

Alternative 2 Water Supply and Ecosystem Benefits



To: File
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From: Alicia Forsythe, Environmental Planning and Permitting Manger
Subject: Alternative 2 – Water Supply and Ecosystem Benefits

This memorandum addresses the Sites Reservoir Authority (the “Authority”) consideration of the relative impacts and benefits of Alternative 2 when identifying the preferred project for the purposes of CEQA. Specifically, the conclusion that Alternative 2 would not provide the same water supply and ecosystem benefits as Alternative 3, the preferred project.

Background

The unique features of Alternative 2 are described in the Executive Summary and Chapter 2 of the Final EIR/EIS and include:

- Reservoir capacity would be 1.3 MAF, resulting in a slightly smaller footprint;
- Location of the Terminal Regulating Reservoir (TRR) West;
- Local access provided by a road around the southern end of the reservoir (i.e., South Road) to enable travel between the east and west sides of the reservoir;
- The Dunnigan Pipeline would extend beyond the Colusa Basin Drain (CBD) and discharge into the Sacramento River with primary release from the Sacramento River discharge and only a partial discharge at the CBD; and
- There would be no Reclamation investment in the Project.

Alternative 2 would impound surface water at the Golden Gate Dam on Funks Creek and the Sites Dam on Stone Corral Creek; a series of four saddle dams (three saddle dams less than Alternative 1) along the surrounding eastern and northern ridges would close off topographic saddles to form Sites Reservoir. The 1.3-MAF reservoir (0.2 MAF less than Alternative 1) would inundate approximately 12,600 acres (600 acres less than Alternatives 3) of Antelope Valley. Alternative 2 would convey water from the Sacramento River to store in the reservoir using the same existing and new diversion facilities as Alternative 3. Alternative 2 would involve the construction of TRR West.

As under Alternative 3, releases from Sites Reservoir under Alternative 2 would be made to meet environmental purposes, for Storage Partners based on their requests to meet their water supply portfolio needs, and for operational exchanges with Reclamation in Shasta Lake and with

DWR in Lake Oroville. However, under Alternative 2, the Dunnigan Pipeline would be extended beyond the CBD so that releases could be discharged not only to the CBD, but also directly into the Sacramento River. Alternative 2 does not include any Reclamation investment in the Project.

Construction, local, and maintenance roads would be required and developed; however, Alternative 2 does not propose a bridge for the relocated Sites Lodoga Road. Under Alternative 2, the existing Huffmaster Road would be realigned around the southern end of the reservoir and a new South Road would connect to the realigned Huffmaster Road. The recreation areas that would be provided under Alternative 2 would be identical to those for Alternative 3. Overall, operations for Alternative 2 would be similar to those for Alternative 3 but would occur within the constraints of a smaller reservoir.

Significant and Unavoidable Impacts

Most of the impacts associated with Alternative 2 are similar to those associated with Alternative 3. However, although implementation of Alternative 2 would result in a slightly smaller footprint for the reservoir, the EIR/EIS analysis demonstrates that the proposed construction of the South Road rather than a bridge would result in significant and unavoidable transportation and land use effects that would not occur under Alternatives 3.

The realignment of the Sites Lodoga Road would result in a longer route around the south side of Sites Reservoir and have a substantial effect on school bus travel provided by the Maxwell Unified School District. The realignments would result in a travel route that is approximately 14 miles longer in Alternative 2 compared to the existing travel route between Maxwell and Lodoga. Travel time on the new route would be approximately 60 minutes, which would substantially affect school bus travel.

Construction and operation of Alternative 2 would also result in the physical division of established communities. There would be a physical division for the community of Lodoga, even though the South Road would connect Lodoga to Maxwell, because the new access route would substantially increase travel time. There are no feasible mitigation measures for this impact. This impact would be significant and unavoidable.

Reduced Benefits of Alternative 2

As noted in the CEQA Findings, Alternative 2 would not provide the same magnitude of water supply benefits as Alternative 3, and thus would not meet the Project objectives to the same extent as Alternative 3 – including the objectives of improving water supply reliability and resiliency to meet Storage Partners’ agricultural and municipal long-term average annual water demand in a cost-effective manner for all Storage Partners, including those that are the most cost-sensitive; providing public benefits consistent with Proposition 1 to improve statewide surface water supply reliability and flexibility; and providing public benefits consistent with the use of federal funds to improve Central Valley Project (CVP) operational flexibility (OpFlex). The lack of Reclamation investment in Alternative 2 would also substantially reduce the Project’s

ability to improve cold-pool management in Shasta Lake to benefit anadromous fish as described in Chapter 11 of the Final EIR.

Water Supply

As noted in Chapter 5, Surface Water Resources, the size of the reservoir will result in reduced storage and deliveries of Sites water:

As shown in Table 5-30, with deliveries with a larger reservoir (1.5 MAF) are greater than with a smaller reservoir (1.3 MAF), regardless of federal investment, thus providing for increased benefits and further achievement of the water supply project objectives. A larger reservoir also serves to provide for increased opportunities for federal investment, thus further enhancing the ability to provide project benefits.

Attachment A provides modeling results for each alternative, demonstrating the substantial differences in storage, deliveries, and releases. The second table, Shasta Storage and Operations, outlines changes (for each alternative as compared to the No Action Alternative) to Shasta storage in April and September and breaks-down the source for the storage change, either due to Reclamation investment (CVP OpFlex) or Storage exchanged from Sites. This demonstrates the greater water supply benefits of Alternative 3 when compared to Alternative 2 due to Reclamation participation.

Anadromous Fish Benefits

The Final EIR/EIS analysis concluded that the additional water supply provided by Sites Reservoir may provide opportunities for improved management of salmonid habitat, particularly in the Sacramento River above RBPP. By exchanging Sites' water for CVP water, Reclamation has an additional tool to maintain and improve habitat for salmonid spawning, incubation, rearing, and migration. By delivering water to CVP contractors from Sites Reservoir, Reclamation may maintain supply in Shasta Lake for important periods to support these habitat conditions. The possible additional water supply in Shasta Lake can then be allocated during real-time management scenarios for a number of uses (e.g., cold-water pool maintenance, spring pulse or fall pulse flow events, reduced fall flows) that may provide enhanced anadromous fish benefits. These benefits may include protecting and increasing the cold-water pool in Shasta Lake, which is essential for temperature control in the reaches below Keswick Dam that are critical for salmonid egg incubation during Dry and Critically Dry Water Years. Maintenance of water in Shasta Lake may also provide a resource for achieving fall flow schedules to support spawning redds that persist in the wetted margins of the Sacramento River. In years when storm events are weak and natural pulse flows are minimal, this maintenance of supply in Shasta Lake could be used to manufacture a spring pulse flow to assist juvenile salmonids in their migration from the upper Sacramento River through the Delta and to the ocean.