ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7
100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: INTEGRATED PLANNING**
**CONTACT: AMPARO FLORES/WES MERCADO**

**AGENDA DATE**: January 16, 2019 **ITEM NO. 10**

**SUBJECT**: 2019 Sites Reservoir Project Agreement

**SUMMARY:**

- The 2019 Water Supply Evaluation Update confirms the need for Zone 7 to continue to pursue water supply options to enhance storage flexibility and improve long-term water supply reliability for the Livermore-Amador Valley.
- One of the water supply reliability projects that Zone 7 has been considering is the Sites Reservoir Project (Project), which would construct a new 1.8 million acre-foot (AF) reservoir.
- On December 21, 2016, the Board authorized the negotiation and execution of the Phase 1 Reservoir Project Agreement for funding, based on a request for 20,000 AF of Sites Reservoir yield, with a total not-to-exceed cost of $850,000 including contingency (the actual cost of $823,200 has been paid to the Sites JPA for Phase 1).
- Major accomplishments under Phase 1 included the successful application for State WSIP funding, the completion of the Draft Federal Feasibility Report, advancement of operations modeling, coordination with permitting agencies, development of a finance plan, and the procurement of key consultants for Phase 2.
- Phase 2 of the project would begin in April 2019 and the next agreement would cover through December 2019; tasks include defining project operations and principles of agreement, continued coordination with State and Federal agencies, preliminary permit planning and applications, preliminary right of way activities, and other supplemental analyses. The participation cost is $60/AF.
- Staff's latest analysis indicates that the Sites Reservoir Project could significantly improve the reliability of Zone 7's water supply system by providing storage and new water supply.
- On December 21, 2018, the Water Resources Committee supported bringing the 2019 Sites Reservoir Project Agreement to the Board for consideration.
- Considering the Project's benefits and risks, Zone 7's needs, and the required financial commitments, staff recommends continued participation in the Project's planning activities at the reduced level of 10,000 AF and asks the Board to authorize the negotiation and execution of the 2019 Sites Reservoir Project Agreement in an amount not-to-exceed $600,000 ($60/AF x 10,000 AF).

**FUNDING:**
Staff proposes to fund this project from Fund 310 (Water Supply and Reliability Fund), with a current balance of approximately $3.7 million.

**RECOMMENDED ACTION:**
Adopt the attached resolution.

**BACKGROUND:**
The 2019 Water Supply Evaluation Update (2019 WSE Update) confirms the need for Zone 7 Water Agency (Zone 7) to continue to pursue water supply options to enhance storage flexibility and improve long-term water supply reliability for the Livermore-Amador Valley. One of the water supply reliability


projects that Zone 7 has been considering is the Sites Reservoir Project (Project), which would construct a new 1.8 million acre-foot (AF) off-stream reservoir located 75 miles northwest of Sacramento, in the Antelope Valley of the Coast Range, approximately 10 miles west of Maxwell in Colusa County. Sites Reservoir could provide both storage and supply to Zone 7.

On December 21, 2016, the Board authorized the negotiation and execution of the Phase 1 Reservoir Project Agreement for funding, based on a request for 20,000 AF of Sites Reservoir yield, with a total not-to-exceed cost of $850,000 including contingency[1]. Participation adjustments over Phase 1 resulted in Zone 7's Class 1 amount at 14,269 AF with additional 5,731 AF of Class 2 water. Class 1 water represented 50% of the reservoir's expected yield (250,000 AF out of 500,000 AF total yield annually) and was allocated to participating water agencies while Class 2 water represented the remaining expected yield, which had been reserved for "public benefit" environmental uses depending on the state's level of participation under Proposition 1 (Water Storage Investment Program or WSIP). Phase 1 of the Project is scheduled for completion in March 2019, and the 2019 Sites Reservoir Project Agreement (2019 Agreement) has been developed to establish the terms of continued participation in planning activities through the end of 2019. This agenda item presents the 2019 Agreement for the Board's consideration.

**DISCUSSION**

***Project Overview***

It is widely recognized that California needs additional storage as climate change brings higher temperatures, smaller snowpack, and shorter and more intense storms. Sites Reservoir is intended to capture excess flows in the Sacramento River system, to be filled during major storm events after all environmental compliance obligations and senior water right demands have been met. While the reservoir is largely expected to be filled during wet years, these conditions can be met even during dry years[2]. Captured water would be released when needed, generally during dry and critical years. Sites Reservoir is expected to yield up to about 500,000 AF per year (AFY) on average, with more water made available during dry years. As noted above, in Phase 1 of the Project, 250,000 AFY of this yield was allocated to municipal and agricultural water agencies, with the rest reserved for the State's potential use. As part of the next phase of the Project, operations modeling will be refined to reflect a range of permit and operational conditions, which could reduce the average annual yield of the Project; preliminary analysis indicates that the yield could be lowered by as much as 40% under extreme permitting conditions.

The reservoir will be located downstream of the Central Valley Project's Shasta Reservoir and upstream of the State Water Project's (SWP's) Oroville Reservoir. In addition to capturing and storing water supply for municipal and agricultural use, Sites Reservoir can reserve a pool of water for environmental uses such as[3]: 1) conserving coldwater pools in the CVP and SWP reservoirs to support salmon, 2) stabilizing

[1] Actual amount paid to Sites JPA: $832,300.
[2] For example, it is estimated that Sites could have captured 410,000 AF from just two storm events over the wet season of 2014-15. https://www.sitesproject.org/wp-content/uploads/2018/03/SitesFAQ1101_web.pdf
[3] https://www.sitesproject.org/wp-content/uploads/2018/03/SitesExecutiveSummary_Final_August2017.pdf

Sacramento River fall flows for salmon, 3) increasing water supplies for refuges, and 4) providing pulse flows and nutrient-rich water for Delta smelt in the Yolo Bypass. The California Water Commission (CWC) acknowledged some of these environmental uses as public benefits, making the Project eligible for the State's WSIP funding as described further below.

The Sites Project Authority (Authority) was formed on August 26, 2010 as a Joint Powers Authority to pursue the development and construction of Sites Reservoir. The Authority is governed by a 12-member Board of Directors representing Sacramento Valley leadership in government and water management. Water agencies across California that are interested in the Project are members of the Sites Reservoir Project Committee, which oversees the planning efforts and provides recommendations to the Authority.

***Project Costs***

Sites Reservoir's total capital cost is estimated at $5.5 billion (2018 $). For every 10,000 AFY of participation (2% of yield), the project capital cost is approximately $110 million. The Project's financial consultant estimates the overall water supply cost at $630 to 900/AF for water delivered to Banks Pumping Plant in the Delta based on certain yield, financing, and State/Federal cost share assumptions. Accounting for 20% carriage loss through the Delta and the cost of SWP delivery to the South Bay Aqueduct ($60/AF), staff estimates the cost of Sites Reservoir to be $900-$1,200/AF including debt service and operation and maintenance costs. Note that reductions in the project yield would increase the Project's unit costs. Costs will continue to be refined as part of Phase 2, along with more refined operations and yield modeling. The Project is currently one of the lowest-cost water supply options for Zone 7.

In July 2018, the CWC decided to award the Project up to $816 million in State funding to provide environmental benefits for refuge water supplies, Delta smelt, recreational opportunities and localized flood control. The Project was also selected for early funding of up to $40.8 million to assist in completing the necessary environmental analyses and obtaining permits. The early funding from the State, as well as potential funding from the Federal government's Water Infrastructure Improvements for the Nation Act (WIIN Act), will cover some of the costs as the Project moves into Phase 2, reducing participant costs.

***Findings from the 2019 Water Supply Evaluation Update***

To evaluate the potential benefits of Sites Reservoir to the reliability of Zone 7's water supply system, staff considered 5,000 to 10,000 AFY of average net yield from Sites Reservoir (i.e., this is the amount of water that would be delivered to Zone 7 after the Delta), in combination with other water supply options. The availability of this supply was varied based on hydrology, with more water delivered to Zone 7 during dry years. Water would be released from Sites Reservoir annually, at Zone 7's request, to the Sacramento River, then conveyed by the SWP system (with or without the California WaterFix tunnels) through the Delta and to the South Bay Aqueduct. The terms of the conveyance of Sites Reservoir water by the SWP are being discussed with the Department of Water Resources, and staff have been advocating for this water to be treated as supplemental SWP water, increasing its delivery priority and allowing it to be conveyed throughout the year[4]. At this time, water deliveries through the Delta are assumed to incur about 20% carriage loss, which is water used to meet water quality and flow standards in the Delta; this means that for every 1,000 AF of water released from Sites Reservoir, only 800 AF would be expected to be delivered to Zone 7 on average.

Based on the water supply risk model results, Sites Reservoir's key benefit is the availability of water during dry years when the shortage risk is greatest. Sites Reservoir is a good complement to California WaterFix, which produces the highest yield during wet years. Assuming 55,000 AFY of buildout demand

[4] "Transfer water", which is non-SWP water, can currently only be conveyed during the July-September window.

from Zone 7, 10,000 AFY of net yield from Sites Reservoir—along with California WaterFix and short-term transfers—would allow Zone 7 to meet the reliability policy goals. A reduced level of participation (i.e., 5,000 AFY) in Sites Reservoir could also be combined with other long-term water supply sources (e.g., potable reuse) to meet those goals. Because Sites Reservoir provides both storage and new supply, it adds flexibility to Zone 7's water supply system; for example, the timing of deliveries from Sites Reservoir could be modified to maximize yields from other water supplies and/or to accommodate delivery timing restrictions of other supplies.

***2019 Sites Reservoir Project Agreement***

Major accomplishments in Phase 1 included the successful application for State WSIP funding, the completion of the Draft Federal Feasibility Report, advancement of operations modeling, coordination with permitting agencies, development of a finance plan, and the procurement of key consultants for Phase 2.

Early discussions of Phase 2 included funding commitment for four years to design and permit the Project at a total cost of $350 million. Phase 2 of the Project would begin in April 2019 and the current version of the agreement would cover through December 2019 only. Key tasks include defining project operations and principles of agreement, continued coordination with State and Federal agencies, preliminary permit planning and applications, preliminary right of way activities, and other supplemental analyses. This revised approach allows for annual decision-making for water agencies' continued participation and funding as the Project becomes more defined; however, it does increase the risks in meeting statutory guidelines for state WSIP funding and increase overall project costs. Phase 2 is expected to cost $35 million, with an estimated $20 million in WSIP and WIIN Act funding. Revenue from water agencies would cover the remaining $15 million, with a participation cost of $60/AF.

In addition to the financial commitments, the 2019 Agreement addresses membership and voting in the Sites Reservoir Project Committee; withdrawal terms and associated financial liabilities; and the admission of new participating agencies. The agreement also recognizes that the project is in the conceptual stage and there are no assurances that the project will be constructed.

**RECOMMENDATIONS**

On December 21, 2018, the Water Resources Committee supported bringing the 2019 Sites Reservoir Project Agreement to the Board for consideration. Staff recommends a participation level of 10,000 AFY in the 2019 Sites Reservoir Project Agreement. This translates to an estimated net yield of 5,000 to 8,000 AFY. This amount considers Zone 7's water supply needs against the financial considerations for Phase 2 participation. This level demonstrates a serious commitment to the project, while lowering the financial risk for Zone 7 at this stage of project development. As the project is better defined, and there is more certainty on the Project yield and Zone 7's demands, Zone 7 could consider increasing its level of participation. Based on 10,000 AFY and $60/AF, the estimated cost to Zone 7 for calendar year 2019 is $600,000. Funds are available in Fund 310 (Water Supply and Reliability Fund) with a current balance of approximately $3.7 million.

**ATTACHMENT:**
Resolution

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

**2019 Sites Reservoir Project Agreement**

WHEREAS, Zone 7 Water Agency continues to proactively seek ways to enhance storage flexibility, diversify its water supply portfolio, and improve long-term water supply reliability for the Livermore-Amador Valley; and

WHEREAS, findings from the 2019 Water Supply Evaluation Update indicate that the Sites Reservoir Project could significantly improve the reliability of Zone 7's water supply system by providing storage and new water supply; and

WHEREAS, participation in Phase 2 of the Sites Reservoir Project in 2019 would allow Zone 7 to continue to evaluate the costs and benefits of Sites Reservoir.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District directs the General Manager to negotiate and execute the 2019 Sites Reservoir Project Agreement at 10,000 acre-feet of participation in an amount not-to-exceed $600,000 from Fund 310 (Water Supply and Reliability Fund).

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 January 16, 2019.

By: _____
President, Board of Directors