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September 17, 2021

Amy Young
California Water Commission
901 P Street, P.O. Box 942836
Sacramento, CA 94236-0001

Subject: Response to California Water Commission's Review of the Final Federal Feasibility Report for the Los Vaqueros Reservoir Expansion Project

Dear Ms. Young,

Thank you for your letter dated April 23, 2021 regarding the California Water Commission (CWC) staff review of the 2020 Final Federal Feasibility Report (Feasibility Report) for the Los Vaqueros Reservoir Expansion Project (Project). Your letter requested supplemental documentation to explain differences between the Feasibility Report and the feasibility information contained in the 2017 Water Storage Investment Program (WSIP) application. Specifically, additional information was requested regarding physical benefits, economic benefits, financial feasibility, and costs.

Attached for your review is a response document that contains additional information and explanations regarding differences between the Feasibility Report and the feasibility information provided in the WSIP application. We hope that this supporting information is sufficient for CWC staff to determine that the Project has fully complied with the WSIP requirements for completeness of feasibility studies.

As always, please do not hesitate to contact me at (925) 688-8018 or Maureen Martin at (925) 688-8323 if there are additional questions. We would be happy to schedule a meeting if that would assist with your review. We appreciate your thoughtful review and look forward to continue to work with you.

Sincerely,

A handwritten signature in blue ink that reads "Marguerite Patil".

Marguerite Patil
Assistant General Manager – Policy and External Affairs

MP/MM:wec

Attachment: Response to California Water Commission (CWC) staff review of the Final Federal Feasibility Report for the Los Vaqueros Reservoir Expansion Project (September 17, 2021)

**Response to the California Water Commission (CWC) staff review
of the Final Federal Feasibility Report for the Los Vaqueros Reservoir Expansion Project
September 17, 2021**

A feasibility study is an evaluation and analysis of the overall viability of a proposed project. A completed project feasibility study is required as part of the project eligibility requirement (Water Code Section 79757) of the Water Storage Investment Program (WSIP). The California Water Commission (CWC) must make a determination that the project is feasible (Water Code Section 79755 (a)(5)(B)) in order to encumber Proposition 1 funding and make that funding available to an applicant.

In August 2017 Contra Costa Water District (CCWD), on behalf of the Local Agency Partners, submitted an application to the WSIP (2017 WSIP application) for the Phase 2 Los Vaqueros Expansion Project (Project). In June 2018, the CWC determined, among many things, that the Project appeared feasible. In August 2020, the Final Federal Feasibility Report (Feasibility Report) was completed, and the Secretary of the Interior notified Congress that the Project was feasible and warranted the level of federal investment recommended in the Feasibility Report. The Feasibility Report was provided to the CWC staff for technical review on November 13, 2020, to satisfy the WSIP requirements. On April 23, 2021, the CWC staff sent a letter to CCWD (Appendix 1) regarding its review of the Feasibility Report for completeness and requested additional information.

The Feasibility Report meets and/or exceeds the WSIP requirements as documented in the 2016 Technical Reference Document¹. The Feasibility Report is an evaluation of overall project feasibility and establishes the foundation for federal cost share and future federal appropriations. As noted in Section 2.5 of the 2016 Technical Reference Document (Feasibility Study Considerations), water storage projects evaluated under federal guidelines must follow agency-specific guidelines. The Feasibility Report was developed using specific guidance from the U.S. Department of Interior, Bureau of Reclamation (Reclamation) and as such, there are minor differences between information in the Feasibility Report and the 2017 WSIP application. The subsequent information is intended to identify and explain differences in assumptions, procedures, and results between the Feasibility Report and the 2017 WSIP application, and how those differences could affect project feasibility. A response to each question and comment from the CWC staff is included below.

CWC Staff Comment #1: *“It appears that some of the project features, facilities and operations differ from the feasibility information provided in the original 2017 WSIP application for the Project. Because there are differences, staff cannot accept the feasibility study as complete until those differences are explained. This can be done in a supplemental document and the original application can be referenced as well, if relevant.”*

CCWD Response to Comment #1: This response serves as the supplemental documentation requested and contains specific responses to the CWC staff comments and requests for additional information.

¹ The 2016 Technical Reference Document requires that the following components of feasibility are evaluated: project objectives, project description, costs, benefits, cost allocation, technical feasibility, environmental feasibility, economic feasibility, financial feasibility and constructability.

There are key differences between the 2017 WSIP application and the Feasibility Report. The key differences and the basis for the differences are summarized in Table 1 below.

Table 1. Summary of Key Differences between Analysis Conducted for 2017 WSIP Application and the Feasibility Report

Key Difference	Basis for Key Difference	
	2017 WSIP Application	Feasibility Report
Purpose of document	To determine maximum conditional eligibility award for State public benefits	To determine nature and extent of federal participation and funding for federal benefits
Applicable Laws in Determining Maximum Public Funding ²	<ul style="list-style-type: none"> • 2014 Proposition 1 • Water Storage Investment Program (WSIP) Regulations 	<ul style="list-style-type: none"> • Central Valley Project Improvement Act (CVPIA) • Water Infrastructure Improvements for the Nation Act (WIIN Act)
Public Benefits Eligible for Public Funding	<ul style="list-style-type: none"> • Ecosystem • Emergency/Drought • Water Quality • Recreation • Flood Protection 	<ul style="list-style-type: none"> • Water Supplies for CVPIA Wildlife Refuges • Central Valley Project Operational Flexibility
Key Limitations on Funding in Applicable Regulations	<ul style="list-style-type: none"> • State funded public benefits must be at least 50% ecosystem • Maximum percent of State cost share depends on Project type • State funds only applied to capital costs • State funding is fixed amount, does not escalate over time or account for actual construction costs 	<ul style="list-style-type: none"> • WIIN Act limits Federal cost share to 25% total project costs for State-led storage projects • CVPIA specifies 75% Federal non-capital cost-share for acquisition of Refuge water supplies • Federal funding is not limited to capital costs • Federal funding reimburses percentage of actual costs
Method for Simulating Operations & Benefit Quantification	CalSim with conditions representing 2030 & 2070 with climate change	CalSim with conditions representing 2030, no climate change
Basis and Method for Valuation of Water (\$/AF)	<ul style="list-style-type: none"> • 2016 Technical Reference Document • CWC determination of final economic valuation 	<ul style="list-style-type: none"> • Federal Economic and Environmental Principles and Guidelines • Water Transfer Pricing Model

² See Table 6-2 of Feasibility Report for more complete information on applicable laws and federal authorizations.

CWC Staff Comment #2: *“The supplemental documentation should also include additional information that relates to deficiencies identified in the WSIP technical review from 2018³.”*

In 2018 the CWC staff evaluated the technical, financial, economic, and environmental feasibility of the Project and recommended a score of 16 out of 17 total possible points, the second highest scoring Project evaluated. The technical review included the following statements regarding the financial feasibility of the Project:

“The applicant has not fully demonstrated that sufficient funds are likely to be available from public and non-public sources to cover the construction and operation and maintenance (O&M) of the project over the planning horizon. The financial analysis provided by the applicant indicates a medium certainty that the applicant can build or operate the project. The monetized non-public benefits are approximately fifty-three percent of the non-public costs. The applicant demonstrates a strong rate base and history of meeting financial obligations, as summarized in the applicant’s supporting documents. The applicant’s feasibility study describes the process needed to proceed from preliminary cost allocation to an implemented financial plan. However, the capacity and willingness of other required participants, such as other municipal water providers and agricultural beneficiaries, have not been fully demonstrated. The applicant has included an ability to pay calculation for municipal and industrial users, which effectively shows mean income in the service area is easily high enough to cover an increased water charge. Similar information was not provided for agricultural users.”

CCWD Response to Comment #2: The comment above was made in 2018; the Feasibility Report was completed in 2020 and does contain an ability to pay analysis for agricultural partners (Appendix G, Tables 6.3-7). The Feasibility Report shows that both municipal and agricultural partners alike have the ability to pay. The development of the Project to date has been funded by a combination of Federal, State, and Local funding. It is anticipated that the construction, operation, and maintenance costs of the Project will continue to be funded by a combination of Federal, State, and Local funding. The Project has a well-established record of funding and cost-sharing since 2000 when the CALFED Bay-Delta Program Record of Decision was signed. Figure 1 summarizes funding provided by the Federal (Reclamation), State (CWC) and Local Agency Partners from 2016 to date, and Figure 2 summarizes the funding agreements CCWD has executed with Federal, State, and Local Agency Partners during this timeframe.

Federal funding through the completion of the Feasibility Report was authorized by Congress as part of the CALFED Bay-Delta Program storage investigations⁴. On December 16, 2015, CCWD and Reclamation entered into a Memorandum of Understanding for sharing of costs for the Project to complete the Feasibility Report. As noted above, the Feasibility Report was completed in August 2020 and on August 12, 2020 the Secretary of the Interior determined that the Project was feasible and concurred with the recommended levels of federal funding to advance the Project (Appendix 2).

³ https://cwc.ca.gov/-/media/CWC-Website/Files/Documents/2018/WSIP/TechReview/LosVaqueros_TechReview.pdf

⁴ 2004 Water Supply, Reliability, and Environmental Improvement Act (Public Law 108-361)

On April 9, 2021, Reclamation and CCWD entered into a Memorandum of Agreement for the Preconstruction Phase of the Project and Sharing of Costs. Federal funding since the completion of the Feasibility Report is authorized under the WIIN Act. Since 2020, \$10 million has been appropriated by Congress under the WIIN Act to advance pre-construction activities and \$4 million for construction. Reclamation has requested \$50 million for the Project in Fiscal Year 2022, and appropriations are anticipated this fall.

In 2018, CCWD entered into an Early Funding Agreement with the CWC. The CWC reimburses up to 50 percent of eligible expenses up to \$22.95 million. The remaining 50 percent of costs have been funded by the Local Agency Partners and federal cost share provided by Reclamation.

Since 2016, the Local Agency Partners have entered into several cost share agreements to fund Project development. The Local cost-share agreement (Multi-party Cost Share Agreement or MPA) has recently been amended to continue funding the Project. The Local Agency Partners have collectively invested over \$16 million to date, in addition to the more than \$2 million contributed as in-kind services.

CCWD and the Local Agency Partners recently approved execution of the Los Vaqueros Reservoir Joint Exercise of Powers Agreement (JPA Agreement) and on or about October 6, 2021 the JPA Agreement will be filed with the Secretary of State and the Los Vaqueros Reservoir Joint Powers Authority (Authority) will be officially formed. The primary objectives of the Authority are to provide governance of the Project, ensure sufficient and stable funding for the Project and related administrative and support activities, and ensure costs are reasonable and cost allocations are equitable and transparent. CCWD and the Local Agency Partners have collectively agreed that costs will be allocated equitably in accordance with the “beneficiaries pay” principle. The commitment to this principle is included in all cost-share agreements executed to date. This commitment exceeds the 75% threshold and was executed ahead of the January 1, 2022, requirement of Water Code §79757 (a)(3) [WSIP Regulations §6013(f)(2)(C)].

These agreements and expenditures, together with the ongoing partnerships developed over the past 20 years, demonstrate an established commitment of cost-sharing that is expected to endure should the Project secure full funding from the CWC. Copies of the various cost-share agreements can be provided upon request.

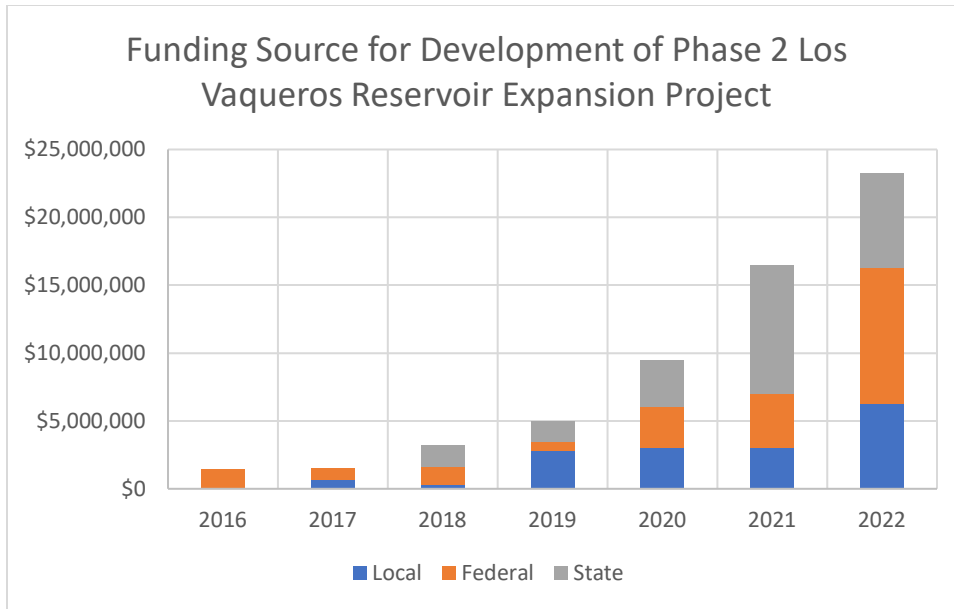


Figure 1. Federal, State, and Local funding provided since 2016 for the planning, environmental documentation, feasibility studies, and permitting.

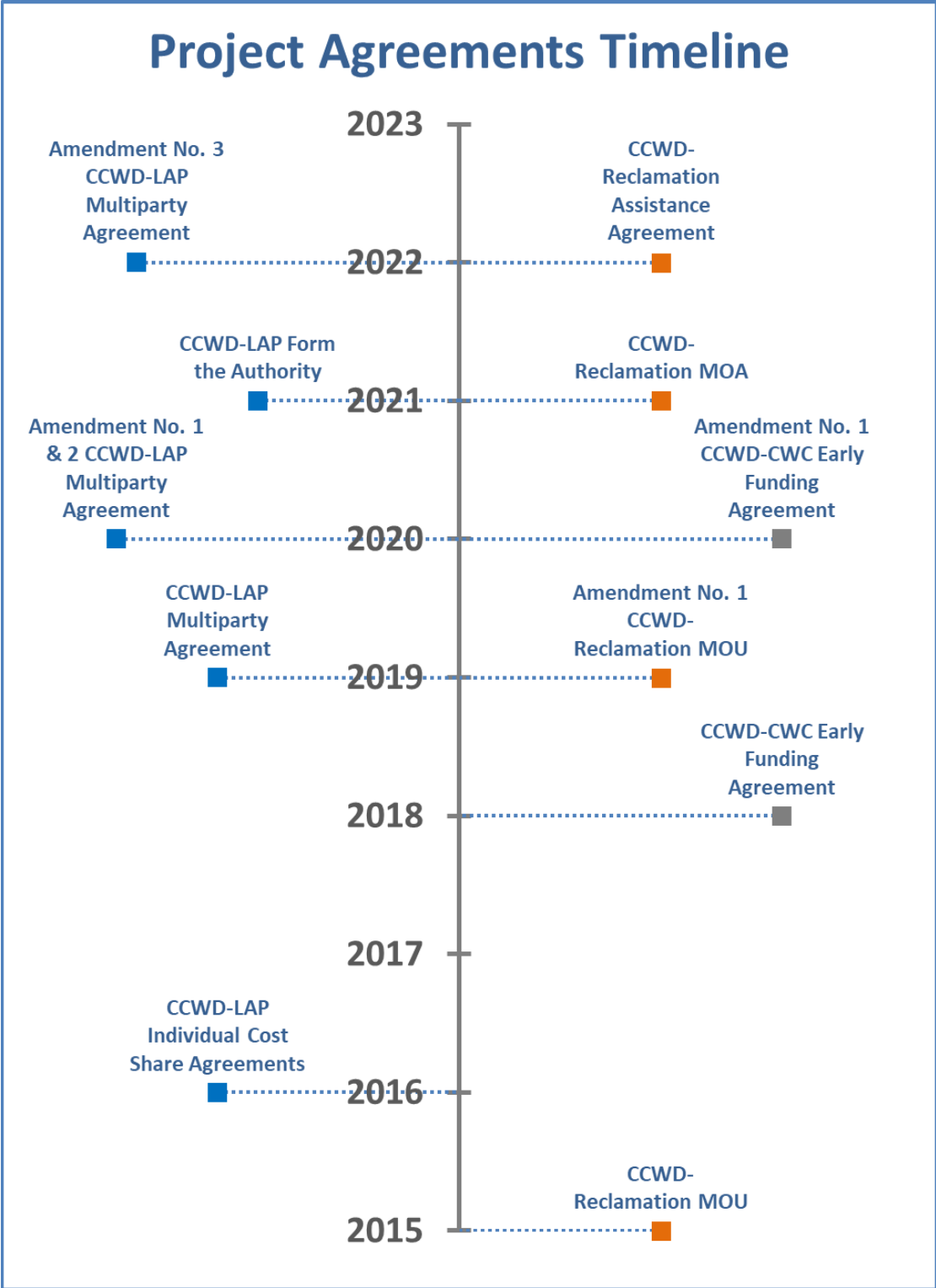


Figure 2. Timeline of cost-sharing agreements to develop the Project. Orange represents agreement with Reclamation (federal), blue represents agreement with Local entities, and gray represents agreement with CWC (state).

Project Physical Benefits

CWC Staff’s Comment #3: *“Please explain the differences in features (facilities or operations) between the original application and the federal feasibility study. Examples of features include, but are not limited to, pipelines, pump stations, fish screens, marina facilities, and interties. If any features from the 2017 application are still part of the proposed project but are not displayed in the federal feasibility study, explain why not. If any features in the 2017 application are no longer part of the project, does that affect any public benefits originally proposed and accepted through the WSIP process?”*

CCWD Response to Comment #3: There have been several minor facility changes. These do not affect the Project’s ability to provide the WSIP eligible public benefits as originally proposed and accepted through the WSIP process. An update of all the facilities that are an integral part of the Project and a discussion of the changes is provided. Table 2 compares the facilities included in the 2017 WSIP Application and the Feasibility Report.

General: The Project’s features described in the 2017 WSIP Application included five categories (1) major work packages that included the dam raise and major conveyance facilities, (2) Associated local projects that included required improvements to support the function of the major packages, (3) related facilities of the East Bay Municipal Utility District (EBMUD), (4) new interties with local project partners, and (5) expanded recreation facilities at Los Vaqueros Watershed. Table 2 lists these facilities, describes whether they are included in the Feasibility Report, and discusses effects of any changes on Project’s benefits.

Unchanged Facilities (Categories (1), (2), and (5) Facilities): All Project features associated with categories (1), (2), (5) remain unchanged and are being carried forward for implementation as part of the Project. Note that Rock Slough Fish Screen Improvements were not featured in the Feasibility Report because it is considered a separate Federal project with a separate local cost-share agreement (Assistance Agreement #R14C00081).

Category (3) EBMUD Facilities: All Project features associated with Category (3) remain unchanged and are being carried forward for implementation as part of the Project. EBMUD’s Mokelumne Aqueduct No. 2 Relining and Walnut Creek Pumping Plants Variable Frequency Drives (VFDs) projects are continuing to be advanced and are necessary to allow Freeport (the Freeport Regional Water Project Intake, Folsom South Canal Connection, and the existing EBMUD-CCWD Intertie) to be used to provide public benefits associated with the Project. Inclusion of these facilities contributes to the ecosystem and the emergency response public benefits that were included in the 2017 WSIP application. These facilities were not included in the Feasibility Report because EBMUD is not seeking federal funding for those facilities through the Project’s federal authorization. Simulations of water operations and benefits evaluated in both 2017 WSIP application and the Feasibility Report included diversions and deliveries through Freeport. The lack of inclusion of these facilities in the Feasibility Report does not affect the public benefits that were included the in 2017 WSIP application.

The relining project includes replacement of the deteriorated cement mortar lining in approximately 75 miles of Mokelumne Aqueduct No. 2. The relining project is split into two phases: Phase 1 will reline approximately 2.3 miles of the aqueduct east of Stockton, and Phase 2 will reline the remaining length. EBMUD completed environmental review and filed a Notice of Exemption for the Mokelumne Aqueduct

Relining Project in both Contra Costa and San Joaquin Counties on August 7, 2017. Phase 1 of the Mokelumne Aqueduct No. 2 Relining is currently at the 50% design stage, with construction planned for winter 2022 through 2023. Phase 2 design is scheduled to begin in 2027, with construction to be completed between 2028 and 2034. Phase 1 is included in EBMUD's Fiscal Year 2022-2023 Capital Improvement Program⁵.

VFDs are needed on all three Mokelumne Aqueducts to adjust supply to meet demand while managing deliveries to the Refuges, Local Agency Partners, and/or Los Vaqueros Reservoir. Design is scheduled to begin in 2023, with construction anticipated in late 2025 through 2027. The WCPPs VFD project is included in EBMUD's Fiscal Year 2022-2023 Capital Improvement Program within the Supplemental Supply and Regional Planning Project³.

Minor Facility Changes (Category (4) Local Interties): Two local interties were included in the 2017 WSIP Application: a pipeline connecting to the East Contra Costa Irrigation District distribution canal (ECCID Pipeline) and a pipeline connecting to the City of Brentwood water treatment plant (Brentwood Pipeline). The primary purpose of these interties was to provide water quality benefits to ECCID and City of Brentwood.

The City of Brentwood has decided to defer the proposed intertie pipeline as existing interties with CCWD allows it to receive the desired water quality benefits.

ECCID has decided not to participate in the Project, and as a result the ECCID Pipeline is no longer included as a Project facility.

The removal of these two local interties has no effect on the on the public benefits presented in the 2017 WSIP Application since their respective investments were to receive a local water quality benefit – not any additional water supplies. Therefore, the cost allocation between the water supply and WSIP eligible public benefits remains unchanged and any cost to construct these interties was based on the beneficiary pays principle, so there is no additional cost to the other Local Agency Partners or to Reclamation. Further, municipal water quality improvement benefits for City of Brentwood and CCWD will remain unchanged, while ECCID's benefits are no longer applicable.

⁵ <https://www.ebmud.com/customers/billing-questions/budget-and-rates/>

Table 2. Comparison of Project Facilities included in the 2017 WSIP Application and the 2020 Federal Feasibility Study.

Facilities included in the 2017 WSIP Application	2017 WSIP Facility Cost (\$million 2015 dollars)	Facility Included in the Feasibility Report (\$million 2018 dollars)	Effect on Claimed Public Benefits in the 2017 CWC Application	Current Status
1. Major Work Packages				
Los Vaqueros Reservoir Dam Raise	\$267	Yes (\$283.54)	No change.	This facility continues to be advanced as part of the Project.
Transfer Pump Station Modification	\$11	Yes (\$11.14)	No change.	This facility continues to be advanced as part of the Project.
Expanded Transfer Pump Station	\$36	Yes (\$38.30)	No change.	This facility continues to be advanced as part of the Project.
Transfer-Bethany Pipeline	\$144	Yes (\$155.34)	No change.	This facility continues to be advanced as part of the Project.
Delta-Transfer Pipeline	\$44	Yes (\$48.66)	No change.	This facility continues to be advanced as part of the Project.
Neroly High-Lift Pump Station	\$37	Yes (\$31.36)	No change.	This facility continues to be advanced as part of the Project.
2. Associated Local Projects				
Pumping Plant #1 Replacement	\$20	Yes (\$24.32)	No change.	This facility continues to be advanced as part of the Project.
Los Vaqueros Marina Complex Relocation	\$18	Yes (\$23.06)	No change.	This facility continues to be advanced as part of the Project.
Rock Slough Fish Screen Improvements	\$1.5	No. Improvements to the Rock Slough Fish are addressed in a separate Federal project.	No Change.	This facility continues to be advanced.
3. EBMUD Facilities				
Walnut Creek VFD	\$6	No. Federal funding was not requested for this facility.	No change.	This facility continues to be advanced.
Mokelumne Aqueduct Relining	\$18	No. Federal funding was not requested for this facility.	No change.	This facility continues to be advanced.
4. Local Interties				
ECCID Pipeline	\$4	No. M&I water quality benefits not a Federal benefit	Not a claimed public benefit.	This facility is not continuing to be advanced as part of the Project. ECCID is no longer participating in the Project.
Brentwood Pipeline	\$9	No. M&I water quality benefits not a Federal benefit	Not a claimed public benefit.	This facility is not continuing to be advanced as part of the Project. Brentwood has deferred this facility until a future time.

Facilities included in the 2017 WSIP Application	2017 WSIP Facility Cost (\$million 2015 dollars)	Facility Included in the Feasibility Report (\$million 2018 dollars)	Effect on Claimed Public Benefits in the 2017 CWC Application	Current Status
5. Expanded Los Vaqueros Recreation Facilities				
Interpretive Center Improvements	\$0.6	Yes (\$0.79)	No change.	This facility continues to be advanced as part of the Project.
Watershed Office Barn and Interpretive Features	\$0.6	Yes (\$0.81)	No change.	This facility continues to be advanced as part of the Project.
Watershed Trails	\$0.5	Yes (\$0.65)	No change.	This facility continues to be advanced as part of the Project.
Total Construction Costs	\$616	\$617.97		
Non-Construction Costs	\$246	\$227.74		
Total Capital Costs	\$862	\$845.70		

CWC Staff Comment #4: *“Describe and explain any changes to the physical public or non-public benefits since the application and subsequent findings by the administering agencies. For example, changes to benefits may include but are not limited to water quality, refuge supply, agricultural water supply, conveyance loss, or emergency supply benefits.”*

CCWD Response to Comment #4: Two benefit categories, that were quantified and included in the 2017 WSIP Application, were not quantified in the Feasibility Report:

1. Delta Salmonid survival benefits were not quantified because the Rock Slough Fish Screen Improvements is addressed in a separate Federal project outside the scope of the Feasibility Report.
2. M&I water quality improvements were not quantified because, in Reclamation’s process, it is considered a secondary objective and an incidental benefit in the Feasibility Report that is not monetized.

The other benefit categories were quantified in both the 2017 WSIP application and the Feasibility Report. The Project’s physical benefits presented in the 2017 WSIP Application were quantified using the tools and methods prescribed in the 2016 Technical Reference Document. All benefits analyses were performed for two future points in time: 2030 and 2070, which correspond to the climate and sea-level conditions provided by the CWC. In contrast, the physical benefits presented in the Feasibility Study, and used for benefit monetization, were only based on 2030 conditions that did not reflect adjustments for climate change (per Reclamation direction).

As a result, the CalSim models used in the two studies, although largely similar, had some subtle differences in hydrology that affected the magnitude of simulated benefits. Table 3 compares the physical benefits presented in the 2017 WSIP Application and the Feasibility Study for 2030 conditions and discusses the key differences for the magnitude of benefits.

In addition to the differences in baselines conditions, there were additional refinements to the M&I and agriculture/irrigation water supplies between 2017 and 2020. The Local Agency Partners provided additional clarifications on the timing and amount of their supplies to be stored in the expanded Los Vaqueros Reservoir (i.e., puts). They also refined the timing of their deliveries from the expanded Los Vaqueros Reservoir (i.e., takes) to focus on the driest conditions as they worked to leverage their other water supplies. These refinements to the puts and takes have affected the magnitude of quantified M&I and agriculture/irrigation water supplies as shown on Table 3.

Note that the 2017 WSIP Application included about 9.8 TAF/year listed as potential transfers under agriculture/irrigation water supplies. Because of the refinements to the puts and takes, some of this available capacity for transfers were utilized to increase CVP deliveries to south of Delta for agriculture/irrigation water supplies as part of the benefits described in response to comment #5.

There have not been any subsequent findings by the WSIP administering agencies (CDFW and DWR).

CWC Staff Comment #5: *“Describe any benefits (public or non-public) that were identified in the federal feasibility study that were not included in the 2017 application: for example, additional Central Valley Project (CVP) operational flexibility provided by the project.”*

CCWD Response to Comment #5: Two benefits were identified in the Feasibility Report that were not included in the 2017 WSIP Application.

1. Wheeling of Central Valley Project Improvement Act (CVPIA) Acquired Incremental Level 4 Refuge Water Supplies

Refuge water supply benefits included in the 2017 WSIP application of 46 TAF/year were based on the capture of Delta excess water during Delta surplus conditions. The captured Delta surplus water would be diverted at CCWD Delta intakes and delivered through the Project facilities, including the proposed Transfer-Bethany Pipeline, via the California Aqueduct to South of Delta (SOD) Refuges. Some of the diverted Delta surplus water may be stored in the proposed Expanded Los Vaqueros Reservoir for delivery to these Refuges at a later time when this water be most beneficial.

In addition to the Refuge water deliveries simulated in the 2017 WSIP application, the Feasibility Report also included wheeling of north of Delta (NOD) Refuge Incremental Level 4 water supplies that were previously acquired by the CVPIA Refuge Water Supply Program thru the Project to south of Delta (SOD) refuges. The Project would increase Reclamation's ability to move these NOD Refuge Incremental Level 4 water supplies to SOD refuges. Project facilities would be used to divert those supplies and deliver them to SOD Refuges during Delta balanced conditions.

Water supplies acquired by the CVPIA Refuge Water Supply Program that are currently stranded NOD due to a lack of conveyance capacity total approximately 12.3 TAF/year. These stranded supplies would be moved through the Project's new conveyance facilities to SOD Refuges during all year types except wet years when other water supplies are available to the Refuges. This results in long-term average yield of 8.6 TAF/year (Table 3). Note that these wheeled Refuge supplies were valued by Reclamation as the difference in value between NOD and SOD water supplies.

The result is a further increase in the wildlife refuges benefits than was simulated in the 2017 WSIP application.

2. CVP Operational Flexibility

CVP Operational flexibility benefits would be achieved when the Project facilitates delivery of CVP water supplies that would otherwise be undeliverable due to CVP operational and demand constraints. The Project has the potential to improve CVP operational flexibility through allowing additional deliveries above current storage and pumping capacity at CVP and SWP facilities, thereby increasing water supply reliability for SOD CVP purposes. This action would contribute to replacement of deliveries curtailed by regulatory actions or demand constraints. CVP operational flexibility provided by the Project could be used to help meet any CVP need SOD, including M&I, irrigation, and Incremental Level 4 refuge water supplies.

To increase CVP operational flexibility, the Project's expanded storage and conveyance facilities would be used to deliver water supplies from NOD CVP storage (i.e., Shasta) during Delta balanced conditions. Project facilities would be used during times when NOD CVP storage may be lost to spill and capacity at C.W. Jones Pumping Plant is constrained. Increased CVP SOD deliveries may result in additional releases from CVP upstream storage. This could affect carry-over storage in Shasta and its cold-water pool. To avoid impacts to upstream storage, these deliveries only occur during

wetter conditions and when Shasta storage is relatively high. In addition, these operations are also conducted such that there are no impacts to the operations of San Luis Reservoir. These operations would result in long-term average deliveries of 6.0 TAF/year (Table 3).

Note that CVP operational flexibility uses available capacity at the Project facilities only during Delta balanced conditions. Therefore, these operations would not affect other Project benefits.

The result to the SOD CVP contractors, some of whom are Partners in this Project, is an incremental improvement in their respective water supply reliability and would primarily benefit agricultural water users.

These benefits are relatively minor compared to the other Project benefits. However, they do represent additional benefits to water supply and the environment that, if monetized, would improve the Projects' overall financial and economic feasibility relative to what was analyzed in the 2017 WSIP application.

Table 3. Comparison of Benefits Quantified in the 2017 CWC Application and the Feasibility Report.

Benefit Categories	2017 WSIP Application (2030 with climate change)	Feasibility Report (2030 no climate change)	Discussion
Public Benefits			
Ecosystem: Incremental Level 4 Refuge Water Supplies	46 TAF/year	54.6 TAF/year	46 TAF/year from Delta surplus (in both 2017 WSIP and Feasibility Report for 2030 conditions). The Feasibility Report assumes an additional 8.6 TAF/year of CVPIA acquired NOD water supplies will be delivered to SOD Refuges via the Project.
Ecosystem: Delta Salmonid Survival (reduction in entrapment)	2 (Spring-run), 33 (Fall-run), 6 (Steelhead)	N/A	Rock Slough Fish Screen Improvements are addressed in a separate Federal project and not included in the Feasibility Report.
Emergency Response: Non-Drought	160 TAF/year	148.4 TAF/year	11.6 TAF (7%) reduction in the Feasibility Report due to differences in CalSim baseline affecting reservoir storage.
Emergency Response: Drought	36 TAF/year	35 TAF/year	Minor decrease (1 TAF/year) in the Feasibility Report due to differences in CalSim baselines. Listed under M&I water supply for critical year in Appendix B of Feasibility Report. ⁶
Recreation (visitations days)	176,120 days/year	165,445 days/year	The recreation model was changed during the appeal of the original 2017 WSIP application. The Feasibility Report follows the same method that was accepted with the CWC staff during the appeal. Both documents estimate an annual net recreational benefit of approximate \$210,000 per year.
Other Benefits			
M&I Water Supply	31 TAF/year	18.4 TAF/year (excluding critical year deliveries)	A 12.6 TAF/year reduction in M&I deliveries simulated in the Feasibility Report compared to the 2017 WSIP application. The difference is primarily driven by changes in requests for water supply by M&I partners. The Project still has the capability of providing up to the 31 TAF/year that was simulated for the 2017 WSIP application.

⁶ Critical year M&I deliveries were inconsistently presented in the Feasibility Report (Table 5-1 in the main body shows 37.9 TAF/year and Table 3-1 in Appendix D shows 25.8 TAF/year). The correct values are included in Appendix B and are reflected above as 35 TAF/year.

Benefit Categories	2017 WSIP Application (2030 with climate change)	Feasibility Report (2030 no climate change)	Discussion
M&I Water Quality Improvement (reduction in salinity as chloride)	<ul style="list-style-type: none"> • Brentwood: 28 mg/L • CCWD: 3 mg/L • ECCID: 6 mg/L 	N/A	Municipal water quality improvement is a secondary objective and an incidental benefit in the Feasibility Report.
Agriculture (Irrigation Water Supplies)	3.2 TAF/year (simulated) 9.8 TAF/year (potential transfers)	8.7 TAF/year (simulated) 35 TAF/year (potential capacity for transfers)	5.5 TAF/year increase in deliveries to SOD CVP contractors was simulated in the Feasibility Report compared to what was simulated in the 2017 WSIP application. The 2017 WSIP Application and the Feasibility Report did not value the potential future transfers in the economic analysis.
CVP Operational Flexibility	N/A	6 TAF/year	Operations requested by Reclamation to increase CVP deliveries to south of Delta during Delta balanced conditions using Project facilities.

Economic Benefits and Financial Feasibility and Project Costs

CWC Staff Comment #6: “The federal feasibility study has adjusted the unit benefits for the project, in particular M&I water supply.”

CCWD Response to Comment #6: The original 2017 WSIP application that was submitted by CCWD included an economic valuation of benefits based on the simulated market prices using a Water Transfer Pricing Model (Table 4). CWC staff reviewed the Water Transfer Pricing Model in 2017.

The Feasibility Report valued the benefits of the Project using unit values that were developed with the Water Transfer Pricing Model, consistent methodology that was used in the original 2017 WSIP application for the Project and with Federal requirements, and updated to reflect the best available information (Table 5). Reclamation approved this model, and the results of the analysis were also reviewed and approved by the Office of Management and Budget and the Department of Interior prior to publication of the Feasibility Report. The Feasibility Report did not use the unit values provided in the 2016 Technical Reference Document.

The benefit valuation and monetization conducted for the Feasibility Report was not intended to adjust the benefit valuation that were conducted as part of the WSIP process. The economic valuation conducted for the Feasibility Report was for the purpose of Federal decision-making and was prepared in accordance with Federal requirements⁷.

The Feasibility Report is an independent evaluation and, while it uses slightly different assumptions related to the valuation of benefits, the Department of Interior determined that this Project is technically, environmentally, financially, and economically feasible and will provide public benefits that warrant federal investment. The Department of the Interior’s determination that the Project is feasible provides independent validation of the CWC’s 2017 determination the Project appeared to be feasible.

Table 4. 2017 WSIP Application Unit Values for Benefit Monetization (\$/AF 2015 dollars)

Water Year Type ¹	M&I Water Supply (2030)			Refuge Water Supply (2030)		Irrigation Water Supply (2030)
	South Bay	EBMUD	Sacramento Valley	California Aqueduct	Delta Mendota Canal	
Wet	\$649	\$638	\$463	\$477	\$466	\$533
Above Normal	\$681	\$667	\$487	\$502	\$491	\$563
Below Normal	\$851	\$789	\$591	\$629	\$616	\$706
Dry	\$877	\$812	\$611	\$650	\$637	\$730
Critical	\$1,092	\$1,001	\$772	\$819	\$806	\$924

Source: 2017 WSIP Funding Application Table 6-4-13 through Table 6-4-19.

⁷ Federal Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (P&G)” (Water Resource Council, 1983)

Table 5. Feasibility Report Unit Values for Benefit Monetization (\$/AF 2018 dollars)

Water Year Type ¹	M&I Water Supply (2030)		Refuge Water Supply (2030)		Irrigation Water Supply (2030)	CVP Operation Flexibility (2030)
	South Bay Aqueduct Users	EBMUD	California Aqueduct	Delta Mendota Canal		
Wet	\$559	\$521	\$387	\$377	\$438	\$387
Above Normal	\$605	\$566	\$424	\$414	\$481	\$424
Below Normal	\$762	\$721	\$550	\$540	\$628	\$550
Dry	\$812	\$771	\$590	\$580	\$675	\$590
Critical	\$1,094	\$1,049	\$816	\$806	\$940	\$816

Source: Feasibility Report, Appendix D – Economics: Table 3-6 (page 3-5), Table 4-4 (page 4-8), Table 5-3 (page 5-3), and Table 8-3 (page 8-5).

CWC Staff Comment #7: *“It appears conveyance costs to the refuges have been included for refuge water supply but may not have been for municipal and ag water supply; please provide documentation showing all costs included in project costs and how conveyance costs and benefits are measured consistently as described in Technical Reference section 4.12.3.”*

CCWD Response to Comment #7: The 2017 WSIP application is consistent with 2016 Technical Reference section 4.12.3, which states that *“applicants must match the location of the quantified water supply to the location of its monetized value. Note that the monetized location need not be the location of final use”*. Both the costs and the benefits were valued at the terminus of the Transfer-Bethany Pipeline which was defined at the point of delivery in the 2017 WSIP application. All project costs were provided in the 2017 WSIP application, consistent with benefit valuation and requirements of the 2016 Technical Reference document. Additional documentation is not required to be consistent with the 2016 Technical Reference document.

As noted earlier, the purpose of the Feasibility Report is to determine the extent of Federal participation and funding of the Project. Under Federal cost-sharing rules, cost assigned to Refuge water supply are considered non-reimbursable costs; that is, those costs are paid for by Reclamation and are not reimbursed by their contractors. Table 6 shows the federal cost share percentages that were included in the Feasibility Report.

Table 6. Initial Cost Assignment Percentages for Federal Investment

Cost Type	Cost Category	M&I	Emergency	Irrigation	CVP Operational Flexibility	Refuge	Recreation
Construction	Federal	0%	0%	0%	100%	75%	0%
	Non-Federal	100%	100%	100%	0%	25%	100%
OM&R	Federal	0%	0%	0%	100%	25%	0%
	Non-Federal	100%	100%	100%	0%	75%	100%

Source: Feasibility Report, Table 6-4 (page 6-13).

Both the 2017 WSIP application and the Federal Feasibility Report include the annual costs to support long-term delivery of project benefits: (1) the annual Operation, maintenance, and replacements (OM&R) costs for the new and modified facilities, (2) the forecasted increase in OM&R costs for existing facilities due to higher rate of utilization of pumping and intake facilities, and conveyance facilities, and (3) the increase in annual energy costs for pumping facilities. The annual costs are detailed in the Feasibility Report *Appendix C - Engineering Designs and Costs* (pages 7-14 to 7-17). Backup documentation for how each was calculated is included in the Feasibility Report *Appendix C, Attachment 4C - Operations, Maintenance and Replacement Costs*.

Reclamation assumed the point of delivery for Refuge benefits was not the terminus of the Transfer-Bethany Pipeline but rather each individual refuge. To that end, the conveyance costs for refuge water supply (i.e., from the terminus of the Transfer-Bethany Pipeline to the point of delivery of each refuge) were included in the Feasibility Report whereas those for municipal and agricultural water supply were not (because those were not considered a cost to Reclamation). Note that the conveyance costs specific to the Refuge water supply were treated as separable costs during the cost allocation process. They were fully allocated to Refuge water supply in addition to its proportional share of other OM&R and energy costs. This is discussed in greater detail in the response to question #9.

CWC Staff Comment #8: *“The federal feasibility study includes a cost assignment table that indicates the federal cost share of refuge water supply at 75% (\$185 million) and State cost share of 25% (\$62 million). That assignment of costs is not consistent with the ecosystem cost share and MCED determined through the WSIP process in 2018. Regulation section 6004 (a)(7)(A) states:*

The total requested Program cost share is the portion of the public benefit cost shares allocated to the Program and shall be at least 50 percent ecosystem improvements.

In other words, both statute and regulation limit the total WSIP funding to twice the ecosystem cost share assigned to the State – or \$124 million according to your feasibility study cost assignment. Please discuss and reconcile the refuge water supply (ecosystem benefit) costs assigned as a federal cost share in the feasibility study and the MCED provided in 2018.”

CCWD Response to Comment #8: There are statements included in CWC Comment #8 that suggest there is a misunderstanding of the federal regulations that are reflected in the Feasibility Report that warrant clarification. First, and foremost, the Feasibility Report does not assign the state a cost-share. The Feasibility Report assigns a federal cost-share and does not assign individual parties responsible for the non-Federal cost share. This is similar to the WSIP process which defined the State’s cost-share but did not assign the non-State cost share to other specific parties.

The Feasibility Report does *not* propose that the State’s cost share is \$62 million for refuge benefit, which would violate Proposition 1 and the WSIP process. Rather, the Feasibility Report limits federal funding to 25% of total capital costs consistent with the WIIN Act requirements for State-led storage project and to 75% of the long-term variable costs for Refuge water supply consistent with requirements of the CVPIA. As noted above in Table 1, the differences in applicable regulations drive much of the differences between the 2017 WSIP application and the Feasibility Report.

The initial assignment of Federal cost-share is \$223.7 million for capital construction costs (25% of the Project’s construction costs of \$894.8 million), plus 75% of the variable costs for Refuge (75% of \$2.44

million/year) of \$1.8 million/year. The cost allocation conducted for the Feasibility Report is not intended to replace or adjust the cost allocation presented in the 2017 WSIP application that was the basis for the MCED. The non-Federal cost share is anticipated to be funded by a combination of State and Local Agency Partner funding. The final allocation of State, federal, and local cost shares will reflect full funding for the Project.

The second important point to clarify is that the MCED was not calculated by doubling the ecosystem cost share, it was calculated by applying 50% of the eligible capital costs plus 50% of the reservoir reoperation costs needed to provide the ecosystem benefits, regardless of the relative percentage of the ecosystem cost share. The final benefit valuation and cost allocation used to determine the MCED demonstrated that the ecosystem benefits of the Project were 60% of the project benefits (exceeding the minimum 50% required). The CWC's decision to fund a maximum of 50%, rather than double the ecosystem benefit, leads to a gap in funding for ecosystem benefits of at least \$86 million to fund refuge benefits according to the analysis completed by CWC staff (Appendix 3 cell G16 of CostAlloc tab). Federal funds are required to close the gap in State funding to provide the full ecosystem benefits that were included in the 2017 WSIP application. Public benefits provided by the Project will be commensurate with the public funding received.

CWC Staff Comment #9: *“Describe further the annual O&M conveyance costs for refuge water supplies. Costs appear to differ between the presentation materials to staff by CCWD, cost allocation appendix, and executive summary of the feasibility study. Please explain the differences in cost and how O&M conveyance costs will be funded and why there are O&M conveyance costs solely for refuge water supply.”*

CCWD Response to Comment #9: We understand that the presentation of annual costs for Refuges (O&M/conveyance) in the various places may be confusing. Although calculated correctly and consistently, different parts of the Feasibility Report present the annual costs in different context. The components of the annual OM&R costs and the portion allocated to Refuges are summarized in Table 7. The Refuges are allocated a total of \$7.5 million/year of OM&R costs, which consists of \$2.44 million/year separable costs for SOD conveyance and \$5.06 million/year as Refuges share of the joint OM&R costs.

The fixed portion of the annual maintenance and replacement costs for Refuge deliveries is \$3.74 of the \$5.06 million/year joint OM&R costs and were assigned as non-Federal cost share. These costs were assumed be funded through a combination of State and Local funding but would not be funded by monies from Proposition 1. The details of the commercial arrangement and financial agreements are still in development. Two variable costs for Refuge deliveries were assigned as Federal cost-share: (1) approximately \$1.32 million/year of energy costs, and (2) \$2.44 million/year of SOD conveyance costs. Note that these costs would vary from year to year based on the amount of delivered water supplies. These Federal costs were then allocated according to the cost-share formula included in the CVPIA (75% Federal and 25% State). The method of cost assignment of the OM&R costs allocated to Refuges used in the Feasibility Report is shown in Figure 3.

Note that a key source of confusion in Feasibility Report is the Federal responsibility for OM&R costs are sometimes listed as \$1.83 million/year, which does not include the full federal cost-share. \$1.83 million/year represents the Federal cost-share of SOD conveyance costs (75% of \$2.44 million/year). The Federal Feasibility Report does not explicitly show the assignment of variable energy costs (75% of

\$1.32 million/year). However, on page 6-19 of the Feasibility Report defines the Federal responsibility for annual costs associated with the delivery of Refuge supplies to “include energy costs through project facilities, SOD conveyance costs, and O&M costs associated with Refuge conveyance facilities.”

To fund the Federal share of annual costs associated with deliveries to Refuges, the Feasibility Report recommends that Congress increase the amount of funding that is annually appropriated under the CVPIA. Reclamation included these costs for the Refuges to demonstrate the need for increases in future federal appropriations. However, the increase annual funds have not yet been appropriated and would be needed once the Project began delivering water to Refuges.

The portion of the cost allocated to the State shown in Figure 3 is consistent with an existing cost-share agreement⁸ between California Department of Fish and Wildlife, United States Department of Fish and Wildlife, and Reclamation for implementing activities authorized by the CVPIA. As noted above, work to develop new agreements and to finalize the State, Federal and Local cost-shares are ongoing at this time.

Table 7. Annual Operation, Maintenance, and Replacement (OM&R) Cost Allocation to Refuges (\$million, 2018 dollars)

Cost Components	Type	Joint Costs	Separable Costs	Total
Annual OM&R for Project Facilities	Fixed	\$10.58		\$10.58
Increase in Replacement Costs for Existing Facilities - Pumping and Intake Facilities	Fixed	\$1.68		\$1.68
Increase in Replacement Costs for Existing Facilities - Conveyance	Fixed	\$1.24		\$1.24
Increased in Annual Energy Costs	Variable	\$4.77		\$4.77
South-of-Delta Conveyance Costs for Refuges	Variable		\$2.44	\$2.44
Total		\$18.28	\$2.44	\$20.72
Cost-share allocated to Refuges		\$5.06	\$2.44	\$7.50

Source: Feasibility Report, Appendix G Table 4-2 (page 4-11).

⁸ Sharing of Costs Agreement for Mitigation Projects and Improvements (SCAMPI).

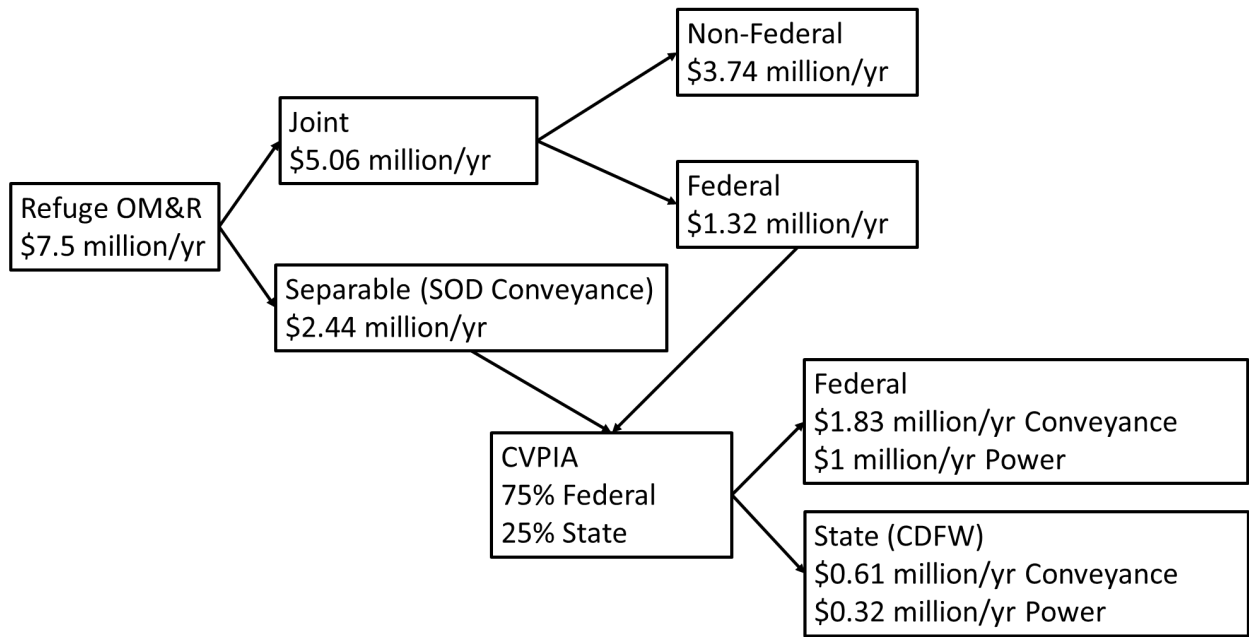


Figure 3. Allocation of OM&R Refuge Costs in Feasibility Report.

Appendices:

1. CWC Staff letter dated April 23, 2021.
2. Department of the Interior letter- Determination of Federal Feasibility dated August 12, 2020.
3. CWC's final economic valuation spreadsheet.

CALIFORNIA WATER COMMISSION

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Teresa Alvarado
Chair

April 23, 2021

Matthew Swanson
Vice-Chair

Marguerite Patil, Assistant General Manager – Policy and External Affairs
Contra Costa Water District

Samantha Arthur
Member

mpatil@ccwater.com

Amy Cordalis
Member

Dear Ms. Patil,

Daniel Curtin
Member

**Kimberly
Gallagher**
Member

Alexandre Makler
Member

Jose Solorio
Member

Fern Steiner
Member

Staff has reviewed the federal feasibility study for the Los Vaqueros Expansion (Project) for completeness. Generally speaking, staff is looking for feasibility information that meets the requirements in section 3.5 of the WSIP Technical Reference. It appears that some of the project features, facilities and operations differ from the feasibility information provided in the original 2017 WSIP application for the Project. Because there are differences, staff cannot accept the feasibility study as complete until those differences are explained. This can be done in a supplemental document and the original application can be referenced as well, if relevant. The supplemental documentation should also include additional information that relates to deficiencies identified in the WSIP technical review from 2018. Staff has identified the following categories in need of further explanation at a minimum: physical benefits, economic benefits and financial feasibility, and project costs.

Project Physical Benefits

Please explain the differences in features (facilities or operations) between the original application and the federal feasibility study. Examples of features include, but are not limited to, pipelines, pump stations, fish screens, marina facilities, and interties. If any features from the 2017 application are still part of the proposed project but are not displayed in the federal feasibility study, explain why not. If any features in the 2017 application are no longer part of the project, does that affect any public benefits originally proposed and accepted through the WSIP process? Describe and explain any changes to the physical public or non-public benefits since the application and subsequent findings by the administering agencies? For example, changes to benefits may include but are not limited to water quality, refuge supply, agricultural water supply, conveyance loss, or emergency supply benefits. Describe any benefits (public or non-public) that were identified in the federal feasibility study that were not included in the 2017 application: for example, additional CVP operational flexibility provided by the project.

Economic Benefits and Financial Feasibility and Project Costs

The federal feasibility study has adjusted the unit benefits for the project, in particular M&I water supply. It appears conveyance costs to the refuges have been included for refuge water supply but may not have been for municipal and ag water supply; please provide documentation showing all costs included in project costs and how conveyance costs and benefits are measured consistently as described in Technical Reference section 4.12.3.

The federal feasibility study includes a cost assignment table that indicates the federal cost share of refuge water supply at 75% (\$185 million) and State cost share of 25% (\$62 million). That assignment of costs is not consistent with the ecosystem cost share and MCED determined through the WSIP process in 2018. Regulation section 6004 (a)(7)(A) states:

The total requested Program cost share is the portion of the public benefit cost shares allocated to the Program, and . . . shall be at least 50 percent ecosystem improvements.

In other words, both statute and regulation limit the total WSIP funding to twice the ecosystem cost share assigned to the State – or \$124 million according to your feasibility study cost assignment. Please discuss and reconcile the refuge water supply (ecosystem benefit) costs assigned as a federal cost share in the feasibility study and the MCED provided in 2018.

Describe further the annual O&M conveyance costs for refuge water supplies. Costs appear to differ between the presentation materials to staff by CCWD, cost allocation appendix, and executive summary of the feasibility study. Please explain the differences in cost and how O&M conveyance costs will be funded and why there are O&M conveyance costs solely for refuge water supply.

Sincerely,

Amy Young

Amy Young
Program Manager
Water Storage Investment Program



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

AUG 12 2020

The Honorable Marcy Kaptur
Chair, Subcommittee on Energy
and Water Development, and
Related Agencies
Committee on Appropriations
House of Representatives
Washington, DC 20515

Dear Chairwoman Kaptur:

I am pleased to transmit the Secretary of the Interior's Final Feasibility Report (FFR) for the Los Vaqueros Reservoir Expansion Investigation (LVE). This letter serves as the Secretary's written notification to Congress of the Secretary's determination and concurrence of feasibility as specified in WIIN section 4007(c).

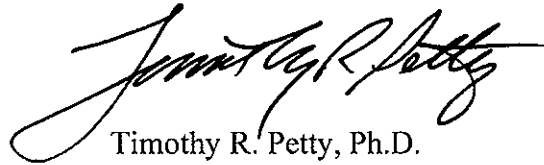
The Office of Management and Budget (OMB) has reviewed this report (see enclosure) and does not object to its transmittal to the Congress. Please understand that this letter is notification of feasibility and not an indication of the relative priority of this project to other storage projects being considered for funding. The project will need to compete in priority with other proposed storage investments in future budgets. An Environmental Impact Statement was prepared for the LVE and is also part of this transmittal.

The LVE FFR was prepared by the Bureau of Reclamation consistent with pertinent study authorizations, reaffirmed in Public Law (P.L.) 108-361, the *Water Supply, Reliability, and Environmental Improvement Act of 2004*; P.L. 114-113, the *Consolidated Appropriations Act of 2016*; P.L. 114-322, and the *Water Infrastructure Improvements for the Nation (WIIN) Act of 2016*. This report is consistent with the *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies*, using the CALFED Bay-Delta Programmatic Record of Decision as a general framework.

Due to the size of the documents, we are making the documents available to you electronically for download at the following website: <http://www.usbr.gov/lve/>

Should you have any questions regarding the report, please contact Ms. Brenda Burman, Commissioner of the Bureau of Reclamation, at 202-513-0501.

Sincerely,



Timothy R. Petty, Ph.D.
Assistant Secretary
for Water and Science

Enclosure

Identical Letter Sent To:

The Honorable Diane Feinstein
Ranking Member, Subcommittee on Energy
and Water Development
Committee on Appropriations
United States Senate
Washington, DC 20510

The Honorable Catherine Cortez Masto
Ranking Member, Subcommittee on
Water and Power
Committee on Energy and Natural Resources
United States Senate
Washington, DC 20510

The Honorable Lisa Murkowski
Ranking Member, Committee on Energy
and Natural Resources
United States Senate
Washington, DC 20510

The Honorable Jared Huffman
Chair, Subcommittee on Water
Oceans, and Wildlife
Committee on Natural Resources
House of Representatives
Washington, DC 20515

The Honorable Joe Manchin
Ranking Member, Committee on Energy
and Natural Resources
United States Senate
Washington, DC 20510

The Honorable Tom McClintock
Ranking Member, Subcommittee on Water
Oceans, and Wildlife
Committee on Natural Resources
House of Representatives
Washington, DC 20515

The Honorable Martha McSally
Chair, Subcommittee on Water and Power
Committee on Energy and Natural Resources
United States Senate
Washington, DC 20510

The Honorable Lamar Alexander
Chair, Subcommittee on
Energy and Water Development, and
Related Agencies
Committee on Appropriations
United States Senate
Washington, DC 20510

The Honorable Raúl M. Grijalva
Chair, Committee on Natural Resources
House of Representatives
Washington, DC 20515

The Honorable Rob Bishop
Ranking Member, Committee on
Natural Resources
House of Representatives
Washington, DC 20515

The Honorable Michael Simpson
Ranking Member, Subcommittee on
Energy and Water Development, and
Related Agencies
Committee on Appropriations
House of Representatives
Washington, DC 20515