Annual Operation & Maintenance Costs[a]		
Water Facility	$40.3	$44.1
Mitigation	$18.6	$20.3
Total Annual O&M Costs	**$58.9**	**$64.4**

a. When the project is fully operational.

Annual Costs to SWP

Capital costs, financed through revenue bonds as discussed below, would extend over the term of the bonds, while O&M costs would continue through the operating life of the facilities. To estimate annual costs to the SWP, the State Water Contractors (SWC) completed a financial analysis that assumes that bonds would be issued annually, with the final bond sale in year 15 of project construction when California WaterFix is scheduled to be operational. All bond issues would be fixed rate debt issues with level annual debt service and no interest or principal deferment during construction. All bond issues are assumed to have a 40-year term. The interest rate is the most influential factor in determining the financing cost of the project, and the SWC looked at a base case 4% interest[5] scenario and 6% and 8% interest rate scenarios. The annual payments increase as additional annual bond issuances would be made to pay for ongoing construction. In the 15th year (assumed 2033), the final bond issuance would be made when construction is substantially complete and the project becomes operational. Full O&M costs are also assumed to begin in 2033, including the incremental power costs associated with the new infrastructure.

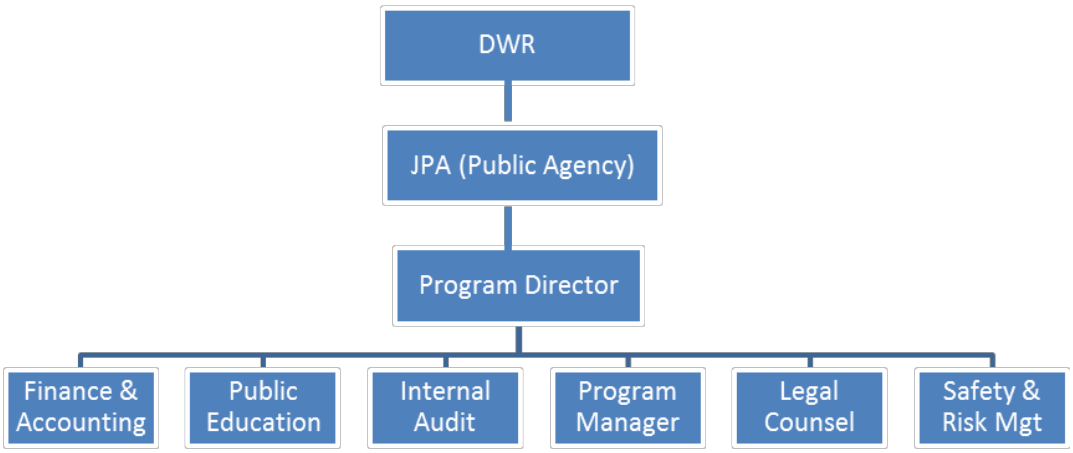
Costs from 2033 to 2059 are mostly level, with small increases in O&M costs because of inflation. The total annual cost in 2017 dollars for the SWP share of California WaterFix when the project is fully operational in 2033 (also the highest annual cost projected) is expected to range from $438 million at 4% interest rate to $709 million at 8%. Capital debt-service costs represent about 92-98% with the remainder covering O&M costs. An analysis of the cost impacts to Zone 7 suggests that treated water rates would increase over the next ten to fifteen years by a total of about 20% to pay for Zone 7's share of California WaterFix.

[5] The current interest rates for AA rated municipal bonds are 3.88 percent.

Design and Construction

The design and construction of California WaterFix would be managed under contract with DWR through a proposed Delta Conveyance Design and Construction Joint Powers Authority designated the Design and Construction Authority (DCA). This approach was successfully used previously for the design and construction of a portion of the Coastal Branch of the California Aqueduct in the mid-1990s. Figure 6 shows the proposed DCA governance structure, with the DCA's Program Director acting as the single point of accountability to the DCA Board of Directors for delivery of the program design and construction. The Program Director would set the overall direction of the California WaterFix, coordinate execution with the Program Manager and ensure activities are on schedule, are within budget, and adhere to specifications. In addition, the Program Director would oversee external interactions, administrative support functions of the DCA, and interaction with the DCA directors and DWR. This JPA approach to the implementation of the Califoria WaterFix provides fiscal control and oversight, and protects the public's investment.

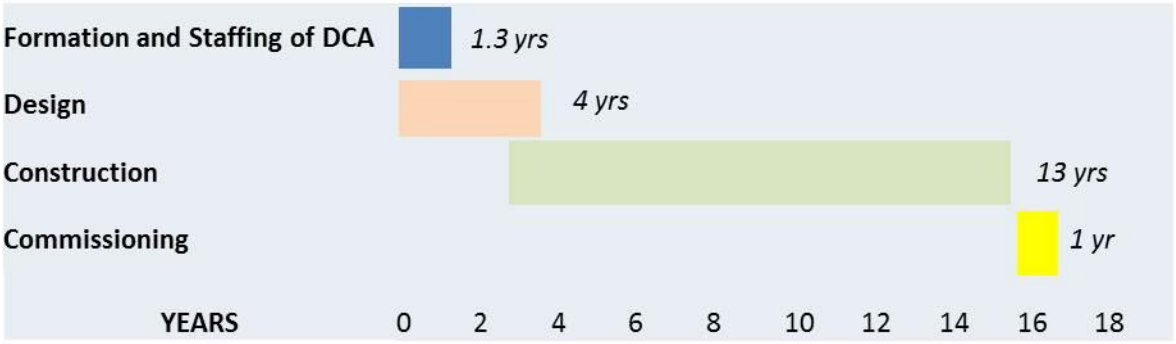
Figure 6. Design and Construction Authority (DCA) Governance Structure



Project Schedule

Once the program is authorized, it is anticipated that it will take 16 years to implement the project. The first 12 to 15 months will be used to fill key positions in the DCA and to hire the consultants that will be performing key work activities. The design phase is expected to take up to four years, with awards of major construction contracts to begin at that time. Construction is estimated to take about 13 years. The schedule is primarily based on information in the 2015 Conceptual Engineering Report as well as other available data for similar large-scale construction projects. The schedule is shown on Figure 7, with potential construction completion around 2033.

Figure 7. California WaterFix Estimated Project Schedule



Environmental Review and Permits

As reported in the August 16, 2017 California WaterFix Update to the Board, the project is steadily making progress towards achieving some key regulatory and permitting milestones and decision points. The project proponents (DWR and the Bureau of Reclamation) completed the Biological Assessment (BA) in 2016. On June 26, 2017, the resource agencies (National Marine Fisheries Service and U.S. Fish and Wildlife Service) determined in their Biological Opinions (BOs) that the construction and operation of the proposed project would not jeopardize the continued existence of threatened or endangered species or destroy or adversely modify critical habitat for those species. Both the BA and BOs are critical milestones in the environmental permitting process. On July 28, 2017, 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. Work continues on the coordination of the 1602 Streambed Alteration Agreement and the associated application. The decision on the US Army Corps 404 permit is anticipated by the end of 2017.

The Final Bay Delta Conservation Plan/California WaterFix EIR/S was released in 2016. On July 21, 2017, DWR certified the Final EIR/S and signed the NOD. With finalization of the NOD and associated decision documents, DWR has approved the proposed project under CEQA. The California WaterFix team continued to prepare for the hearings for the Change in Point of Diversion (POD) petition. A decision by the State Water Resources Control Board on approving the change in POD is most likely to occur in 2018.

B. Project Benefits to the Tri-Valley: Increased Reliability

The Tri-Valley receives about 80% of its water from the SWP, making Zone 7 one of the most Delta- or SWP-dependent water agencies in the State. While Zone 7 has access to Lake Del Valle and the groundwater basin, the former can only serve a subset of agricultural customers and the latter is completely inaccessible to them. Furthermore, Zone 7 is the first agency to receive water from the Delta via the California Aqueduct/South Bay Aqueduct system. Any water quality disruptions in the Delta (e.g., a levee break causing a salinity spike) would immediately impact Zone 7 operations. The operational flexibility afforded by California WaterFix will reduce climate

change risks to Zone 7's major source of water supply (reduction in snowpack water storage, increased intensity and frequency of extreme precipitation events, and rising sea level and salt water intrusion into the Delta). Finally, the project creates a much-needed operational redundancy in the event of a seismic event causing multiple levee failures that could disrupt SWP and CVP pumping operation for up to 18 months.

Based on the Table A amounts of contractors south of the Delta, Zone 7 represents approximately a 2% share. With an average SWP project yield of 0.72 MAF or 720,000 AF from California WaterFix (Table 1), Zone 7 expects an average increase of about 14,400 AF of Table A water supply, which is about an 18% increase in reliability (14,400 AF/80,619 AF = 18%).

FUNDING:

DWR has advised that there will be a delay in its issuance of bonds. Every month of delay adds about $1M in project costs. As a result, it is in the best financial interests of participants to provide some gap and interim funding. The proposed approach is outlined in Table 3 below.

Table 3. Short-Term and Long-Term Financing for the California WaterFix

FUNDS	SOURCE OF FUNDS	TIMING
Article 51(e)	DWR	Through end of 2017
Gap Funding	SWP and CVP contractors who choose to participate	January 2018 until first Finance JPA revenue bond issued (est. end of mid-2018)
Revenue Bonds	Issued to Finance JPA by DWR	Until DWR issues revenue bonds in the bond market
Revenue Bonds	Issued to investors in the bond market by DWR	Over the construction period, likely with the final bond sale in year 15 of project implementation

Fund 310 (Water Supply and Reliability Fund) could provide Zone 7's share of gap funding.

RECOMMENDATION:

Staff recommends that the Board adopt the attached resolution endorsing California WaterFix and related environmental and other actions to support the project's progress, including a gap funding agreement up to $250,000 from Fund 310 (Water Supply and Reliability Fund) to cover costs for California WaterFix starting on January 1, 2018 and bridging the gap until the first bonds can be issued. The resolution authorizes the General Manager to negotiate Zone 7's participation in the Finance Joint Powers Authority (JPA) and the Design and Construction JPA, and to execute any associated agreements.

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Supporting California WaterFix and Associated Actions

WHEREAS, the California WaterFix (project) is a critical component of the California Water Action Plan, the State of California's blueprint for "a sustainable and resilient future"; and

WHEREAS, the California WaterFix is critical to protecting and restoring the Tri-Valley's water supply reliability by upgrading aging infrastructure thereby reducing the SWP's vulnerability to seismic events in the Delta and climate change impacts; and

WHEREAS, on July 21, 2017, the Department of Water Resources (DWR) certified the final environmental analysis for the California WaterFix and signed the Notice of Determination thereby approving California WaterFix as the proposed project under the California Environmental Quality Act; and

WHEREAS the formation of a Finance Joint Powers Authority and a Delta Conveyance Design and Construction Joint Powers Authority (DCA) is proposed for the implementation of California WaterFix, providing fiscal control and oversight and protecting the public's investment.

NOW THEREFORE BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby find and determine as follows:

1. Zone 7 endorses DWR's approval of the California WaterFix.
2. As a responsible agency, Zone 7:
    a. has considered DWR's certified Final EIR and the impacts of the project as disclosed and analyzed in the Final EIR,
    b. adopts DWR's Findings of Fact with respect to each potentially significant impact of the project,
    c. adopts a Statement of Overriding Considerations in view of potentially significant and unavoidable impacts, and
    d. adopts the Mitigation Monitoring and Reporting Program.
3. The General Manager is granted the authority to negotiate and execute an agreement for Zone 7's share of the gap funding up to $250,000 from Fund 310 to cover costs for California WaterFix starting on January 1, 2018 and continuing until the first bonds are issued.

4. The General Manager is granted the authority to negotiate Zone 7's participation in the Finance Joint Powers Authority and the DCA, and to execute any associated agreements including but not limited to an Adaptive Management MOA.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on September 20, 2017.

By: _____
President, Board of Directors