

30 Mansfield Road, P.O. Box 899, Hollister, CA 95024

www.sbcwd.com



September 11, 2017

MEETING NOTICE

JOINT MEETING SCVWD PACHECO RESERVOIR EXPLORATORY AD HOC COMMITTEE SAN BENITO COUNTY WATER DISTRICT PACHECO PASS WATER DISTRICT

SCVWD Board Members of the Pacheco Reservoir Exploratory Ad Hoc Committee
Director Gary Kremen, Committee Chair
Director Richard P. Santos
Director John L. Varela

SBCWD Board Members of the Pacheco Reservoir Exploratory Ad Hoc Committee
Director Sonny Flores
Director Joe Tonascia for Director John Tobias

PPWD Representatives

Director Frank O'Connell, President
Director Steve Lindsay

SCVWD Staff Support of the Pacheco Reservoir Exploratory Ad Hoc Committee

Norma J. Camacho, Chief Executive Officer
Garth Hall, Acting Chief Operating Officer, Water Utility
Stanly Yamamoto, District Counsel
Jerry De La Piedra, Acting Deputy Operating Officer, Water Supply Division
Cindy Kao, Imported Water Manager, Imported Water Unit
Hemang Desai, Dam Safety Program Manager, Dam Safety Program & Project Delivery Unit
Melih Ozbilgin, Senior Water Resources Specialist, Imported Water Unit



SBCWD Staff Support of the Pacheco Reservoir Exploratory Ad Hoc Committee
Jeff Cattaneo, District Manager
Sara Singleton, Assistant Manager

A joint meeting of the Santa Clara Valley Water District (SCVWD) Pacheco Reservoir Exploratory Ad Hoc Committee is to be held on **Thursday, September 14, 2017, at 2:00 p.m.** in the Conference Room located at the San Benito County Water District, 30 Mansfield Road, Hollister, California 95023.

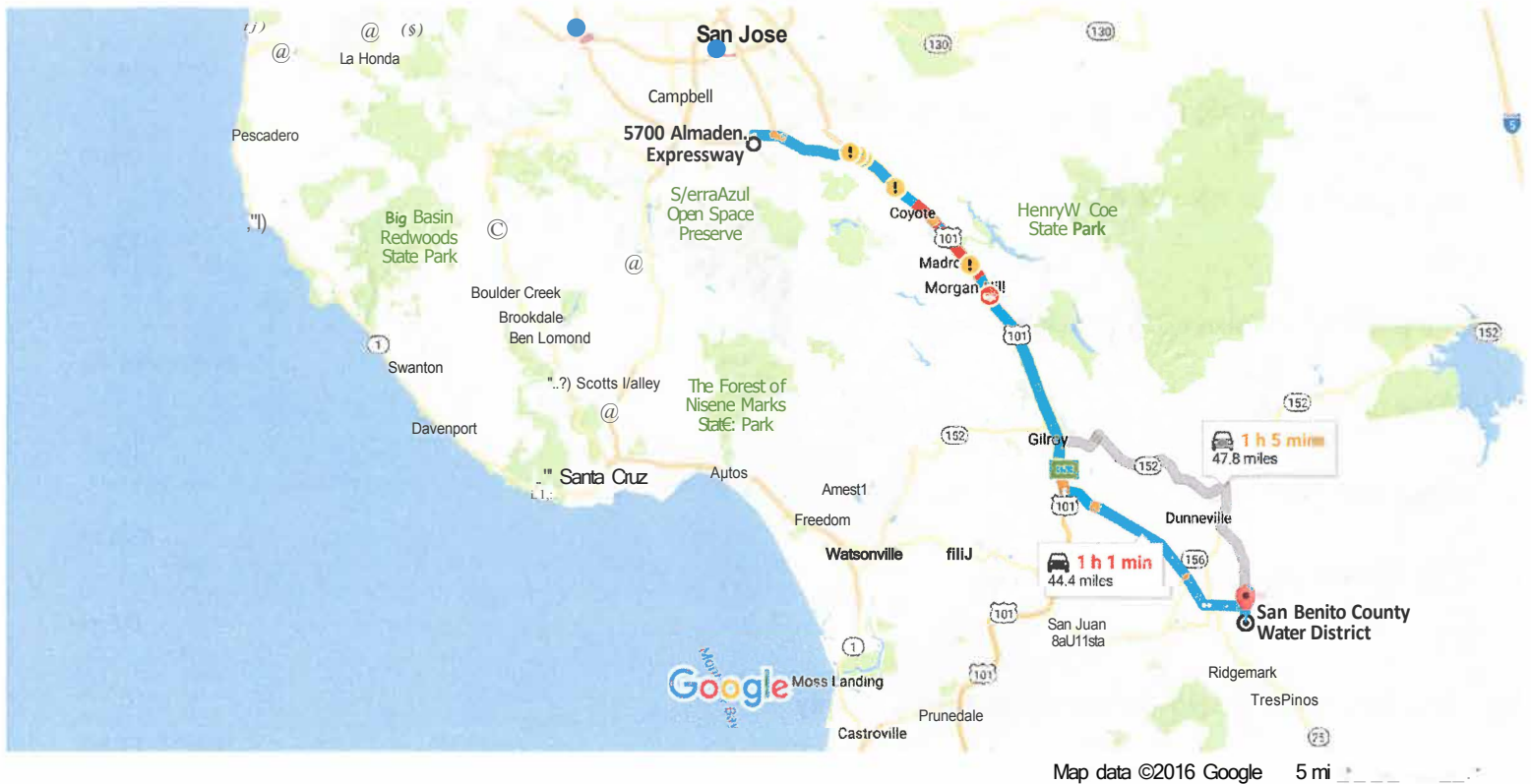
Enclosed are the meeting agenda and corresponding materials. Please bring this packet with you to the meeting.

Enclosures



5700 Almaden Expressway to San Benito County Water District

Drive 44.4 miles, 1 h 1 min



www.google.com/maps/dir/5700+Almaden+Expressway,+San+Jose,+CA+95118/San+Benito+County+Water+District,+30+Mansfield+Road,+Hollister,+CA+95023 1/2

5700 Almaden Expressway

San Jose, CA 95118

Get on CA-85 S

2 min (0.6 mi)

Take US-101 S to CA-25 S. Take exit 353 from US-101 S

26 min (29.6 mi)

Continue on CA-25 S. Drive to Mansfield Rd in San Benito County

18 min (14.1 mi)



San Benito County Water District

30 Mansfield Road, Hollister, CA 95023

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

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PACHECO RESERVOIR EXPLORATORY AD HOC COMMITTEE

	<p><u>SCVWD Pacheco Reservoir Exploratory Ad Hoc Committee:</u> Director Gary Kremen (Committee Chair) Director Richard P. Santos Director John L. Varela</p> <p><u>SBCWD Representatives:</u> Director Sonny Flores Director Joe Tonascia for Director John Tobias</p> <p><u>PPWD Representatives:</u> Director Frank O’Connell, President Director Steve Lindsay</p>	
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AGENDA

JOINT MEETING
 SCVWD PACHECO RESERVOIR EXPLORATORY AD HOC COMMITTEE
 SAN BENITO COUNTY WATER DISTRICT
 PACHECO PASS WATER DISTRICT

THURSDAY, SEPTEMBER 14, 2017

2:00 P.M.

SAN BENITO COUNTY WATER DISTRICT
 CONFERENCE ROOM
 30 MANSFIELD ROAD
 HOLLISTER, CA 95023

Time Certain:

2:00 p.m.	1.	<u>Call to Order/Roll Call</u>
	2.	<u>Time Open for Public Comment on Any Item Not on the Agenda</u> <i>Comments should be limited to two minutes. If the Committee wishes to discuss a subject raised by the speaker, it can request placement on a future agenda.</i>
	3.	<u>Introductions</u>
	4.	<u>Approval of Minutes</u> 4.1 Approval of Minutes (approval by the SCVWD Pacheco Reservoir Exploratory Ad Hoc Committee) – July 12, 2017, meeting
	5.	<u>Action Items:</u> 5.1 Update on the Existing Pacheco Reservoir Dam and Spillway, Owned and Operated by Pacheco Pass Water District (Frank O’Connell) Recommendation: This is an information only item and no action is required. 5.2 Update on Proposition 1 Funding Application for Pacheco Reservoir Expansion Project (Melih Ozbilgin) Recommendation: This is an information only item and no action is required. 5.3 Update on Pacheco Reservoir Expansion Project Outreach (Michelle Conlon) Recommendation: This is an information only item and no action is required.

	6.	<u>Clerk Review and Clarification of Committee Actions</u> <i>This is a review of the Committee's Actions (from Item 5).</i>
	7.	<u>Adjourn</u>

Reasonable efforts to accommodate persons with disabilities wishing to attend committee meetings will be made. please advise the Clerk of the Board Office of any special needs by calling (408) 630-2277.

Meetings of this committee will be conducted in compliance with all Brown Act requirements. All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the same time that the public records are distributed or made available to the legislative body, at the following location:

Santa Clara Valley Water District, Office of the Clerk of the Board
5700 Almaden Expressway, San Jose, CA 95118

PACHECO RESERVOIR EXPLORATORY AD HOC COMMITTEE PURPOSE:

The purpose of the Pacheco Reservoir Exploratory Ad Hoc Committee is to receive and discuss information on issues related to the LAFCO consideration of dissolution of Pacheco Pass Water District, the reorganization of its responsibilities and assets, as well as information related to the dam integrity and potential reservoir operating parameters for downstream aquatic habitat. The Committee representatives may assist their respective Board of Directors on policies and actions related to these matters.



PACHECO RESERVOIR EXPLORATORY AD HOC COMMITTEE MEETING

DRAFT MINUTES

WEDNESDAY, JULY 12, 2017
3:00 PM

(Paragraph numbers coincide with agenda item numbers)

A meeting of the Pacheco Reservoir Exploratory Ad Hoc Committee (Committee) was held on July 12, 2017, in the Headquarters Building Boardroom at the Santa Clara Valley Water District (SCVWD), 5700 Almaden Expressway, San Jose, California.

1. CALL TO ORDER/ROLL CALL

A meeting of the Santa Clara Valley Water District Pacheco Reservoir Exploratory Ad Hoc Committee was called to order at 3:00 p.m. on July 12, 2017, at the District Headquarters Building Boardroom, 5700 Almaden Expressway, San Jose, California.

Board Members in attendance were: Director Gary Kremen-District 7, Director Richard P. Santos-District 3, and Director John L. Varela-District 1

Staff members in attendance were: Glenna Brambill, Norma Camacho, Garth Hall, Michele King, Melih Ozbilgin, Steven Wu, and Stan Yamamoto.

2. TIME OPEN FOR PUBLIC COMMENT ON ANY ITEM NOT ON AGENDA

There was no one present who wished to speak.

3. NEW BUSINESS

3.1 UPDATE ON STUDIES OF PACHECO RESERVOIR ENLARGEMENT, IN PREPARATION FOR AN ANTICIPATED PROPOSITION 1 APPLICATION

The project team has also reached out to numerous agencies for support including California Department of Fish & Wildlife, Department of Water Resources and California Water Commission Staff. These are the three agencies that will be scoring the applications.

The Committee requested that project staff work with Government Relations, to obtain letters of support as soon as possible on the Proposition 1 Application process from other potential partners, beneficiary agencies, organizations, etc., and keep the Board advised through the Non-agenda process.

The Committee also requested that staff prepare an agenda item for the June Board agenda on the Proposition 1 Application process and land acquisition around the Pacheco Reservoir; and schedule a San Felipe Reach One Committee and Pacheco Pass Water District joint meeting.

3.2 UPDATE ON THE STATE DIVISION OF SAFETY OF DAMS ISSUES WITH THE EXISTING PACHECO PASS DAM, OWNED AND OPERATED BY PACHECO PASS WATER DISTRICT

Mr. Garth Hall and Mr. Steven Wu reviewed the materials as outlined in the agenda item.

An update was also given by staff on the State Division of Safety of Dams issues with the existing Pacheco Pass Dam, owned and operated by Pacheco Pass Water District, including spillway damage caused by recent storms, and possible short/long term fixes.

4. CLERK REVIEW AND CLARIFICATION OF COMMITTEE ACTIONS

Ms. Michele King reported the following action items.

1. Staff to work with Government Relations, to obtain letters of support as soon as possible on the Proposition 1 Application process from other potential partners, beneficiary agencies, organizations, etc., and keep the Board advised through the non-agenda.
2. Staff to schedule a San Felipe Reach One Committee and Pacheco Pass Water District Meeting.
3. Staff to prepare an agenda item for the June agenda on the Proposition 1 Application process and land acquisition around the Pacheco Reservoir.

5. ADJOURNMENT

Chair Director Gary Kremen adjourned the meeting at 3:58 p.m.

Michele King, CMC
Clerk of the Board

Approved:



Committee: Pacheco Reservoir Exploratory
Meeting Date: 09/14/17
Agenda Item No.: 5.1
Unclassified Manager: Jerry De La Piedra
Email: gdelapiedra@valleywater.org
Est. Staff Time: 20 minutes

COMMITTEE AGENDA MEMO

SUBJECT: Update on the Existing Pacheco Reservoir Dam and Spillway, Owned and Operated by Pacheco Pass Water District

RECOMMENDED ACTION:

This is an information only item and no action is required.

SUMMARY:

Representatives from the Pacheco Pass Water District (PPWD) are expected to provide updates to the Committee on the existing Pacheco Pass dam and spillway. Discussion will include the letters received by the PPWD from the Division of Safety of Dams dated July 14, 2017, (Attachment 1) and the California Governor's Office of Emergency Services dated August 3, 2017, (Attachment 2), as well as PPWD's progress in planning for repair work to the damaged spillway.

The Division of Safety of Dams (DSOD) sent a letter, dated July 14, 2017, to PPWD regarding the updating of hazard classification for all dams under State jurisdiction with respect to dam safety. The classification is based solely on downstream hazard considerations, not the actual condition of the dam or its critical appurtenant structures. The DSOD has determined that the North Fork Dam, No. 77, falls within a category that requires its owner, PPWD, to complete and submit an emergency action plan for the dam by January 1, 2018. Prior to this date, an inundation map must be submitted for review and approval by the DSOD.

Subsequently, the California Governor's Office of Emergency Services (Cal OES) sent a letter, dated August 3, 2017, to PPWD. The letter states that the Federal Emergency Management Agency (FEMA) has approved the Pacheco Pass Water District's Request for Public Assistance for the January 2017 storms. The letter outlines the incident period, the deadline to identify projects, project completion deadlines, compliance with Federal, State, and local environmental and historical laws, change in scope of work or additional funding, administrative costs, Net Small Project Overrun guidelines, the appeal process, funding process, insurance requirements, and the procurement process.

BACKGROUND:

At the May 23, 2017, Pacheco Reservoir Exploratory Ad Hoc Committee meeting, staff discussed the April 5, 2017 letter from the Division of Safety of Dams (DSOD) to the Pacheco Pass Water District (Attachment 3). The letter described the failure of the temporary repairs to the left spillway wall during the January 2017 storms and states the failure does not pose an immediate dam safety issue, but repairs must be completed in a timely manner to prevent deterioration and failure of additional wall panels that could block the

spillway or render it inoperable. In accordance with Section 6081 of the California Water Code, the DSOD ordered the Pacheco Pass Water District to complete temporary short-term repairs to the spillway by October 1, 2017, and to complete a permanent long-term repair by October 1, 2020.

ATTACHMENT(S):

- Attachment 1: July 14, 2017 letter from Division of Safety of Dams to Pacheco Pass Water District regarding North Fork Dam, No. 77
- Attachment 2: August 3, 2017 letter from California Governor's Office of Emergency Services to Pacheco Pass Water District regarding Approval of Request for Public Assistance
- Attachment 3: April 5, 2017 letter from Division of Safety of Dams to Pacheco Pass Water District regarding North Fork Dam, No. 77

DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791



July 14, 2017

Mr. Frank O'Connell, President
Pacheco Pass Water District
Post Office Box 1382
Hollister, California 95023

North Fork Dam, No. 77.000
Santa Clara County

The Division of Safety of Dams (Division) has updated the hazard classification for all dams under State jurisdiction with respect to dam safety. This classification is based solely on downstream hazard considerations, not the actual condition of the dam or its critical appurtenant structures. We have determined that the dam listed above has an "extremely high" hazard classification. Dams in this category have the potential to cause considerable loss of life and major impacts to downstream property should they fail or undergo an uncontrolled release from the dam or major water impounding barrier.

Newly enacted state law that became effective July 1, 2017, requires dam owners to prepare an emergency action plan (EAP) for their dams and critical appurtenant structures under certain conditions and in specific time limits (Water Code Sections 6160 and 6161). For dams meeting the "extremely high" hazard classification, the EAP must be completed and submitted for the subject dam by **January 1, 2018**. Prior to this date, as required under the new law, an inundation map must be submitted for review and approval by the Division.

Although this Division will be responsible for reviewing and approving the inundation maps, the California Office of Emergency Services (Cal OES) will oversee and approve EAPs in accordance with Government Code Section 8589.5. More information regarding EAPs and the legal responsibilities of dam owners is available at the following websites: www.water.ca.gov/damsafety and www.caloes.ca.gov. Additionally, the full text of the new law (SB 92, Committee on Budget and Fiscal Review, Statutes of 2017) can be found here: www.leginfo.legislature.ca.gov.

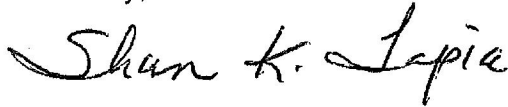
If there was an existing EAP as of March 1, 2017, the inundation map contained in the plan must still be submitted for our review and approval in accordance with Section 6161.(a)(4) of the Water Code. Once we determine the inundation map is sufficient, the EAP must be finalized and submitted to Cal OES and our office in accordance with Section 6161.(a)(3).

In accordance with the Federal Emergency Management Agency's guidelines, we consider EAPs a critical component of a responsible dam safety program. Therefore, we advise you to work closely with your local emergency management agency (EMA) and Cal OES and to coordinate your activities with them in order to facilitate an effective EAP development process. As part of our efforts to assist in these matters, local EMAs are being advised of these new requirements.

We will notify you if any changes occur that could affect these requirements. We look forward to working with you and appreciate your cooperation.

If you have any questions or need additional information, please contact Area Engineer William Vogler at (916) 227-4625 or Regional Engineer Andrew Mangney at (916) 227-4631. Questions concerning EAPs should be directed to Cal OES at eap@caloes.ca.gov.

Sincerely,

A handwritten signature in cursive script that reads "Sharon K. Tapia".

Sharon K. Tapia, Chief
Division of Safety of Dams

Certified Mail



August 3, 2017

President Frank O'Connell
Pacheco Pass Water District
PO Box 1382
Hollister, California 95024

Subject: Approval of Request for Public Assistance
FEMA-4301-DR-CA January 2017 Storms
Cal OES ID: 069-91015 FEMA ID: 069-USKBX-00
Subrecipient: Pacheco Pass Water District
Cal OES Log: 629441.1 FEMA Log: None

Dear Frank O'Connell:

The California Governor's Office of Emergency Services (Cal OES) is pleased to inform the Pacheco Pass Water District, your Request for Public Assistance for the January 2017 Storms has been approved by the Federal Emergency Management Agency (FEMA). Cal OES requests you use the Cal OES ID number noted above when corresponding with Cal OES for this disaster. All correspondence should be addressed to:

Mr. David Gillings, State Public Assistance Officer
California Governor's Office of Emergency Services
Recovery Section, Public Assistance Division
3650 Schriever Avenue
Mather, California 95655
ATTN: FEMA-4301-DR-CA

Incident Period

Eligibility of Public Assistance costs, as a result of the January 2017 Storms, will be based on events that occurred within the incident period of January 3, 2017, through January 12, 2017. Pursuant to Title 44 of the Code of Federal Regulations (44 CFR) section 206.202, any known damage that occurred within the incident period must have been reported to Cal OES within 60 days of the Recovery Scoping Meeting, formerly known as the Kickoff Meeting, to be eligible for federal assistance.

Deadline to Identify Projects

Project Worksheets (PW) are the reimbursement vehicles used to fund disaster projects. PWs are used to document the location, damage description and dimensions, scope of work, and cost estimate for each project. The PW is the basis for funding and all cost estimates and damages must be identified within 60 days following the Recovery Scoping Meeting for each of those projects identified on the Subrecipient's List of Projects. Damages and costs must be estimated when final supporting documents are not yet available. Pacheco Pass Water District is strongly encouraged to submit PW information as soon as possible to expedite the assistance and funding process.

Failure to identify and submit PW information in accordance with these parameters may jeopardize project funding or place additional work requirements on Pacheco Pass Water District to ensure reimbursement of all project costs. No project funding or payment is available for a PW until it is obligated.

Project Completion Deadlines

In accordance with 44 CFR section 206.204, FEMA requires all projects be completed within approved timeframes or funding may be jeopardized. It is imperative Pacheco Pass Water District submit a time extension request for any project that will not be completed by the current approved project deadline. Further, time extensions will only be granted by Cal OES or FEMA if Pacheco Pass Water District can demonstrate extenuating circumstances or unusual project requirements beyond its control that prevent the successful completion of the approved scope of work by the current approved project deadline. Please be advised FEMA and Cal OES will examine these requests closely and time extensions will only be approved for extenuating circumstances. To assist you in determining whether your agency requires a time extension, please refer to the following time limitations for the completion of work associated with this disaster:

DR-4301 Emergency Work Deadlines (Categories A and B)		DR-4301 Permanent Work Deadlines (Categories C-G)	
Regulatory Deadline	Cal OES Time Extension Authority	Regulatory Deadline	Cal OES Time Extension Authority
August 16, 2017	February 15, 2018	August 16, 2018	February 14, 2021

As delineated in the table above, Cal OES is able to grant time extensions through February 15, 2018, for emergency work, and February 14, 2021, for permanent work. FEMA must approve time extensions for any project that will be completed after these dates. Time extension requests must include the extenuating circumstances causing the delay, the PW number, category of work, a construction schedule, an estimated project completion date, as well as dates and provision of previously approved time extensions. Time extension requests should be submitted to Cal OES prior to the established deadline.

Compliance with Federal, State, and Local Environmental and Historical Laws

Initiating a project prior to FEMA's review for compliance with Federal environmental and historic laws and executive orders may result in jeopardizing funding. FEMA will complete any required documentation and interagency consultations. Pacheco Pass Water District must obtain all necessary permits required for all projects, and must comply with any federal, state or local environmental and historic laws or permit requirements.

Change in Scope of Work or Additional Funding

Any change to the scope of work and/or significant increase in project funding must be requested in writing through Cal OES. A version to the original PW will be prepared by Cal OES based on the eligible work in the documentation provided with the request. The draft PW will be transmitted by Cal OES to FEMA for approval. It is imperative subrecipients wait for FEMA's approval before

initiating any changes to the approved scope of work. Such work may be subject to review for compliance with various federal environmental and historic preservation laws and regulations. Any additional work performed prior to approval by FEMA and completion of these reviews may jeopardize funding for the entire project.

Administrative Costs

Pursuant to 44 CFR Part 207, Section 324 Management Costs and Direct Administrative Costs, subrecipients can claim direct administrative costs through the PW process for those disasters declared on or after November 13, 2007. Direct administrative costs now include costs that can be tracked, charged and accounted for directly to a specific project. These tasks can include, but are not limited to, staff time spent to complete initial, interim and final inspections; preparing PWs; collecting and organizing documentation; and attending certain meetings with Cal OES and FEMA. Costs considered indirect costs for any other federal award or activity cannot be charged to a project. In addition, Cal OES will continue to provide a 10 percent administrative allowance on the Cal OES cost-share amount.

Net Small Project Overrun (NSPO) Guidelines

Pursuant to 44 CFR section 206.204(e)(2), Public Assistance subrecipients may appeal for additional small project funding within 60 days of the completion of work on their last small project. The small project threshold for this event is \$123,100. When submitting an appeal for an NSPO, you must include a cost overrun summary listing all small project PWs, actual costs to complete the approved scope of work, and project completion dates. Furthermore, you must be prepared to supply all required supporting documentation upon request.

Appeal Process

In accordance with 44 CFR section 206.206, you have the right to appeal any determination made by FEMA. Subrecipients must submit an appeal, through Cal OES, within 60 days of the certified mail return receipt sent by FEMA that provides notification of the FEMA determination. Cal OES then has an additional 60 days to review the appeal, make a recommendation, and transmit the appeal to FEMA. FEMA regulations require the subrecipient to provide a documented justification in support of their position, the monetary figure in dispute, and the provision of federal law, and the regulation or policy with which the subrecipient believes the initial action was inconsistent. Subrecipients are encouraged to submit, at a minimum, the above documentation, as well as any additional documentation needed to best support the appeal argument. All known relevant information must be submitted with the first appeal. Failure to provide this information will affect Cal OES' ability to support the appeal and still meet FEMA's regulatory deadlines.

Funding Process

Upon obligation of federal and state funds, you will be notified by Cal OES via grant obligation notification letters. These obligation letters will describe the state and federal funding processes. Questions regarding payments of approved funding should be directed to Cal OES Grants Processing Unit at (916) 845-8110.

Insurance

Pursuant to 44 CFR section 206.252, a subrecipient is required to obtain and maintain insurance on insurable facilities as a condition of receiving Public Assistance funding from FEMA. This requirement is waived when eligible costs for an insurable facility do not exceed \$5,000. FEMA will notify the subrecipient of the type and amount of insurance required. However, FEMA cannot require greater types and extent of insurance than is certified as reasonable by the State Insurance Commissioner. FEMA Policy 206-086-1, Public Assistance Policy on Insurance, describes these requirements in detail.

Procurement

For all approved, federally funded and/or federally financed projects, subrecipients are required to follow the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, at 2 CFR Part 200, as adopted by the Department of Homeland Security at 2 CFR Part 3002, when using the federal financial assistance to procure property and/or services.

In conclusion, expediting the processing of project worksheets and reimbursements involves a high level of proactive participation. It is imperative that you coordinate with your staff and designated Cal OES/FEMA personnel to submit the list of projects, conduct site inspections, and process supporting documentation in a timely manner in order to avoid unnecessary delays in reimbursements that can ultimately affect your jurisdiction's recovery. If you have any questions related to this correspondence, please contact Cal OES Recovery at (916) 845-8200.

Sincerely,

THE CAL OES RECOVERY TEAM

APR - 5 2017

Mr. Frank O'Connell, President
Pacheco Pass Water District
Post Office Box 1382
Hollister, California 95023

North Fork Dam, No. 77
Santa Clara County

Dear Mr. O'Connell:

This letter is in response to the incident involving the failure of the temporary repairs to the left spillway wall. The failed section involves four wall panels, having an approximate length of 80 feet and starting approximately 170 feet downstream of the beginning of the left spillway wall. Upon being informed of the incident on January 20, 2017 by Mr. Jeff Cattaneo with the San Benito County Water District, Area Engineer William Vogler, Design Engineer Melissa Collord, and Senior Engineering Geologist Robert Burns inspected the dam on the same day.

The Division's inspection team determined that since the failed left wall section was located away and off the dam, it does not pose an immediate dam safety issue. However, repairs must be completed in a timely manner to prevent deterioration and failure of additional wall panels that could block the spillway or render it inoperable.

Mr. Vogler restricted the reservoir to Elevation 469.00, which is 2.0 feet below the spillway crest. This directive was made in accordance with Division 3, Part 1, Chapter 4, Section 6111 of the California Water Code (CWC). Mr. Vogler also requested that the outlet be fully opened whenever the reservoir level is at or above the restricted level, and the dam be inspected daily if the spillway is in-use, and at least three times a day if the reservoir level is at or above Elevation 473.00 or two-feet above the spillway crest. Mr. Vogler requested that any change in conditions be reported immediately to the Division.

The instability of the left spillway wall panels is a long-standing dam safety issue that dates back to the 1940s, and multiple repairs and failures have occurred. A repair application was filed on June 24, 1999, and approved on October 4, 2001, for a long-term repair; however, this work was never completed due to reported funding issues. The Pacheco Pass Water District's (District) progress towards addressing the dam's spillway deficiency with a long-term permanent repair has been unacceptable.

Therefore, in accordance with Section 6081 of the CWC, THE DISTRICT IS HEREBY ORDERED to complete temporary short-term repairs to the spillway by October 1, 2017. In addition, THE DISTRICT IS HEREBY ORDERED to complete a permanent long-term repair by October 1, 2020.

Attachment 3
Page 1 of 3

Mr. Frank O'Connell
APR - 5 2017
Page 2

Submit a repair plan for a short-term repair for our review and approval by June 1, 2017, so construction work can be completed by October 1, 2017. No work may be done without our prior approval.

For the long-term repair, a new repair application will be required. A condition assessment of the entire spillway, including any necessary investigation and exploration, must be incorporated into the design phase for the work. All necessary improvements must be included in the repair work. A new repair application, updated plans and specifications, and a filing fee must be submitted by January 2, 2019, to ensure all construction work is completed by October 1, 2020. The application work must be done under the direction of a civil engineer registered in the State of California.

Until permanent repairs are completed to the left spillway wall, the reservoir level shall remain at or below the restricted level of Elevation 469.00. Whenever the reservoir exceeds the restricted level, the low-level outlet must be fully opened to maximize releases. In addition, if the spillway is in-use, it must be inspected daily, and any change in conditions must be reported to us immediately.

If satisfactory progress is not made toward addressing the North Fork Dam's spillway deficiency, further restrictions will be imposed, or the Certificate of Approval to store water may be revoked in accordance with Division 3, Part 1, Chapter 4, Section 6357.1 of the CWC.

If you have any questions or require additional information, please contact Mr. Vogler at (916) 227-4625 or Regional Engineer Andrew Mangney at (916) 227-4631.

Sincerely,

**Original Signed by
Sharon K. Tapia for**

Sharon K. Tapia, Chief
Division of Safety of Dams

Enclosure
Certified Mail

cc: (See attached list.)

WfVogler:TGlorioso
North Fork Dam.doc
Spell Check 4/4/17

cc: Mr. Scott Morgan, Staff Counsel
Office of the Chief Counsel
Department of Water Resources
1416 Ninth Street, Room 1118
Sacramento, California 95814

Mr. Jeff Cattaneo, District Manager
San Benito County Water District
Post Office Box 889
Hollister, California 95024-0899

Mr. James Fiedler, Chief Operating Officer
Water Utility Enterprise
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, California 95118-3686



Committee: Pacheco Reservoir Exploratory
Meeting Date: 09/14/17
Agenda Item No.: 5.2
Unclassified Manager: Jerry De La Piedra
Email: gdelapiedra@valleywater.org
Est. Staff Time: 15 minutes

COMMITTEE AGENDA MEMO

SUBJECT: Update on Proposition 1 Funding Application for Pacheco reservoir Expansion Project

RECOMMENDED ACTION:

This is an information only item and no action is required.

SUMMARY:

On Monday, August 14, 2017, the Santa Clara Valley Water District (SCVWD) submitted an application to the California Water Commission (Commission) requesting \$484.5 million, half of the capital cost of a Project to expand Pacheco Reservoir near the southeastern border of Santa Clara County. Pacheco Pass Water District (PPWD) and San Benito County Water District (SBCWD) joined the SCVWD in this application as key Project Partners. Eight south-of-Delta wildlife refuges in the San Joaquin River Hydrologic Region are also project partners, and will receive Project water and apply it to benefit the Delta ecosystem. Attachment 1 provides the Executive Summary of the funding application.

Proposition 1 dedicated \$2.7 billion for investments in new water storage projects across the State. The Commission, through the Water Storage Investment Program (WSIP), will fund public benefits of selected projects. The application period for WSIP funding closed on August 14, 2017. Twelve applications were received by the Commission requesting \$5.8 billion in WSIP funding for projects totaling \$13.1 billion in construction costs. Attachment 2 provides the list of applicants. Commission staff initiated the technical review of the applications and created a webpage (<https://cwc.ca.gov/Pages/WSIP.aspx>) where all applications received by the Commission are posted along with information and documentation related to the review process. It is anticipated that Commission decisions on project funding levels will be announced during first half of 2018.

Among the most important next steps: planning, design, and permitting stages of the Project must be initiated simultaneously, and significant work must be completed to meet the Prop 1 statutory deadline to complete draft California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) documents by January 2022. Multiple phases of field investigations may be necessary to finalize the location of the dam and initiate the feasibility level design to complete the draft CEQA/NEPA documents. Biological surveys spanning multiple years, as well as cultural surveys, will have to be completed to initiate the lengthy permitting process. SCVWD estimates that the environmental documentation and permitting for the Project, including full design, will cost approximately \$86.2 million. The SCVWD Board of Directors authorized \$2 million to initiate the permitting studies and requested an "early funding" from WSIP totaling \$24.2 million for planning, and permitting, which is the maximum eligible early funding amount. Early funding for completion of environmental documentation and permits necessary for the project may be granted by the Commission once applications are ranked but prior to full project funding. Attachment 3 provides the early funding scope, schedule and budget submitted with the application.

BACKGROUND:

An expanded Pacheco Reservoir (proximate to the pipeline that conveys Central Valley Project water from San Luis Reservoir to Santa Clara and San Benito counties) could potentially improve water supply reliability by increasing operational flexibility and augmenting dry and critical year supplies. The Project could also provide emergency supply, improve drinking water quality, enhance habitat for South-Central Coast steelhead on Pacheco Creek, and provide some downstream flood reduction benefits. The capital cost for expanding the reservoir from six thousand acre-feet (TAF) to 140 TAF is estimated to be \$969 million. Proposition 1 provides a potential opportunity for the District, along with partners PPWD and SBCWD, to receive State funding for up to 50% of project costs.

At its January 31, 2017 meeting, the SCVWD Board received information from staff on the potential merits of a Pacheco Reservoir Expansion Project and the opportunity to prepare an application for grant funding under the State's Proposition 1 WSIP administered by the Commission. At its February 28, 2017 meeting, the SCVWD Board authorized execution of a consultant agreement with Stantec to prepare a Proposition 1 funding application for the Pacheco Reservoir Expansion Project.

In response to the SCVWD Board's January 31 directives, the SCVWD Board's Pacheco Reservoir Exploratory Ad Hoc Committee met with board members of San Benito and Pacheco Pass on February 23, 2017. Draft principles of agreement among the three districts were presented and discussed. These principles provide for commitments among the parties for coordination, communication, and support to prepare and submit an application for Proposition 1 funding. Representatives of Pacheco Pass and San Benito executed this document on February 27. On March 14, the SCVWD's Board authorized the Interim CEO to execute the principles of agreement.

ATTACHMENT(S):

- Attachment 1: Pacheco Reservoir Expansion Project Executive Summary
- Attachment 2: WSIP List of Applicants
- Attachment 3: Early Funding Scope, Schedule, Budget

Eligibility and General Project Information

A1: Executive Summary

Pacheco Reservoir Expansion Project



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Pacheco Reservoir Expansion Project would provide environmental improvement, emergency response, flood control, water supply, and water quality benefits.

INTRODUCTION

This document provides the executive summary of the Pacheco Reservoir Expansion Project (Project), pursuant to Section 6003(a)(1)(A) of the California Code of Regulations (regulations). The Project is a multi-agency effort led by Santa Clara Valley Water District (SCVWD) to provide local, regional, and statewide environmental improvements, emergency response, flood control, water supply, and water quality benefits through expansion of a small reservoir in southeast Santa Clara County.

Project Partners

SCVWD, the applicant for this application, is a public agency that provides water supply, flood protection, and stream stewardship for Santa Clara County, serving approximately 1.9 million people in 15 cities and unincorporated areas. Joining SCVWD in this Water Storage Investment Program (WSIP) application, as key Project partners, are two local water districts—Pacheco Pass Water District (PPWD) and San Benito County Water District (SBCWD)—and eight south-of-Delta wildlife refuges in the San Joaquin River Hydrologic Region (DWR Bulletin 160-05). These wildlife refuges are named in the Central Valley Project Improvement Act (CVPIA) and are managed by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and the landowners of privately owned and managed wetlands in the Grassland Resources Conservation District (GRCD). SCVWD, PPWD, and SBCWD have executed a Principles of Agreement to (1) evaluate the potential benefits of expanding Pacheco Reservoir, and (2) develop a WSIP application for the Project.

As development of the Project proceeds, the current Project partners will further explore integrated regional operations with other partners of the expanded reservoir for environmental improvement, emergency response, M&I and agricultural water supply, and water quality benefits consistent with their authorities. Project development will include evaluation, with the intent to incorporate further benefits of current and future Project partners.

As of this WSIP application submittal, nearly 50 elected officials, organizations (representing labor unions, agricultural, governmental agencies, business, and others), resource conservation districts, public water agencies, and environmental leaders have provided letters to the California Water Commission (Commission) in support of the Project, demonstrating the widespread and broad-based support for this application. A representative list of these organizations is provided below. Copies of their correspondence are included in the *Eligibility and General Project Information Attachment A.6: Other Application Information*.

About the Applicant

Founded in 1929, the SCVWD provides safe, clean water; flood protection; and stewardship of streams. SCVWD sells treated water to local water retailers that supply the cities of San Jose, Santa Clara, Sunnyvale, Milpitas and many others. In addition, groundwater accounts for nearly half of SCVWD's water supply portfolio. Altogether, SCVWD's water supplies serve 1.9 million people. Ensuring the continued availability of this resource on behalf of the region has been a core mission of SCVWD since its founding in 1929. Today, the SCVWD—pursuant to the Sustainable Groundwater Management Act of 2014—is the exclusive Groundwater Sustainability Agency for the *Department of Water Resources' Bulletin 118* subbasins in the County. Santa Clara County satisfies 40 percent of its water supply demand through imported water from the Delta. Groundwater basins are replenished with local surface water and with imported water conveyed through the Delta. Imported water and local surface water also supply three drinking-water treatment plants. SCVWD collaborates and coordinates with local agencies and recycled water producers for recycled water development and use.

For flood protection, SCVWD carries out capital and maintenance projects throughout the year along creeks in the County. In addition, SCVWD partners with cities and the County to provide open space and recreational opportunities at 10 surface reservoirs and in a network of trails and open space parks.

SCVWD has excellent financial capability and the ability to fund its capital projects, including the Project in this WSIP application.

Project Location

The primary study area for the Project is Santa Clara and Merced counties, with an extended study area including portions of the counties of Monterey, San Benito and Santa Cruz. In the primary study area, the Project will expand the existing Pacheco Reservoir in southeast Santa Clara County; construct new water conveyance infrastructure to segments of the Central Valley Project (CVP) San Felipe Division in Merced and Santa Clara counties; and deliver a firm water supply to up to eight south-of-Delta wildlife refuges in Merced County. Water operations made

Letters of Support to the Commission

- *Senator Jerry Hill*
- *Senator William Monning*
- *Assemblymember Marc Berman*
- *Assemblymember Anna Caballero*
- *Assemblymember Kansen Chu*
- *Bay Area Water Supply and Conservation Agency (BAWSCA)*
- *California Department of Water Resources, Division of Safety of Dams*
- *City of Gilroy*
- *City of Milpitas*
- *City of Morgan Hill*
- *City of Watsonville*
- *County of Santa Cruz Flood Control and Water Conservation District, Zone 7*
- *Family Farm Alliance*
- *Jerry J. Smith, Ph.D., Fisheries Biologist and San Jose State University Professor*
- *Loma Prieta Resource Conservation District*
- *Metropolitan Water District of Southern California*
- *Monterey County Board of Supervisors*
- *National Association for the Advancement of Colored People (NAACP), San Jose/Silicon Valley Branch*
- *Pajaro River Watershed Flood Prevention Authority*
- *Pajaro/Sunny Mesa Communities Services District*
- *Pajaro Valley Water Management Agency*
- *San Benito County Farm Bureau*
- *San Jose Water Company*
- *San Luis & Delta-Mendota Water Authority*
- *Santa Clara and San Benito Counties Building and Construction Trades Council*
- *Santa Clara County Farm Bureau*
- *Santa Cruz County Farm Bureau*
- *Silicon Valley Organization*
- *Westlands Water District*

possible through the Project would improve ecosystems, water supplies, water quality and flood management conditions, and increase groundwater levels in geographies of the primary and extended study areas.



Damaged spillway of existing North Fork Dam

Existing Pacheco Reservoir

Pacheco Reservoir is located on North Fork Pacheco Creek, and it was established in 1939 through construction of the North Fork Dam. This existing earthen dam is owned and operated by PPWD, and operated for groundwater recharge via releases to Pacheco Creek in spring and early summer. The design capacity of Pacheco Reservoir is 6,000 acre-feet, with an operational capacity of 5,500 acre-feet. The earthen dam is 100-feet tall and collects rainfall from a 75-square-mile watershed. Since the 1940s, the

facility has undergone multiple repairs to its spillway.

North Fork Dam is currently under restricted-operation criteria through an April 5, 2017, order of the California Department of Water Resources' Division of Safety of Dams (DSOD), due to existing spillway deficiencies. PPWD is coordinating with the Federal Emergency Management Agency and DSOD on short-term and long-term repairs. The DSOD has stated that if satisfactory progress is not made to address spillway deficiencies, additional remedies would be invoked, inclusive of revocation of the PPWD's Certificate of Approval to store water. If such certification is revoked, the lake would be drained and the Dam's outlet structures would be left open, a step that would reduce existing fisheries habitat. For the purpose of this application, in order to eliminate the risk of overestimating benefits, it is assumed that the reservoir is operated at full operational capacity and consistent with recommendations in the *2014 Report on Comprehensive Strategy and Instructions for Operation of Pacheco Reservoir* (i.e., optimized operations of the existing dam for steelhead habitat).

Project Objectives

The Project seeks to fulfill significant water-resource needs and opportunities in five resource areas. Project objectives are:

- Increase suitable habitat in Pacheco Creek for federally threatened South-Central California Coast (SCCC) steelhead.
- Develop water supplies for environmental water needs at Incremental Level 4 (IL4) wildlife refuges to support habitat management in the Delta watershed.
- Improve water quality and minimize supply interruptions, when water is needed, for San Felipe Division contractors, and increase operational flexibility for south-of-Delta contractors dependent on San Luis Reservoir.
- Increase water supply reliability to help meet M&I water demands in Santa Clara County during drought periods and emergencies, or to address shortages due to regulatory and environmental restrictions.
- Reduce flood risks along Pacheco Creek and downstream areas, including disadvantaged communities.

In meeting these objectives, the Project will also deliver regional water-resource benefits downstream in the Pajaro River watershed.

PROJECT FACILITIES AND OPERATIONS

Project Facilities

Project facilities, located as shown in Figure 1-1, include a new reservoir; a new earthen dam and spillway; new pipelines and tunnels connecting the new reservoir to the Pacheco Conduit; a new pump station; likely removal of the existing dam and associated channel modifications; a new regulating tank at the Pacheco Pumping Plant; and access improvements. The new pipeline and pump station would connect the new reservoir to San Felipe Division’s Pacheco Conduit, a facility operated and maintained by SCVWD through a long-term contract with the U.S. Department of the Interior, Bureau of Reclamation (Reclamation). As with SCVWD, SBCWD receives its CVP supplies for agricultural and M&I use through the San Felipe Division. Table ES-1 summarizes the physical features of each of the major Project components.

SCVWD, through legacy organizations, has been planning, designing, constructing and operating water resources projects since 1929, including 10 dams and reservoirs. SCVWD has significant recent experience in implementing large capital programs for ecosystem improvement, water supply, and flood risk reduction. SCVWD’s ability to independently fund the non-WSIP portion and implement the Project reduces the implementation risk to the Commission, and would help ensure likelihood of Project implementation and recognition of identified public benefits.

Table ES-1. Physical Features of Major Project Components for the Pacheco Reservoir Expansion Project

Project Component	Physical Features	Project Component	Physical Features
New Dam and Reservoir		Pipeline/Tunnels	
Total Storage Volume	141.6 TAF	Diameter	108 inches
Active Storage Volume	140.8 TAF	Length	4,700 feet
Surface Area at Full Pool	1,385 acres	Pacheco Pump Station New Regulating Tank	
Dam Crest Elevation	719 feet msl	Capacity	3 mg
Full Pool Elevation	694 feet msl	Diameter	150 feet
Embankment Height	319 feet	Hydraulic Head at Conduit Connection	610 feet
Dam Crest Length	2,212 feet	Access Improvements	
Dam Embankment Volume	12.5 million cy	40-foot wide permanent roads	2.7 miles
New Pump Station		25-foot wide temporary access road to spillway	1.2 miles
Pump Station Capacity	490 cfs	25-foot wide temporary haul road to borrow sites	5.7 miles
Pump Station Lift	170 feet		
Pump Station Total Horsepower	13,750 hp	Electrical transmission line	16 miles
Number of Pumps	11		

Key:

cfs = cubic feet per second
cy = cubic yard

hp = horsepower
mg = million gallons

msl = mean sea level
TAF = thousand acre-feet

The proposed location of the new dam was selected to maximize capacity and to avoid inundation of public lands at Henry W. Coe State Park. At full pool elevation, the low-ground elevation of Henry W. Coe State Park would be 16 feet above the new reservoir, and 1,700 feet upstream from the expanded reservoir.

Significant features of the zoned earthfill dam include an impervious core flanked by a protective outer shell of random fill. This type of construction was selected to: 1) allow for advantageous use of local borrow materials; (2) be seismically safe in a location with high seismic potential; and 3) accommodate a wide range of reservoir drawdown conditions. A system of drains and filters would be incorporated to control seepage through the dam and foundation. A 100-foot-wide auxiliary spillway, with an energy dissipation deflector, will allow for release of the probable maximum flood.

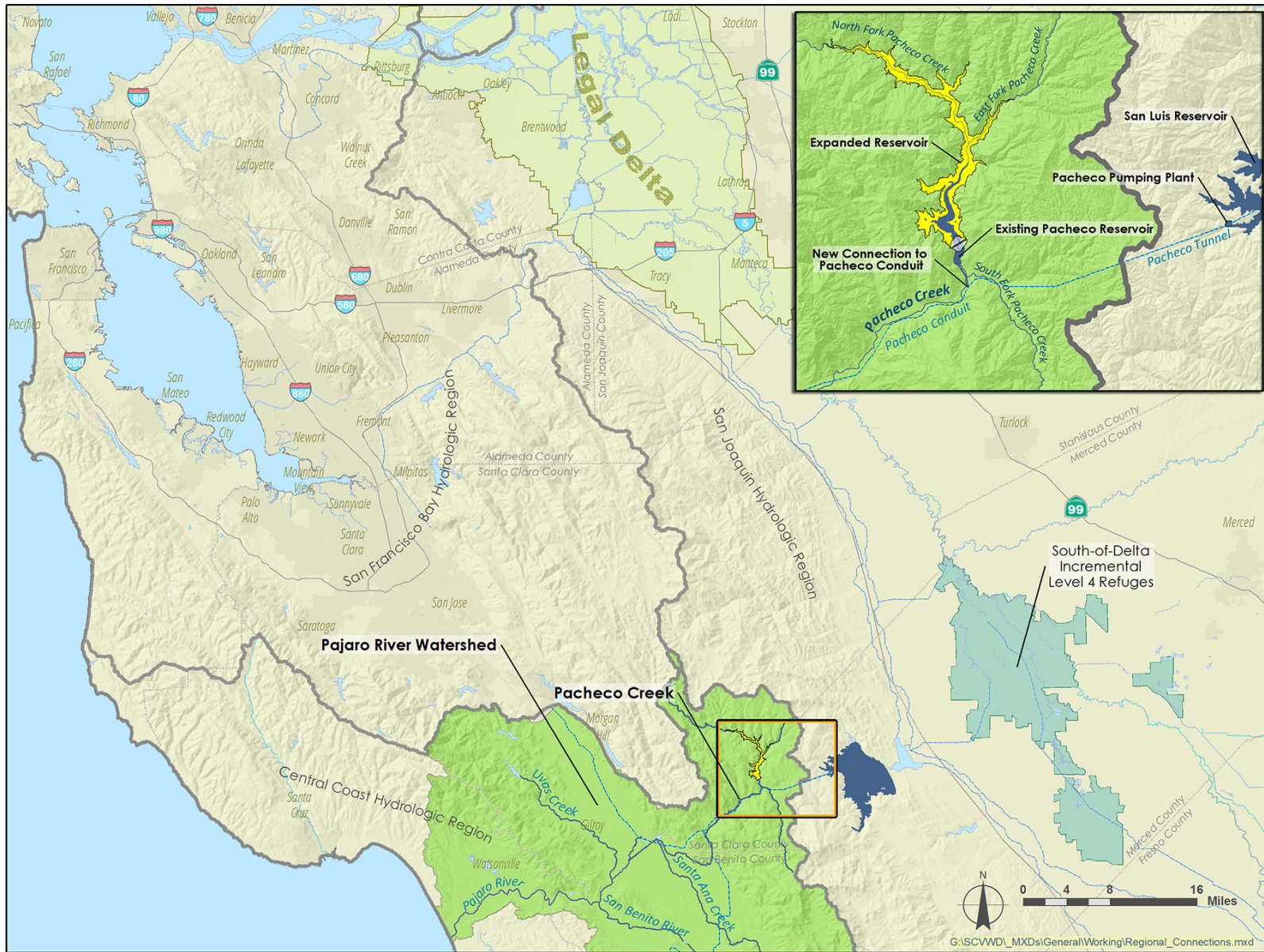


Figure 1-1. Pacheco Reservoir Expansion Project Study Area

Inlet/Outlet Structure and Conveyance Facilities

Conveyance facilities associated with the new dam include a sloping intake/outlet structure and a low-level inlet/outlet in the reservoir, providing deliveries to the reservoir from Pacheco Conduit and withdrawals from the reservoir to the conduit and Pacheco Creek. These facilities will be optimized through installation of a regulating tank near San Luis Reservoir. A key feature of the sloping intake/outlet structure will be the ability to draw water from various reservoir depths to release water to Pacheco Creek at temperatures optimized for SCCC steelhead habitat.

The Project will create both short-term, construction-related jobs as well as long-term operations and maintenance employment opportunities.

The inlet/outlet structure will be supported by a pump station, equipped with 11 pumps (10 duty and one standby). This pump station will draw from a 4,700-foot-long reinforced concrete pipeline that will house a 108-inch carrier pipe contained within a 132-inch casing. These structures will allow for the conveyance of water into, and out of, the Pacheco Conduit, and the release of up to 35 cubic feet per second (cfs) to Pacheco Creek. Conveyance between the expanded reservoir and the Pacheco Conduit would be accomplished by gravity or booster pump, depending upon water surface elevation in the new reservoir. A low-level reservoir outlet structure will be provided to meet DSOD emergency reservoir drawdown requirements. To provide an adequate control buffer and surge control, the Project includes a second three-million gallon above-ground regulating tank at the existing Pacheco Pumping Plant near San Luis Reservoir.

The existing dam would likely be removed as part of the Project. If the Project is not implemented, SCVWD or SBCWD will have no responsibility related to the existing dam. The historical Pacheco Creek channel would be restored between the new dam and the existing dam as part of the Project (i.e., a portion of the historical channel currently inundated by the existing reservoir). Restoration of the channel would consist of excavation of a terraced channel and revegetation actions to provide riparian habitat for SCCC steelhead and other riparian species.

Project Operations

The Project will be operated to optimize the public and non-public benefits, including ecosystem improvement (both for Pacheco Creek and the San Joaquin River watershed), emergency response, flood control, additional groundwater recharge for agricultural use by Project partners, M&I water supply and M&I water quality. Project operations will focus on



The Project will provide dedicated emergency water supply for Project partners. Silicon Valley, served by SCVWD, continues to be a leading hub for high-tech innovation and development, accounting for one-third of all of the venture capital investment in the U.S.

(1) capturing and storing water during wetter periods from natural inflows for release during dry periods, both annually (i.e., capture winter flows for summer release and use), and across multiple years (i.e., capturing and storing water during wetter years for release and use during drier years and/or emergencies), and (2) integration with SCVWD's water system operations to optimize use of all available supplies, including CVP and State Water Project (SWP) supplies, other imported supplies, other local surface supplies, and conjunctive use/groundwater recharge.

Historic operations of Pacheco Reservoir were informal, but generally effective, for groundwater recharge through a release schedule that intended to have flows fully infiltrate the underlying aquifer with minimal losses in outflow to the Pajaro River. These operations depended upon the natural hydrology of North Fork Pacheco Creek, and were controlled to lower Pacheco Creek for groundwater recharge through the creek bed. Due to the existing reservoir's size, spring-time outflows from North Fork Dam matched inflows, once the reservoir reached its capacity. During these flow events, outflows exceed groundwater recharge opportunities in Pacheco Creek and Pajaro River.

Inputs to Expanded Pacheco Reservoir

The Project will be primarily filled using natural inflows from the North and East Forks of Pacheco Creek. These inflows are typically realized from December through March. Supplemental flows to the expanded reservoir would arrive from SCVWD's and SBCWD's share of contracted CVP pumped water from San Luis Reservoir. This would include CVP water supplies that otherwise could not be delivered or stored.

Operations for Project Public and Non-Public Benefits

The Project would be operated to provide a wide range of public and non-public benefits, as follows:

- **Ecosystem Improvement – Pacheco Creek** The Project would be operated to improve habitat conditions for SCCC steelhead in Pacheco Creek. These operations include year-round releases to Pacheco Creek, targeting average monthly creek flows ranging from 10 cfs to 20 cfs, depending on steelhead life-stage requirements. To ensure that flows and water temperatures in Pacheco Creek are maintained in consecutive dry years, releases to Pacheco Conduit—to meet M&I and agricultural water demands—would be discontinued in the event that reservoir storage volumes fall below 55,000 acre-feet.
- **Delta Ecosystem Improvement – San Joaquin River Watershed** Through capture of equivalent local water supplies from the North Fork Pacheco Creek to meet Project partner needs, the Project would provide 2,000 acre-feet (in below normal years) to the IL4 water supply pool for refuges in the Delta watershed. More specifically, by expanding the existing reservoir, the Project would allow Project partners to provide 2,000 acre-feet of firm water supplies (in below normal water years) to the Refuge Water Supply Program (RWSP). The supply resources for allocation to the IL4 refuge supply pool would be provided through transfer of SCVWD's CVP long-term water supply contract supplies, or through transfer or exchanges with other water districts. Delivering water through transfer or exchange afforded by SCVWD is intended to assist the RWSP in addressing IL4 supply shortfalls at refuges with constrained surface water delivery infrastructure.
- **Emergency Response** The Project would be operated to provide water supplies to SCVWD and SBCWD M&I water users during emergencies. If a supply interruption poses an imminent risk to essential public health and safety, Project partners may



The Project would provide firm water supplies to wildlife refuges in the Delta watershed in below normal water years. This new supply will provide for irrigation of approximately 1,000 acres of wetlands, for production of moist-soil forage and habitat for resident waterfowl, shorebirds, and other species.

Pacheco Reservoir Expansion Project

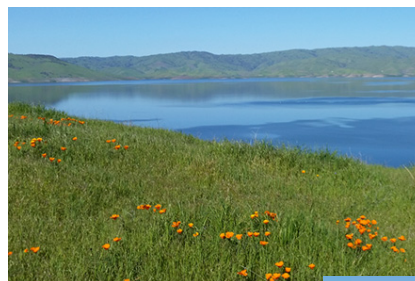
proceed with an emergency drawdown of Pacheco Reservoir below 55,000 acre-feet to meet M&I water demands. Such emergency circumstances could include Delta export outages, imported water conveyance outages, regional infrastructure failures, or extended drought periods when water supplies are required to meet essential health and safety needs for drinking, hygiene, sanitation, fire protection and/or to avoid permanent land subsidence due to groundwater depletion.

- **Flood Control** During heavy precipitation events, releases from the expanded reservoir could be curtailed or ceased entirely, depending on reservoir storage levels, to minimize flooding risks along Pacheco Creek and the Pajaro River. The Project will provide flood control benefits, including to disadvantages communities, by reducing flows in Pacheco Creek and downstream waterways during flood events through incidental available storage and project facility design (i.e., spillway configuration).
- **M&I Water Supply and Groundwater Recharge** The Project would provide additional groundwater recharge to aquifers fed by Pacheco Creek, thereby benefiting agricultural customers of two Project partners, SBCWD and PPWD. It would also improve SCVWD and SBCWD M&I water supplies through an increased ability to fully utilize CVP allocations, and through development of local water supplies from the Pacheco Creek watershed. The Project would be integrated into regional system operations and the Project partners' water supply portfolios.
- **M&I Water Quality** During the summer, high temperatures and declining water levels create conditions that foster algae growth in San Luis Reservoir. Treated CVP water in these periods frequently has significant taste and odor problems for SCVWD customers that cannot be fully addressed by existing treatment facilities. During such periods, the Project would be operated to avoid delivery of CVP water supplies when San Luis Reservoir levels are low. This would be accomplished by taking delivery of SCVWD and SBCWD supplies earlier or later in the season, storing these supplies in the expanded Pacheco Reservoir, using additional local supplies developed through expansion of the Pacheco Reservoir, and using the Project as a source of blending water when needed.

PROJECT INTEGRATION AND IMPACT

Integration with State Water Systems and Increased Operational Flexibility

The Project would improve the operation of the state water system, including local, regional, state, and federal systems. The Project would expand south-of-Delta storage that is interconnected with both CVP and SWP. The Project would improve overall system reliability and delivery flexibility, particularly related to joint CVP/SWP San Luis Reservoir operations. During the hot summer months, particularly when San Luis Reservoir storage falls below 300,000 acre-feet, algae blooms often reach San Felipe Division intakes. During these periods, treated CVP water has an unpleasant taste and odor that cannot be fully addressed by existing treatment facilities. Typically, SCVWD finds it necessary to curtail



The Project would improve overall system reliability and delivery flexibility, particularly related to joint CVP/SWP San Luis Reservoir operations.



Exposed Upper San Felipe Intake in San Luis Reservoir

deliveries of CVP water to its customers in these periods. Further, the lower San Felipe Intake in San Luis Reservoir cannot operate when storage levels are below 326 feet (79,000 acre-feet), whereas releases to the Delta-Mendota Canal or California Aqueduct can possibly draw down San Luis Reservoir levels to approximately 273 feet. The integrated Project would provide the following water supply benefits:

- **Improved Water Quality** Avoid the consequences of the San Luis Reservoir low-point condition by delivering SCVWD and SBCWD supplies to the Project earlier in the season, SCVWD and SBCWD using additional local supplies developed through expansion of the Pacheco Reservoir to meet demands, and using the Project as a source blending water when needed.
- **Reduced Operational Constraints** Reduce operational challenges, and increase effective storage for other San Luis Reservoir users, through avoided conflict during low-point conditions and allowing the full reservoir capacity of San Luis Reservoir to be exercised.
- **Increased System Flexibility** Provide greater flexibility for San Luis Reservoir operators in managing storage and delivery.
- **Improved Transfer and Exchange Opportunities** Enable transfer of water from San Luis Reservoir to Pacheco Reservoir, allowing for improved management of non-project water in San Luis Reservoir, and reducing loss of investment in non-project water being “spilled.”

Other federal, state, and regional benefits of the Project include:

- **Reduced Delta Pumping at Critical Biological Periods** During extreme drought conditions, Reclamation and California Department of Water Resources (DWR) operate the CVP and SWP Delta export facilities to provide, at minimum, for essential human health-and-safety needs throughout the CVP and SWP service areas. Allocation of health-and-safety supplies to SCVWD and SBCWD by Reclamation and DWR are based on availability of other local supplies, including water in local storage. With the Project, SCVWD and SBCWD will have additional local supplies, and this may reduce Delta exports during these critical biological periods.
- **Delta Watershed** Project water supplies designated for the IL4 refuge water supply pool can be stored in San Luis Reservoir, increasing flexibility in delivery time and location for supplies committed to south-of-Delta ecosystem improvements. Further, increasing IL4 supplies from SCVWD’s water supplies may reduce transfer of north-of-Delta supplies and related Delta exports.
- **Delta-Export Interruption** In the event of a Delta-export failure, SCVWD and SBCWD would have additional local emergency response water supplies available. During such Delta events, supplies stored in San Luis Reservoir or in the SWP system could be made available to other regional water users that have limited local storage.
- **Drought Resilience** The Project will improve Project partner water supplies during drought periods. This would allow SCVWD to reduce reliance on the Semitropic Groundwater Banking Program (Semitropic) and other transfers, and on exchanges to

SCVWD is the applicant for WSIP funding for the Project on behalf of the Project partners. The Project partners have been engaged in the development of the Project and this WSIP application. Although financial contributions from current and future Project partners are anticipated, SCVWD has both the financial capacity and organizational experience to successfully implement the Project.

Pacheco Reservoir Expansion Project

bring water to the region during some drought periods. It may thereby increase the operational flexibility of Semitropic storage and conveyance facilities for other water users during these periods.

The Project would improve regional management of water resources along Pacheco Creek and the Pajaro River, including:

- **Reduced Flood Risk for Disadvantaged Communities** The Project may reduce peak 100-year event flood flows from Pacheco Reservoir by 61 percent. The Project will reduce peak flows along Pacheco Creek, in the Soap Lake area (a disadvantaged community), and for the U.S. Army Corps of Engineers' Pajaro River Project for the communities of Pajaro and Watsonville (both disadvantaged communities).
- **Increased Local Groundwater Recharge** Flows from major storm events would be stored for later release to Pacheco Creek, at rates that improve groundwater conditions for the Gilroy-Hollister Valley Basin, and potentially, the Pajaro Valley Basin.
- **Improved Operational Flexibility** Groundwater supply increases along Pacheco Creek can improve flexibility and water quality for PPWD agricultural deliveries, and SBCWD surface-water deliveries for farms and M&I.

The Project would also be integrated into Project partner regional operations. The SCVWD water supply portfolio currently includes local surface supplies from 10 surface-water reservoirs, natural and managed groundwater recharge, water-banking operations, progressive conservation, water recycling, and imported water supplies. SCVWD has developed purified wastewater supplies, for blending with recycled water supplies, through the Silicon Valley Advanced Water Purification Center. This facility, once expanded, is targeted to produce up to 24,000 acre-feet of purified wastewater annually and will reduce SCVWD's need for water supplies via the Delta. The Project will be operated in a highly integrated manner with existing surface water and groundwater supplies, and with future potable reuse supplies. This integration will seek to provide improved system-wide flexibility and reliability, and enable the SCVWD to improve management of stormwater supplies for environmental and water supply purposes.

The Project would provide significant local flexibility, including:

- **Local Operational Flexibility** Increase local surface storage capacity in Santa Clara County by 90 percent.
- **Contribution to Sustainable Groundwater Management Act** Protection of groundwater levels, resulting in decreased risk of permanent land subsidence and subsequent economic harm to Silicon Valley.
- **Conjunctive Use** Improved flexibility and timing of groundwater recharge.
- **System Maintenance Flexibility** Improved flexibility in the maintenance of conveyance facilities and groundwater recharge basins.
- **Supply Management** Improved flexibility in providing water directly to water treatment plants and avoiding treatment problems associated with algae in San Luis Reservoir.

Sustainable Groundwater Management

The Project would provide positive contributions in four California groundwater basins that are subject to the Sustainable Groundwater Management Act (SGMA) of 2014. Basins that could directly benefit from the Project include: Santa Clara Valley, Gilroy-Hollister Valley, Corralitos, and San Joaquin Valley. These basins contain medium or high-priority subbasins, as defined by

DWR's California Statewide Groundwater Elevation Monitoring (CASGEM) program. SCVWD, as the exclusive Groundwater Sustainability Agency (GSA) for subbasins in Santa Clara County, intends to enter into voluntary coordination agreements with each GSA that could be affected by the Project.

The Project provides direct benefits to seven high- or medium-priority CASGEM subbasins, including:

- Santa Clara Subbasin (medium priority) of the Santa Clara Valley Basin
- Llagas Area (high priority), Bolsa Area (medium priority), Hollister Area (medium priority), and the San Juan Bautista Area (medium priority) of the Gilroy-Hollister Valley Basin
- Pajaro Valley (high priority) of the Corralitos Basin
- Delta-Mendota Subbasin (high priority) of the San Joaquin Valley Basin

Compliance with SGMA in these subbasins is provided, where applicable, by SCVWD, SBCWD, Grassland Water District/Resource Conservation District, and Pajaro Valley Water Management Agency. The Project's contribution to achieve the sustainable groundwater-management goals of these GSAs are derived through year-round releases to Pacheco Creek, in all water year types, and provision of below-normal-water-year supplies to south-of-Delta wildlife refuges eligible to receive IL4 water supplies. These water management actions contribute towards reduced reliance on groundwater supplies and increases in groundwater levels. For example, in the Santa Clara Subbasin, the Project would increase groundwater storage by 4 percent during critical years, under 2070 future conditions.



In collaboration with Henry W. Coe State Park, the Project could also provide recreation benefits by expanding passive use recreational areas adjacent to the Park.

Expansion Potential

The Project will increase storage capacity of Pacheco Reservoir from 6,000 acre-feet to 141,800 acre-feet. The 141,800 acre-feet reservoir proposed as part of the Project would be the largest reservoir size that could be constructed at feasible dam sites along North Fork Pacheco Creek without impacting portions of Henry W. Coe State Park. The Project would provide a 1,700-foot buffer between the expanded reservoir and the park boundary. Further expansion of Pacheco Reservoir above 141,800 acre-feet is constructible but would inundate limited portions of Henry W. Coe State Park; therefore it is not proposed.

MAGNITUDE OF PUBLIC AND NON-PUBLIC BENEFITS

Table ES-2 quantifies the net physical benefits provided by the Project. The Project would provide public benefits as defined in Water Code Section 79753(a), including ecosystem improvements, emergency response, and flood control benefits. The Project would also provide non-public benefits including M&I water supply and M&I water quality benefits. Benefits were monetized for ecosystem improvement, emergency response, M&I water supply and M&I water quality. Table ES-3 summarizes the net monetized benefits for the Project. As shown in Table ES-3, public benefits account for 81 percent of the total monetized benefits with the remaining 19 percent accounted for by non-public benefits. For the purpose of this WSIP application, quantification and monetization for emergency response, municipal and industrial (M&I) water supply, and M&I water quality benefits are based upon SCVWD service areas. For monetization purposes, this application assumes that the RWSP water supply would be CVP water, whereas other SCVWD supplies may be used in addition to or instead of.

Pacheco Reservoir Expansion Project

Table ES-2. Magnitude of Physical Benefits for the Pacheco Reservoir Expansion Project

Benefit	Indicators	2030 Future Conditions	2070 Future Conditions
Public Benefits			
Ecosystem Improvement – Pacheco Creek ¹	Percent increase in Steelhead Cohort Score	162%	178%
Ecosystem Improvement – San Joaquin River Watershed ^{2, 3}	Net increase in Incremental Level 4 water deliveries to San Joaquin River watershed refuges in below normal years	2,000 AF	2,000 AF
Emergency Response ^{4, 5}	Net increase in regional surface storage (SCVWD's surface reservoirs) and groundwater storage (the three underlying basins for Santa Clara County)	86,737 AF	82,140 AF
Flood Control ⁶	Percent reduction in Pacheco Reservoir releases to Pacheco Creek for 100-year flood	61%	61%
Non-Public Benefits			
M&I Water Supply ⁷	Net increase in baseline supplies available to SCVWD	6,313 AF	3,284 AF
M&I Water Quality ⁸	Number of months of avoided impaired water quality deliveries from San Luis Reservoir over 82-year simulation period	73 months	109 months

Notes:

¹ Values were derived from Pacheco Creek Steelhead Habitat Suitability Model. The Steelhead Cohort Score provides an index of the ability of Pacheco Creek to support South-Central California Coast steelhead through all life stages.

² Values were derived from CalSim II and reflect refuge deliveries in the San Joaquin River watershed.

³ Water year types based on the Sacramento Valley water year hydrologic classification.

⁴ Values were derived from CalSim II and Santa Clara Valley Water District's WEAP model.

⁵ Under without-Project conditions, water stored in Pacheco Reservoir would not be available for emergency response due to lack of connection to the SCVWD water system. Under with-Project conditions, an expanded Pacheco Reservoir would be connected to the SCVWD water system via the Pacheco Conduit.

⁶ Values were derived from HEC-HMS hydrologic model of Pacheco Reservoir.

⁷ Values were derived from Santa Clara Valley Water District's WEAP model.

⁸ Values were derived from CalSim II and Santa Clara Valley Water District's WEAP model.

Table ES-3. Net Monetized Benefits for the Pacheco Reservoir Expansion Project

Category	Net Present Value^{1, 2} (\$ millions)	Percent of Benefits (%)
Public Benefits		
Ecosystem Improvement ³	\$722	50%
Emergency Response	\$455	31%
Total Net Public Benefits ⁴	\$1,177	81%
Non-Public Benefits		
M&I Water Supply	\$196	13%
M&I Water Quality	\$85	6%
Total Net Non-Public Benefits ⁴	\$282	19%
Total Net Monetized Benefits⁴	\$1,459	100%

Notes:

¹ Based on 2015 price levels.

² Benefits discounted to the start of Project operations, based on 3.5 percent discount rate.

³ Values reflect Ecosystem Improvement net monetized benefits for both Pacheco Creek and the Delta watershed.

⁴ All numbers are rounded for display purposes, and therefore, line items may not sum to totals.

Key:

M&I = Municipal and industrial

Public Benefits

Ecosystem Improvements – Pacheco Creek

The Pajaro River Watershed is the northern extent of the threatened SCCC steelhead, a species that is under threat of extinction within the next 50 years without serious intervention¹. It is a system that in the early 1960s saw an estimated 4,700 adults migrate to Pajaro River's tributaries to spawn (CDFG, 1965), only to see the population plummet to less than 500 adult fish by 1996 (Good et al. 2005). The Project provides a substantial opportunity to establish a functionally independent SCCC steelhead population in the Pajaro River watershed through actions that improve water flow and temperature conditions under all hydrologic conditions in Pacheco Creek, and provide stream flows that contribute to steelhead recovery in other downstream tributaries.

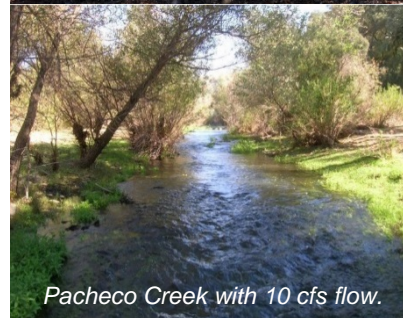
To quantify Project benefits for SCCC steelhead consistent with WSIP application requirements (Water Code Section 79754), SCVWD evaluated habitat conditions utilizing the Pacheco Creek Steelhead Habitat Suitability Model, a tool developed through funding provided by the Fisheries Restoration Grant Program, in coordination with National Marine Fisheries Service (NMFS) and CDFW (also a funding contributor). This tool provides an index of Pacheco Creek's ability to support SCCC steelhead through all life stages, based on the 14-month period in which a cohort is expected to remain in the creek (i.e., from adult migration through juvenile outmigration). This index, or Steelhead Cohort Score, considers a range of environmental factors that improve or degrade habitats including water operations, water flow and temperature, surface and groundwater interaction, and ratings of pools, runs, and riffles from field surveys.

A Steelhead Cohort Score was developed for a 10-mile section of Pacheco Creek downstream of North Fork Dam. As shown in Figure ES-2, the Project significantly increases the Steelhead Cohort Score in all water year types, under both 2030 and 2070 future conditions. Under 2030 and 2070 conditions, the average increase in the Steelhead Cohort Score would be 162 and 178 percent, for all water year types, respectively. The 2070 scores demonstrate that the Project provides habitat resiliency under climate change conditions. The extent to which enhanced habitat may provide for larger steelhead populations through Project operations is shown in Figure ES-3, based on preliminary estimates.

Climatologists predict an increased frequency of warm, intense rainfall events along the Central California coastline with extended periods of hot inland temperatures under climate change. Permanent safe havens with cool water and suitable habitats will be key to providing a functionally independent SCCC steelhead run in the Pajaro River watershed under climate change. As with other interior coastal range streams, Pacheco Creek is not suited to provide year-round flows in the majority of water year types. In the 82-year simulation period between 1922 and 2002, for example, all modeled reaches of Pacheco Creek go fully dry for an average of 3.7 months in nearly 30 percent of the years. While steelhead have adapted to such drying



Pacheco Creek in the dry season.



Pacheco Creek with 10 cfs flow.

The Project provides a substantial opportunity to establish a functionally independent SCCC steelhead population in the Pajaro River watershed through improved water flow and temperature conditions under all hydrologic conditions in Pacheco Creek.

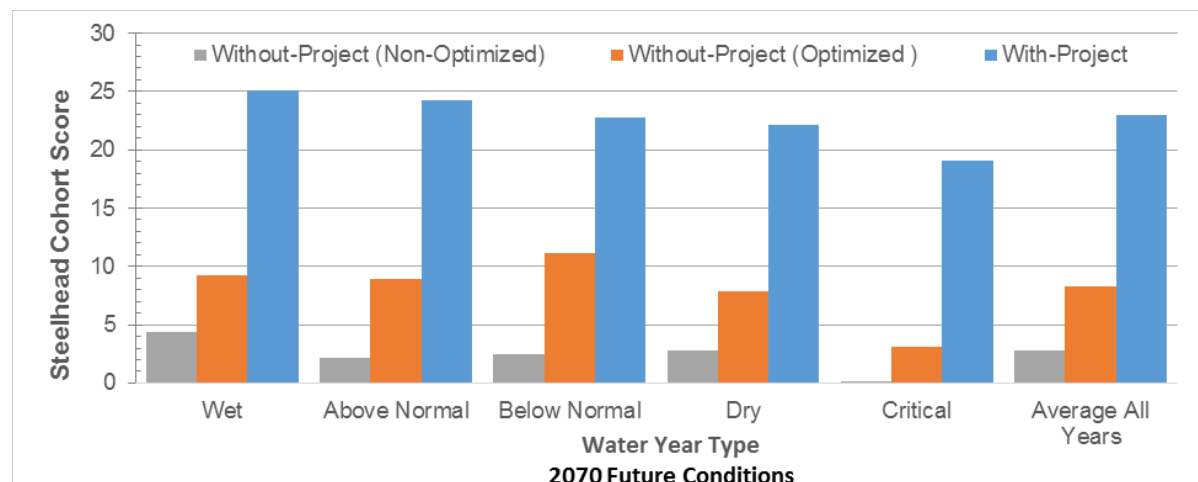
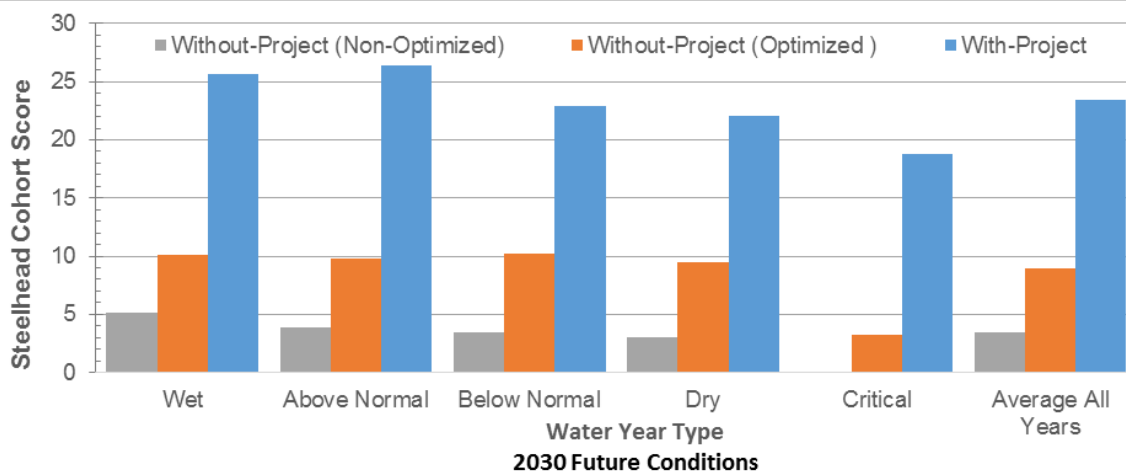
¹ Salmon, Steelhead, and Trout in California, Status of an Emblematic Fauna, UC Davis Center for Watershed Sciences, Peter Moyle et al 2008.

Pacheco Reservoir Expansion Project

conditions by holding in available pools, it is likely that such streambed desiccation will be more frequent and intense under climate change.

Expansion of the existing Pacheco Reservoir can contribute to recovery of the core populations of SCCC steelhead by providing sufficient water flow and colder water temperature in all hydrologic conditions, and supporting perennial fish passage as called for in the NMFS SCCC *Steelhead Recovery Plan* (2013). The Project can:

- Secure extant parts of Pacheco Creek, providing improved flow and temperature under all hydrologic conditions.
- Provide year-round refugia against severe droughts and heat waves for 10 miles of Pacheco Creek, including seasonal steelhead habitats found in South Fork Pacheco Creek and Cedar Creek tributaries.
- Provide continuous flows to San Felipe Lake in 83 percent of years, a factor that would expand available rearing habitats and wetlands through increased groundwater/surface water interaction (see Figure ES-3).



Notes:

¹ Without-Project (Optimized) assumes North Fork Dam operation consistent with *2014 Report on Comprehensive Strategy and Instructions for Operation of Pacheco Reservoir*. Without-Project (Non-optimized) assumes North Fork Dam releases to Pacheco Creek similar to recent historical operations.

Figure ES-2. Comparison of Without- and With-Project Steelhead Cohort Scores for Pacheco Creek Under 2030 and 2070 Future Conditions

Invest in the Future: Pajaro River Watershed SCCC Steelhead

Historic Conditions

The Pacheco Creek sub-watershed upstream of San Felipe Lake is ephemeral, and often disappears into groundwater aquifers during hot and dry conditions, leading to:

- ◆ Limited suitable habitat for fish
- ◆ Increased risk of extirpation during extreme drought

Storage at the existing Pacheco Reservoir could support rearing of 1,475 to 2,950 steelhead smolts, and spawning of 30 to 60 adult steelhead in this 11-mile reach¹.

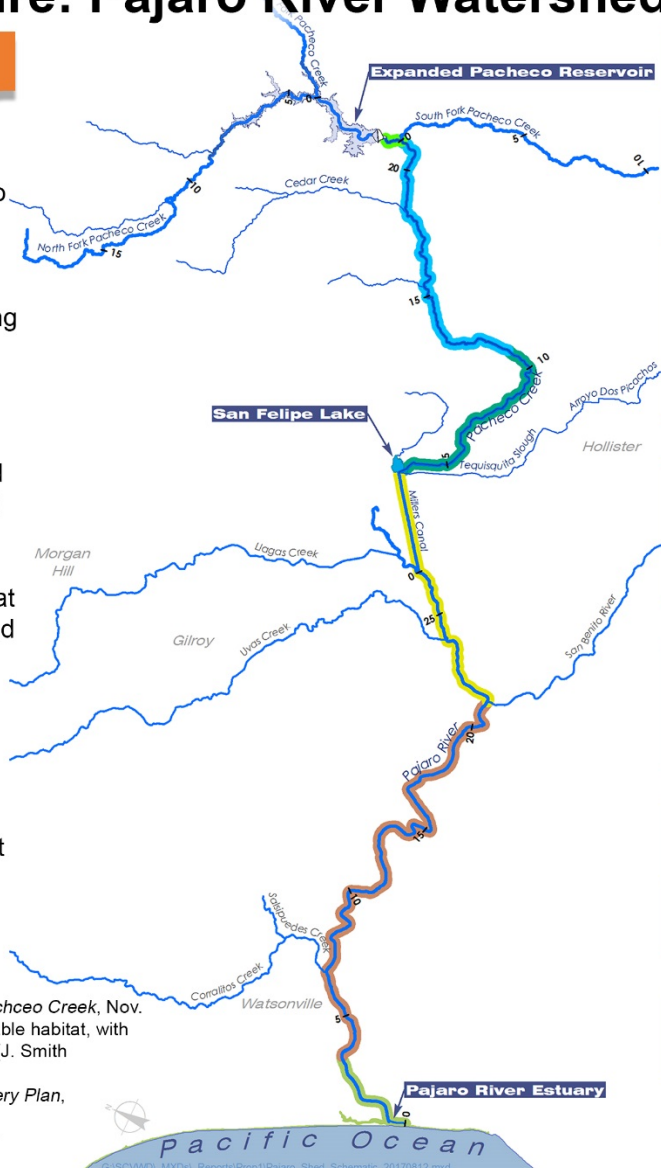
Mainstem and tributary rearing habitat reduced by levees, urbanizations, and dams.

Mainstem Pajaro River has limited migration flows from tributaries, particularly in the summer.

Estuary has diminished to 15 percent of historic size due, in part, to channelization and development².

Footnotes:

1. Based on *Habitat Conditions for Steelhead in Pacheco Creek*, Nov. 2014, J. Smith; and 30-60 fish per 100 feet of usable habitat, with assumed 2 percent of smolts returning as adults (J. Smith communication).
2. *South-Central California Coast Steelhead Recovery Plan*, NMFS, 2013.
3. *Benefit Calculation, Monetization, and Resiliency Attachment A3 - Project Conditions*.



Project Benefits

Relocates existing dam .5 mile upstream, allowing restoration of historic creek channel.

Improves flow and water temperature in all hydrologic conditions, resulting in up to 500 percent increase in fish cohort success scores over without-Project conditions during critical dry years³.

Improved habitat conditions could support rearing of 4,050 to 8,150 steelhead smolts, and spawning of 80 to 160 adult steelhead in this 11-mile reach¹.

Higher groundwater levels increase stream/groundwater interaction for cooler water for improved aquatic habitat.

Increased flows support fish productivity in other Pajaro River tributaries downstream of San Felipe Lake, such as Uvas and Corralitos Creeks.

Increased flows help improve Pajaro River estuary out-migration of juvenile steelhead during dry conditions.

Figure ES-3. Overview of Steelhead Benefits of the Project in the Pajaro River Watershed

Ecosystem Improvement – San Joaquin River Watershed

The Project would achieve the Commission’s objectives for ecosystem improvements in the Delta watershed by providing firm IL4 refuge water supplies in below normal water years to the RWSP, an effort established by the U.S. Department of the Interior pursuant to Section 3406(d) of the CVPIA, and implemented by Reclamation and USFWS. The RWSP has struggled to acquire sufficient IL4 water supplies for eight San Joaquin River watershed wildlife refuges owned and operated by state, federal, and private entities. The RWSP has acquired and delivered just 43 percent of the full IL4 amount of 133,300 acre-feet (annual average from 2005-2014)².

The proposed Project would allow SCVWD to provide a firm, 2,000 acre-feet supply of water in below normal water years to RWSP, for use in the IL4 water supply pool. This supply would optimize waterfowl habitats in up to eight south-of-Delta refuges located within the San Joaquin River watershed of the Delta (Water Code §85058). While the distribution of this water is at the sole discretion of Reclamation, SCVWD—as part of Project consultation meetings with Reclamation—has stated its preference that the water supply be transferred to GRCD, which oversees the largest contiguous block of refuge wetlands in the Central Valley. Had the Project been in effect during the 2009 below normal water year, for example, GRCD’s IL4 water supply would have been increased by 9 percent. This new supply will provide for spring/early-summer irrigation of approximately 1,000 acres of wetlands, for production of moist-soil forage and habitat for resident waterfowl, shorebirds, giant garter snakes, western pond turtles, and other species.

SCVWD is financially strong today as evidenced by credit ratings that are among the highest for a water-related governmental entity in the State of California (currently Aa1 from Moody’s, AA+ from Fitch, and AA- from S&P). SCVWD’s strong financial capability is due to sound financial management, and the Board’s willingness to set water rates appropriately to maintain financial strength. SCVWD will have the capacity to fully finance the non-WSIP funded portion of the capital costs without cost share from other Project partners, assuming continued Board actions to sufficiently raise water rates. SCVWD will also have the financial capacity to fund the Project’s operation and maintenance costs.

Emergency Response

The State of California has estimated that a catastrophic event in the Delta could interrupt Delta water operations for six months, and then take up to three years to fully recover.³ Construction of the Project would provide SCVWD and SBCWD with a dedicated emergency water supply, and would avoid undesirable results caused by long-term reliance on groundwater during emergencies. In an emergency, the Project could deliver—either directly or by exchange—water to SCVWD and SBCWD.

Ecosystem Improvement and Emergency Response public benefits account for 81 percent of the total monetized benefits, with the remaining 19 percent accounted for by non-public benefits.

An expanded Pacheco Reservoir would be integrated into the Project partners’ existing water systems, including coordinated operations of their surface-water reservoirs and underlying groundwater aquifers. Under 2030 future conditions, the Project would provide an average of 86,737 acre-feet of groundwater and surface water storage available for emergency response. Under 2070 future conditions, the Project would provide an average of 82,140 acre-feet of storage for emergency response. These emergency-response benefits would be realized under all water year types.

² CDFW <https://www.wildlife.ca.gov/Conservation/Watersheds/Refuge-Water/Overview>.

³ 2015 Urban Water Management Plan, Santa Clara Valley Water District.

Flood Control

Pacheco Creek is a flash flood-prone watershed with a track record of overwhelming private levee facilities, flooding State Route 152, and inundating thousands of acres of productive farmland. Analyses performed for the Project evaluated historic flooding events on Pacheco Creek, downstream of the existing North Fork Dam. The two largest floods for the period of record were recorded at Pacheco Creek (near the Dunneville USGS gage) from December 23 to 25, 1955, and January 25 to 27, 1969. The most recent flood occurred in January and February 2017, when a private levee, 14 miles downstream of North Fork Dam, breached on January 11, 2017, flooding homes and farmland on Lovers Lane near the unincorporated community of Dunneville.



Flooding from Pacheco Creek on January 11, 2017. With increased storage to capture flood flows, the floods on January 11 and February 10, 2017, could have been avoided, had the Project already been in place, including flood impacts to disadvantaged communities.

The Project would provide increased reservoir capacity to capture flood waters, reducing peak flood flows downstream from the existing Pacheco Dam. A HEC-HMS hydrologic model of Pacheco Reservoir shows that—even though the Project would not be operated specifically for flood control—an expanded reservoir will have capacity available to reduce flood flows by approximately 60 percent (i.e., 10-, 20-, 50- and 100-year events) downstream of the new dam. For example, the combined permanent and incidental flood benefits provided by the Project could reduce flows downstream from Pacheco Reservoir by around 4,700 cfs for the 100-year return-period flood. This could reduce the risk to human life, health, and safety, as well as diminish damages to physical property due to flooding along Pacheco Creek and downstream areas, including disadvantaged communities.

Non-Public Benefits

M&I Water Supply

Santa Clara County satisfies approximately 40 percent of its water supply demand through imported water from the Delta. Dependence on the Delta affects the region's water supply reliability during periods of extended drought, or through supply shortages triggered by regulatory and environmental restrictions. Analyses performed for the Project demonstrated improved M&I water-supply reliability benefits under 2030 and 2070 future conditions. The Project would improve M&I water supplies through an increased ability to fully utilize CVP allocations, and through development of local water supplies from the Pacheco Creek watershed. The Project would, on average, provide an increase of 6,313 acre-feet of M&I water supply, under 2030 future conditions for all water year types. Under 2070 future conditions, the Project would provide an average of 3,284 acre-feet for all water year types.

The largest increases in M&I water-supply reliability under 2030 future conditions would occur during dry and critical years, with an increase in M&I water supply at 19,846 acre-feet (dry) and 10,213 acre-feet (critical). Under 2070 future conditions, the largest increases in M&I water-supply reliability benefits would occur in above normal and wet years, with an increase of 5,201 acre-feet (above normal) and 6,608 acre-feet (wet). This shift in future conditions reflects a WSIP requirement (Section 6004(a)(1)(B) of the regulations) that projects not consider the

Pacheco Reservoir Expansion Project

potential development of other additional water supplies over the next 50 years. If SCVWD develops new water supplies—such as those identified in its 2015 Urban Water Management Plan that provide for consistent water supplies across all year types—it is anticipated that the Project benefits (as shown in *Benefit Calculation, Monetization, Resiliency Attachment A12: Uncertainty*) would shift to drier-year types (i.e., dry and critical), similar to the 2030 future conditions simulation.

M&I Water Quality

San Luis Reservoir, via San Felipe Division facilities, is the primary delivery route for SCVWD's CVP supplies. During the summer, high temperatures and declining water levels create conditions that foster algae growth in San Luis Reservoir. The San Luis Reservoir low-point issue occurs when water levels decline to the point that algae blooms at approximately 35 feet above the top of CVP San Felipe Division's Lower Intake. The water quality within the algal blooms is not suitable for M&I water users relying on existing water-treatment facilities. In these circumstances, SCVWD cannot treat San Luis Reservoir water with its existing treatment facilities because of taste and odor issues generated by dense algae blooms at the reservoir.

Without the Project, modeling indicates that the low-point conditions would occur in 75 months in 2030, and in 109 months in 2070. With the Project, the low-point condition would be fully avoided in all months in both 2030 and 2070 future conditions.

The expansion of Pacheco Reservoir would avoid the consequences of the San Luis Reservoir low-point issue by taking delivery of CVP supplies earlier in the season, storing these supplies in the expanded Pacheco Reservoir, using additional local supplies developed through expansion of the Pacheco Reservoir, and using the Project as a source of blending water when needed. To quantify physical benefits, CalSim II and the SCVWD Water Evaluation and Planning models were used to evaluate the number of months that a San Luis Reservoir low-point issue would be avoided using an 82-year modeling period from 1922 to 2003. These evaluations considered: 1) available capacity in the expanded Pacheco Reservoir, or other SCVWD storage facilities (e.g., Anderson Reservoir), and 2) available capacity in the existing Pacheco Conduit to transfer CVP allocations from San Luis Reservoir. Without the Project, modeling indicates that the low-point conditions would occur in 73 months in 2030, and in 109 months in 2070. With the Project, the low-point condition would be fully avoided in all months in both 2030 and 2070 future conditions.

Project Resiliency

The Project has the ability to maintain and increase public benefits under a wide range of conditions, including prolonged droughts and extreme 2070 climate conditions.

The Project has the ability to maintain and increase public benefits under a wide range of conditions, including prolonged droughts and extreme 2070 climate conditions, as shown in Table ES-4. Under the 2070 dry/extreme-warming uncertainty scenario, the Project would increase the Steelhead Cohort Score by an average of 278 percent in comparison to the without-Project scores, and would provide an average of 88,984 acre-feet of water supplies available for emergency response. The IL4 water supply, provided to San

Joaquin River watershed wildlife refuges, would be maintained in below normal water years. In addition, during a prolonged drought, the Project would increase public benefits for ecosystem improvements on Pacheco Creek, and also provide emergency response water supplies. During the 1987 to 1991 drought period under 2070 future conditions, the Project would increase the Steelhead Cohort Score by an average of 586 percent, while providing 80,813 acre-feet of groundwater and surface-water storage for emergency response.

Table ES-4. Resiliency of Project Public Benefits Under a Robust Range of 2070 Future Conditions

Benefit Category/ Metric	2070 Future Conditions	WSIP Required Uncertainty Scenarios		Additional Uncertainty Scenarios Developed by SCVWD	
		2070 Wet/Moderate-Warming Uncertainty Scenario	2070 Dry/Extreme-Warming Uncertainty Scenario	2070 Moderate-Growth Uncertainty Scenario	2070 Expanded Water Supply Portfolio Uncertainty Scenario
<i>Ecosystem Improvement – Pacheco Creek</i>					
Percent change in long-term average Steelhead Cohort Scores (%) ¹	178%	206%	278%	178%	178%
<i>Ecosystem Improvement – San Joaquin River Watershed</i>					
Increased water supplies to IL4 wildlife refuges in below normal years (acre-feet) ²	2,000	2,000	2,000	2,000	2,000
<i>Emergency Response</i>					
Increase in surface water and groundwater storage (acre-feet) ³	82,140	106,654	88,984	84,215	88,370

Notes:

¹ Values were derived from Pacheco Creek Steelhead Habitat Suitability Model. The Steelhead Cohort Score provides an index of the ability of Pacheco Creek to support South-Central California Coast steelhead through all life stages.

² Values were derived from CalSim II and reflect refuge deliveries in the San Joaquin River watershed.

³ Values were derived from CalSim II and Santa Clara Valley Water District’s WEAP model.

⁴ Under without-Project conditions, water stored in Pacheco Reservoir would not be available for emergency response due to lack of connection to the SCVWD water system. Under with-Project conditions, an expanded Pacheco Reservoir would be connected to the SCVWD water system via the Pacheco Conduit.

Key:

IL = Incremental Level

SCVWD = Santa Clara Valley Water District

WEAP = Water Evaluation and Planning

WSIP = Water Storage Investment Program

Public Benefit Ratio and Cost Effectiveness

Table ES-6 presents the public benefit ratio for the Project, consistent with WSIP regulations Section 6004(a)(6). The estimated total capital cost for the Project is \$969 million, and the Project is seeking 50 percent of the capital costs from the WSIP, equal to \$484.5 million. The present value of net Project public benefits is \$1,177 million. On the basis of the requested WSIP funding, the public benefit ratio for the Project is 2.43. Therefore, the Project is a cost-effective project to achieve the intended public benefits.

The present value of the total Project cost is \$1,181 million. As shown in Table ES-5, the present value of the net Project benefits is \$1,459 million. The ratio of present-value, total-monetized net benefits to present-value, total-Project costs is 1.23. Therefore, the Project is cost effective because the benefits exceed the cost.

Pacheco Reservoir Expansion Project

Table ES-6. Public Benefit Ratio

Category	Value
Capital cost (\$ millions) ¹	\$969.0
Total WSIP funding request (\$ millions) ¹	\$484.5
Present value of total net public benefits (\$ millions) ^{1, 2}	\$1,177.0
Public benefit ratio	2.43

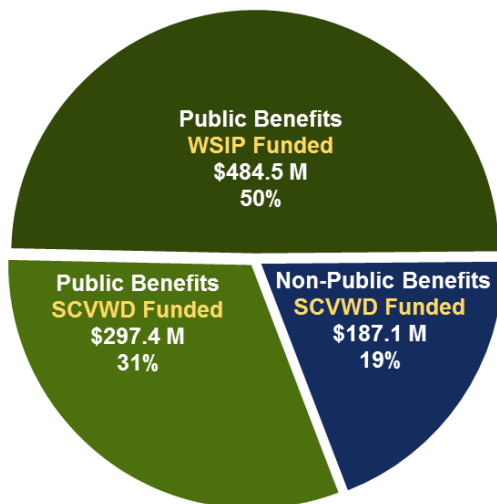
Notes:

¹ Based on 2015 price levels.

² Benefits discounted to the start of project operations, based on 3.5 percent discount rate.

Key:

WSIP = Water Storage Investment Program



Allocation of Capital Costs
 SCVWD would fund non-WSIP public benefits and non-public benefits.

Cost Allocation

Table ES-7 presents the allocation of capital costs to each benefit category using the percent of total monetary benefits. The adjacent pie chart presents the allocation of capital costs to project beneficiaries. Pursuant Sections 6004(a)(7)(A)(2) of the regulations, capital costs allocated to the Program cannot exceed 50 percent of total capital costs, therefore the remaining 31 percent of capital costs for public benefits (\$297.5 million) have been allocated to SCVWD. The allocation of capital costs to the Program is \$484.5 million, which corresponds to 50% of the total capital costs and the allocation of capital costs to SCVWD is \$484.5 million corresponding to the remaining 50 percent.

Table ES-7. Allocation of Capital Costs to Benefit Categories

Benefit Category	Percent of Total Monetary Benefits	Capital Cost Allocation ¹ (\$ millions)
Ecosystem Improvement ²	49.5%	\$479.9
Emergency Water Supply	31.2%	\$302.0
Municipal and Industrial Water Supply	13.5%	\$130.4
Municipal and Industrial Water Quality	5.8%	\$56.7
Total²	100%	\$969.0

Notes:

¹ Based on 2015 price levels.

² All numbers are rounded for display purposes, and therefore line items may not sum to totals.

WSIP Application Summary, August 15, 2017

Project	Project Type	Requested WSIP Funding	Cost to Construct	Applicant	Applicant Type	Claimed Public Benefit Types	Early Funding Requested
Sites Project	Surface Storage CALFED ROD	\$1,662,000,000	\$5,176,000,000	Sites Project Authority	Joint powers authority	Ecosystem, Water Quality, Flood Control, Emergency Response, Recreation	Yes
Los Vaqueros Reservoir Expansion Project	Surface Storage CALFED ROD	\$434,000,000	\$795,000,000	Contra Costa Water District	Public Agency	Ecosystem, Emergency Response, Recreation	Yes
Willow Springs Water Bank Conjunctive Use Project	Conjunctive Use	\$305,793,000	\$343,143,000	Southern California Water Bank Authority	Joint powers authority	Ecosystem, Emergency Response	No
Temperance Flat Reservoir Project	Surface Storage CALFED ROD	\$1,330,350,000	\$2,660,700,000	San Joaquin Valley Water Infrastructure Authority	Joint powers authority	Ecosystem, Flood Control, Emergency Response, Recreation	Yes
Centennial Water Supply Project	Local Surface Storage	\$11,950,000	\$324,000,000	Nevada Irrigation District	Public Agency	Ecosystem, Recreation	No
Pacheco Reservoir Expansion Project	Regional Surface Storage	\$484,500,000	\$969,000,000	Santa Clara Valley Water District	Public Agency	Ecosystem, Flood Control, Emergency Response	Yes
Chino Basin Conjunctive Use Environmental Water Storage/Exchange Program	Conjunctive Use	\$480,000,000	\$480,000,000	Inland Empire Utilities Agency	Public Agency	Ecosystem, Water Quality, Emergency Response	No
San Joaquin River & Tributaries Conjunctive Use	Conjunctive Use	\$22,085,000	\$22,085,000	River Partners	Non-profit Organization	Ecosystem, Water Quality	No
The Tulare Lake Storage and Floodwater Protection Project	Conjunctive Use	\$452,159,000	\$602,887,000	Semitropic Water Storage District	Public Agency	Ecosystem, Flood Control, Emergency Response, Recreation	No
Kern Fan Groundwater Storage Project	Groundwater Storage	\$85,660,930	\$171,321,860	Irvine Ranch Water District/Rosedale-Rio Bravo Water Storage District	Public Agency	Ecosystem, Emergency Response	No
Pure Water San Diego Program North City Phase 1	Local Surface Storage	\$219,310,000	\$1,209,780,300	City of San Diego - Public Utilities Department	Public Agency	Ecosystem, Water Quality, Emergency Response, Recreation	No
South Sacramento County Agriculture & Habitat Lands Recycled Water, Groundwater Storage, and Conjunctive Use Program (South County Ag Program)	Conjunctive Use	\$304,024,500	\$373,119,102	Sacramento Regional County Sanitation District (Regional San)	Public Agency	Ecosystem, Water Quality, Emergency Response, Recreation	No
Total		\$5,791,832,430	\$13,127,036,262				

Early Funding Request

A1: Early Funding Scope, Schedule, Budget

Pacheco Reservoir Expansion Project



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Exhibits

Exhibit 1 Early Funding Request Schedule

Exhibit 2 Early Funding Request Budget: Estimated Costs Through Planning and Design Activities

Abbreviations and Acronyms

AF	acre-feet
CEQA	California Environmental Quality
M&I	municipal and industrial
NEPA	National Environmental Policy Act
Project	Pacheco Reservoir Expansion Project
QEMS	Quality and Environmental Management System
SCVWD	Santa Clara Valley Water District
WSIP	Water Storage Investment Program

CHAPTER 1 INTRODUCTION

An expanded Pacheco Reservoir (proximate to the pipeline that conveys Central Valley Project water from San Luis reservoir to Santa Clara and San Benito counties) could potentially improve Santa Clara Valley Water District's (SCVWD) water supply reliability by increasing operational flexibility and augmenting dry and critical year supplies. The project could also provide emergency supply, improve drinking water quality, enhance the run of South Central Coast steelhead on Pacheco Creek and provide some downstream flood reduction benefits.

The capital cost for expanding the reservoir from about 6,000 acre-feet to 141,800 acre-feet is estimated at \$969 million, based on 2015 price levels in accordance with the Water Storage Investment Program (WSIP) Technical Reference. Project is seeking 50 percent of the capital costs from WSIP, equal to \$484.5 million. The present value of net Project public benefits is \$1,177 million. On the basis of the requested WSIP funding, the public benefit ratio for the Project is 2.43. Therefore, the Project is a cost-effective project to achieve the intended public benefits. The present value of the total Project cost is \$1,181 million, while the present value of the net Project benefits is \$1,459 million. The ratio of present-value of total-monetized net benefits to present-value of total-Project costs is 1.23. Therefore, the Project is cost effective because the benefits exceed the cost.

SCVWD estimates that the cost to complete the environmental documentation and permitting for the Pacheco Reservoir Expansion Project (Project), including design would cost approximately \$86.2 million, as provided in the Scope of Services, schedule and budget provided in Tab A1. As per section 6010(b)(4) of regulation, SCVWD is requesting \$24.2 million from WSIP, which is 5 percent of the maximum eligible funding request of \$484.5 million. SCVWD will provide remaining funds to complete the committed work.

1.1 Explanation of Why the Early Funding is Critical to the Project

The planning, design, and permitting stages of the Pacheco Reservoir Expansion Project (Project) must be initiated simultaneously, and significant work must be completed to meet the statutory deadline to complete draft California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) documents by January 2022. Multiple phases of field investigations may be necessary to finalize the location of the dam and initiate the feasibility-level design to complete the draft CEQA/NEPA documents. Biological surveys spanning multiple years, as well as cultural surveys, would have to be completed to initiate the lengthy Section 401.404 permitting process with the Regional Water Control Board and the U.S. Army Corps of Engineers.

Supported by the information in the Application, SCVWD concludes that the Project is viable not only for public benefits it provides, but for costs associated with non-public benefits that SCVWD would be responsible for. The environmental documentation and permitting process must be

initiated expeditiously so that the January 2022 deadline for a draft CEQA document deadline can be met. SCVWD plans to initiate in September 2017 the procurement process to hire consultants to proceed with CEQA-level preliminary design, permitting and environmental documentation. The District's Board will be requested by September 2017 to authorize funding for 2017-2018 efforts, and subsequent annual budgets will also be submitted for Board approval. SCVWD requests early funding assistance from WSIP consistent with the primary importance of the environmental purposes of the Project.

1.2 Viability of the Project in the Absence of Early Funding

SCVWD has the financial capability to complete the environment documentation and permitting of the Project. SCVWD is currently working on several high priority capital projects. In the absence of early funding, some of these projects may be delayed, or eliminated, to provide the necessary funding for the Project. Board is willing to commit the necessary funds to move the project forward.

1.3 How the Project Will Proceed Once Early Funding is Expended

SCVWD is serving as the applicant for WSIP funding for the Project. Several partners have been engaged in the development of the Project and this WSIP application. However, SCVWD is not dependent on other Project partners to help fund and implement the Project. SCVWD has both the financial capacity and organizational experience to successfully implement the Project. SCVWD is financially strong today as evidenced by credit ratings that are among the highest for a water-related governmental entity in the state of California (currently Aa1 from Moody's, AA+ from Fitch, and AA- from S&P). SCVWD's strong financial capability is due to sound financial management, and the Board's willingness to raise water rates sufficiently to maintain financial strength. SCVWD will have the capacity to fully finance its share of both capital and O&M costs without cost share from other Project partners, assuming continued Board willingness to sufficiently raise water rates. SCVWD, through legacy organizations, has been planning, designing and constructing water resources projects since 1929, including 10 dams and reservoirs. SCVWD has significant recent experience in implementing large capital programs for ecosystem improvement, water supply, and flood risk reduction. SCVWD's ability to independently fund and implement the Project reduces the implementation risk to the California Water Commission and would help ensure likelihood of Project implementation and recognition of identified public benefits.

1.4 Project Scope of Work, Schedule, and Budget

The scope of work for environmental documentation and permitting for the Project, including design, is presented in Chapters 2 and 3. Chapter 2 describes the scope of work describes the scope of work for professional project management services. Chapter 3 describes the scope of work for planning and design. The schedule for tasks described in this Early Funding Request is

included Exhibit 1. The budget for the Early Funding Request is included in Exhibit 2. Project Management

1.5 Scope of Services

This Scope of Services describes the professional project management services to be performed by Consultant for the SCVWD's Project. SCVWD reserves the right to use SCVWD staff to perform such services.

1.6 Project Objectives

The objectives of the Project are:

- Increase suitable habitat in Pacheco Creek for the federally threatened steelhead.
- Increase water supply reliability to help meet municipal and industrial (M&I) water demands in Santa Clara County during drought periods and emergencies, or to address shortages due to regulatory and environmental restrictions.
- Develop water supplies for environmental water management that support habitat management and other environmental water needs.
- Avoid supply interruptions when water is needed by increasing the certainty of meeting the requested delivery schedule throughout the year to south-of-Delta contractors dependent on San Luis Reservoir.
- Reduce flood damages along Pacheco Creek.

1.7 Project Background

Pacheco Reservoir is 17 miles northeast of Gilroy and approximately one mile north of State Route 152 (SR 152). Pacheco Reservoir is situated on Pacheco Creek. Pacheco Creek has its headwaters in the Diablo Range, northeast of Hollister. The existing Pacheco Reservoir and North Fork Dam were constructed in 1939 by the Pacheco Pass Water District to provide irrigation and domestic water supply. The existing Reservoir has an operational capacity of 5,500 acre-feet (AF). Water released from the Reservoir flows down Pacheco Creek and seeps through the creek bed and into the underlying groundwater aquifer as it winds towards its confluence with the Pajaro River. The released flow is measured to fully infiltrate into a groundwater aquifer that begins in Santa Clara County and extends southwards into San Benito County. Agricultural users in Pacheco Pass Water District and San Benito County Water District pump water from the aquifer. Historic operation strategies for Pacheco Reservoir were informal, but generally effective for recharging the groundwater basins; however, water supply needs in the areas served by Pacheco Reservoir have changed since it was first constructed.

Technical investigations and modeling conducted by SCVWD have identified that a multi-objective project that provides both public and non-public benefits is feasible. The project would

include expanding the active storage capacity of the existing Pacheco Reservoir to 140,800 AF through construction and operation of a new dam, conveyance facilities, and related appurtenant structures.

The Project includes construction and operation of a new dam and reservoir, pump station, conveyance facilities, and related miscellaneous infrastructure (e.g., access roads). The new dam and reservoir would be constructed on Pacheco Creek 0.5 mile upstream from the existing North Fork Dam, and would inundate most of the existing Pacheco Reservoir. The proposed total storage for the new reservoir is 141.600 AF, with an active storage of 140,800 AF. Water will be collected in the new reservoir during the winter months from runoff from the local watershed area, and diversion of Central Valley Project supplies from the Pacheco Conduit.

1.8 Project Management Tasks

1.8.1 Task 1—Project Management and Capital Project Delivery

Consultant will conform to SCVWD's Quality and Environmental Management System (QEMS) capital delivery processes including but not limited to: updates to the Project Plan; preparation and implementation of a Work Plan; preparation of monthly Project reports to SCVWD; maintaining the Change Management process; maintaining the Capital Project File Instructions; management oversight of the planning and design phase work; managing the transition reporting process between the phases of work for Project continuity; working with SCVWD to obtain Stakeholder Engagement; and manage the Project Delivery Process Chart for Board Agenda Items.

Services/activities shall include but not be limited to:

- Implement Capital Project Delivery in Accordance with SCVWD QEMS Procedure Q751013
- Develop and Implement Phase Work Plans
- Develop Key Performance Monitoring Parameters
- Prepare Strategy and Decision Memoranda

1.8.2 Coordination and Communication

Consultant will coordinate and communicate throughout the Project with third-party consultants, the public, and outside agencies. Consultant will continually coordinate with SCVWD staff and prepare agendas, agreements, reports, and any other materials requested by the SCVWD.

Services/activities shall include but not be limited to:

- Support SCVWD in Agency and Public Meetings
- Prepare Agenda Packages and Present Board Director Reports
- Coordinate with California Department of Water Resources Division of Safety of Dams

- Coordinate with Resource Agencies and other Agencies
- Coordinate with SCVWD Staff

1.8.3 Task 3—Administrative Work

Consultant will maintain comprehensive documentation from issuance of the Notice-to- Proceed through the term of the Agreement. Consultant will use a document control system. Access to the system will be configured to provide varying access authority levels for different Project participants and stakeholders.

Services/activities shall include but not be limited to:

- Maintain Project Correspondence, Decision and Action Item Logs
- Prepare Annual Project Budgets
- Monitor Master Project Schedule and all Critical Milestones
- Prepare Status Report on Services Performed
- Report on Monthly Status/Progress

1.8.4 Task 4—Public Outreach

Consultant's role will be to support the SCVWD's and third-party Consultant's public outreach/public relations staff. This effort will be coordinated with stakeholder engagement as described under Task 5 below.

Services/activities shall include but not be limited to:

- Participate in Public Outreach Planning and Implementation

1.8.5 Task 5—Stakeholder Engagement

Consultant will lead the stakeholder engagement effort with input from SCVWD and the third-party Consultant.

Services/activities shall include but not be limited to:

- Identify Stakeholders
- Develop, Track, Monitor and Resolve Stakeholder Issues

1.8.6 Task 6—Agreements, Contracts and Services

Consultant will manage the third-party Consultants retained by SCVWD to perform the phases of this Project.

Services/activities shall include but not be limited to:

- Manage the third-party Consultant Agreements

- Assist SCVWD with Procuring Local, State and Federal Agency Technical (non-Environmental) Permits and Licenses
- Assist SCVWD with Procuring Other Services

1.8.7 Task 7—Quality Assurance and Quality Control

Consultant will perform quality assurance and quality control.

Services/activities shall include but not be limited to:

- Develop Quality Assurance and Quality Control Plan
- Verify that Project Deliverables are Objective, Accurate, and Complete
- Review third-party Consultants' Deliverables for Compliance
- Review third-party Consultant Work Products

CHAPTER 2 PLANNING AND DESIGN

2.1 Scope of Services

This Scope of Services describes the professional planning and design services to be performed by Consultant for SCVWD's Project. SCVWD may, at its discretion, choose to negotiate an amendment to this Agreement with Consultant, as engineer-of-record, for construction phase engineering support services. SCVWD reserves the right to initiate a new consultant agreement selection process for services for any subsequent phase(s) and/or use SCVWD staff to perform such services.

2.2 Project Objectives

The objectives of the Project are:

- Increase suitable habitat in Pacheco Creek for the federally threatened steelhead.
- Increase water supply reliability to help meet municipal and industrial (M&I) water demands in Santa Clara County during drought periods and emergencies, or to address shortages due to regulatory and environmental restrictions.
- Develop water supplies for environmental water management that support habitat management and other environmental water needs.
- Avoid supply interruptions when water is needed by increasing the certainty of meeting the requested delivery schedule throughout the year to south-of-Delta contractors dependent on San Luis Reservoir.
- Reduce flood damages along Pacheco Creek.

2.3 Project Background

Pacheco Reservoir is 17 miles northeast of Gilroy and approximately one mile north of State Route 152 (SR 152). Pacheco Reservoir is situated on Pacheco Creek. Pacheco Creek has its headwaters in the Diablo Range, northeast of Hollister. The existing Pacheco Reservoir and North Fork Dam were constructed in 1939 by the Pacheco Pass Water District to provide irrigation and domestic water supply. The existing Reservoir has an operational capacity of 5,500 AF. Water released from the Reservoir flows down Pacheco Creek and seeps through the creek bed and into the underlying groundwater aquifer as it winds towards its confluence with the Pajaro River. The released flow is measured to fully infiltrate into a groundwater aquifer that begins in Santa Clara County and extends southwards into San Benito County. Agricultural users in Pacheco Pass Water District and San Benito County Water District pump water from the aquifer. Historic operation strategies for Pacheco Reservoir were informal, but generally

effective for recharging the groundwater basins; however, water supply needs in the areas served by Pacheco Reservoir have changed since it was first constructed.

Technical investigations and modeling conducted by SCVWD have identified that a multi-objective project that provides both public and non-public benefits is feasible. The project would include expanding the active storage capacity of the existing Pacheco Reservoir to 140,800 AF through construction and operation of a new dam, conveyance facilities, and related appurtenant structures.

The Project includes construction and operation of a new dam and reservoir, pump station, conveyance facilities, and related miscellaneous infrastructure (e.g., access roads). The new dam and reservoir would be constructed on Pacheco Creek 0.5 mile upstream from the existing North Fork Dam, and would inundate most of the existing Pacheco Reservoir. The proposed total storage for the new reservoir is 141,600 AF, with an active storage of 140,800 AF. Water will be collected in the new reservoir during the winter months from runoff from the local watershed area, and diversion of Central Valley Project supplies from the Pacheco Conduit.

2.4 Planning and Design Phase Tasks

2.4.1 Task 1—Project Management

The purpose of this task is for Consultant to manage this Scope of Services such that the work is completed within the not-to-exceed fees limit and in accordance with the Project Schedule, while ensuring that all services and deliverables by the Consultant meet SCVWD and Project requirements.

Services/activities shall include but not be limited to:

- Project Work Plan
- Progress Meeting and Workshops
- One-on-One Meetings with SCVWD
- Coordination and Communication with External Agencies
- Public Outreach

2.4.2 Task 2—Data Review and Problem Definition

The purpose of this task is to review existing information and perform studies and analysis to establish existing conditions and define and confirm the problems and deficiencies.

Services/activities shall include but not be limited to:

- Research and review available project documentation and information
- Identify data needs
- Problem Definition Report

2.4.3 Task 3—Alternatives Analysis

The purpose of this task is to further develop and evaluate the feasible alternatives so as to prepare the Alternative Matrix. This will establish the basis for identifying a Staff-Recommended Alternative.

Services/activities shall include but not be limited to:

- Develop Alternatives
- Assessment Methodology
- Alternative Matrix

2.4.4 Task 4—Staff-Recommended Alternative

The purpose of this task is to develop the staff-recommended alternative in more detail with preliminary 10% design plans, estimate of costs, and a preliminary construction schedule.

Services/activities shall include but not be limited to:

- Preliminary Design
- Staff-Recommended Alternative Report

2.4.5 Task 5—Planning Study Report

The purpose of this task is to summarize the activities of the planning phase process in the Planning Study Report, including the problem definition, the development and evaluation of the conceptual and feasible alternatives, selection of the recommended alternative, and the development of the preliminary design. The Report should also include the life-cycle operation and maintenance costs, real estate needs, estimated costs for design phase, environmental and permitting, and construction phase costs, schedule, and funding. The Planning Study Report will be reviewed and approved by SCVWD management.

2.4.6 Task 6—Environmental Documentation and Permit Support

The purpose of this task is to comply with environmental regulations and ensure proper documentation and permit acquisition. The Consultant will prepare environmental documents that comply with the requirements of the CEQA, in a manner such that these documents may be presented to the SCVWD's Board of Directors as the CEQA Lead Agency to enable them to certify the Final Environmental Impact Report/Environmental Impact Study and adopt the Mitigation Monitoring and Reporting Plan. The Consultant will assist SCVWD in obtaining the necessary permits for construction of the Project, as well as permits/clearance needed for field investigations including supplemental fault trenching and borrow investigations.

Services/activities shall include but not be limited to:

- Initial Regulatory and CEQA strategy, and coordination with regulatory agencies
- Data collection and resource investigations
- CEQA documentation

- Regulatory Permits

2.4.7 Task 7—Geotechnical Data Collection and Investigations

The purpose of this task is to research, review, and use Planning Phase information as a basis for the design, as well as to conduct necessary geotechnical field investigations to help establish a Project Base Map, and prepare reports that will inform the design. Consultant is responsible for collecting all the data and conducting all investigations that are needed to complete the final design.

Services/activities shall include but not be limited to:

- Geotechnical Investigations
- Laboratory Testing
- Geotechnical Investigations/Data Report
- Geotechnical Design/Baseline Report

2.4.8 Task 8—Basis of Design

The purpose of this task is to perform the engineering analyses, calculations, and interpretations that are required to support and develop the Basis of Design for the Project. Consultant is responsible for developing a comprehensive scope of work and performing independent analyses, as appropriate, to fully develop the Basis of Design without relying solely on work completed by others to achieve this purpose. The supporting analyses, calculations, and other standards and detailed design information shall be used to prepare a biddable and constructible set of Plans and Specifications and Engineering Cost Estimates for the Project.

Services/activities shall include but not be limited to:

- Design Criteria Memorandum
- Basis of Design Report

2.4.9 Task 9—30 Percent Design Document Preparation

The 30 percent design set shall establish primary drawings and specifications for all major Project components and shall include newly developed design details and/or refinement of the preliminary design prepared during the planning phase. It shall translate major/minor requirements and criteria identified in the Basis of Design documents and describe the construction scope in more detail. Individual sheets of the 30 percent design document shall be Partially Complete to Substantially Complete depending on the specific sheet.

Services/activities shall include but not be limited to:

- 30 percent Plans, Specifications, and Cost Estimate
- Right of Way

2.4.10 Task 10—60 Percent Design Document Preparation

The 60 percent design set shall incorporate additional requirements, criteria, and details that were not included in the 30 percent design set. It shall address the comments received and reflect necessary revisions and resolved issues from the 30 percent design set. It shall be ready for agency permitting review. The level of completeness shall be Substantially Complete to Virtually Complete and ready for permitting agency review.

Services/activities shall include but not be limited to:

- 60% Plans, Specifications, and Cost Estimate
- Constructability/Sequencing requirements for the Contractor

2.4.11 Task 11—90 Percent Design Document Preparation

The 90 percent design set shall reflect the revisions and resolutions required from the comments received for the 60 percent design set. It shall also incorporate any permit conditions established by regulatory agencies. The level of completeness shall be Complete.

Services/activities shall include but not be limited to:

- 90% Plans, Specifications, and Cost Estimate
- Mitigation and Permitting

2.4.12 Task 12—Final Design Document Preparation

The 100 percent Design Set shall be a fully completed, signed, and sealed set of Plans, Specifications and Cost Estimate that is ready for construction bidding. The 90 percent design set will be revised, as necessary, to address any remaining permitting agency comments.

Services/activities shall include but not be limited to:

- 100% Plans, Specifications, Cost Estimate and Engineering Documents
- Design-to-Construction Phase Transition Report

2.4.13 Task 13—Bid and Award Services

Upon SCVWD's request, the Consultant shall assist during the bidding process of the Project with items pertaining to:

- Bidder's Questions
- Pre-Bid Meeting
- Addenda

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Early Funding Request

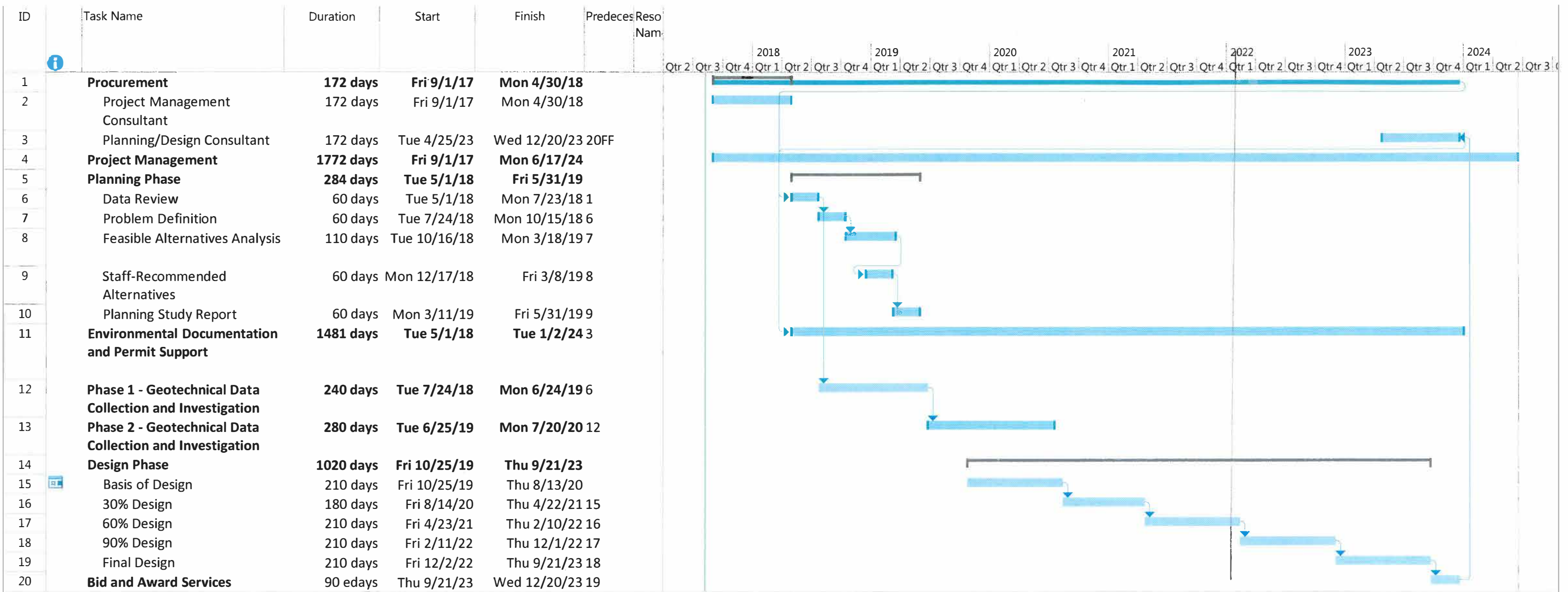
A1: Early Funding Scope, Schedule, Budget

Exhibit 1 – Early Funding Request Schedule

Pacheco Reservoir Expansion Project



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Project: Pacheco Reservoir Schedule
Date: Thu 8/10/17

Task		Project Summary		Manual Task		Start-only		Deadline	
Split		Inactive Task		Duration-only		Finish-only		Progress	
Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
Summary		Inactive Summary		Manual Summary		External Milestone			

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Early Funding Request

A1: Early Funding Scope, Schedule, Budget

Exhibit 2 – Early Funding Request Budget: Estimated Costs through Planning and Design Activities

Pacheco Reservoir Expansion Project



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Pacheco Reservoir Expansion Project
Estimated Costs through Planning and Design Activities
 Prepared August 11, 2017

Activity	Estimated Cost (\$)
District Labor and Fees	14,900,000
Procure Planning & Design Consultant (District)	200,000
Procure Project Management Consultant (District)	100,000
Project Oversight, Deliverables Review, Meetings w Agencies (District)	9,600,000
DSOD Permit Review Fees	5,000,000
PROJECT MANAGEMENT SERVICES	20,000,000
Lump Sum estimate includes Tasks 1 through 7 as detailed in Scope of Services for Project Management	
PLANNING AND DESIGN SERVICES	
Planning	7,600,000
Task 1 a -- Project Management	800,000
Task 2 -- Data Review & Problem Definition	200,000
Task 3 -- Alternatives Analysis	1,300,000
Task 4 -- Staff Recommended Alternative	200,000
Task 5 -- Planning Study Report	100,000
Task 7a --Geotechnical Data Collections & Investigations	5,000,000
Design and Environmental	23,500,000
Task 1b -- Project Management	2,200,000
Task 6 -- Environmental Documents & Permit Support	3,500,000
Task 7b --Geotechnical Data Collections & Investigations	5,000,000
Task 8 -- Basis of Design	3,000,000
Task 9 -- 30% Design Document Preparation	3,000,000
Task 10 -- 60% Design Document Preparation	4,000,000
Task 11 -- 90% Design Document Preparation	2,000,000
Task 12 -- Final Design Document Preparation	500,000
Task 13 -- Bid and Award Services	300,000
Land Acquisition	5,800,000
	Subtotal
	71,800,000
Contingency (20%)	14,360,000
	Total
	86,160,000

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Committee: Pacheco Reservoir Exploratory
Meeting Date: 09/14/17
Agenda Item No.: 5.3
Unclassified Manager: Jerry De La Piedra
Email: gdelapiedra@valleywater.org
Est. Staff Time: 15 minutes

COMMITTEE AGENDA MEMO

SUBJECT: Update on Pacheco Reservoir Expansion Project Outreach

RECOMMENDED ACTION:

This is an information only item and no action is required.

SUMMARY:

Staff will discuss and provide updates to the Committee on current outreach activities. Discussion will include ongoing outreach by Santa Clara Valley Water District (SCVWD), and thank-you letters to agencies and individuals who provided letters in support of the Proposition 1 application.

At its August 22, 2017, meeting, the SCVWD Board approved a budget transfer of \$2M for environmental documentation for the Pacheco Reservoir Expansion Project (Project No. 60954001) to initiate planning phase work in Fiscal Year 2017-18. The Board also approved a budget transfer of \$250,000 for project outreach. Outreach activities will be broad and will include communicating with Native American tribes regarding the proposed project.

Abigail Ramsden, Conservation Planning Project Director for The Nature Conservancy of California, has invited SCVWD and San Benito County Water District (SBCWD) to present information on the Pacheco Reservoir Expansion Project at the upcoming Pajaro Compass meeting on October 24, 2017 in Hollister. The meeting is a forum to connect with stakeholders in the agency, non-governmental organization, farming and ranching community who are focused on multi-benefit projects within the Pajaro River watershed. Pajaro Compass meetings typically draw attendance of 40-60 people, with participation from water management agencies including the Pajaro River Watershed Flood Prevention Authority, Pajaro Valley Water Management Agency, the Valley Habitat Agency, SBCWD and SCVWD.

SCVWD staff is currently drafting thank-you letters to the 51 agencies and individuals who provided letters and resolutions of support for the project to the California Water Commission, demonstrating widespread and broad-based support for the application. Support letters and resolutions came from elected officials, organizations (representing labor unions, agricultural, governmental agencies, business, and others), resource conservation districts, public water agencies, and environmental leaders and were included with the Proposition 1 Water Storage Investment Program application. SCVWD is appreciative of the support and will be sending thank you letters to the following project supporters:

<ul style="list-style-type: none"> • Senator Jerry Hill • Senator William Monning • Assemblymember Marc Berman • Assemblymember Anna Caballero • Assemblymember Kansen Chu • Supervisor David Cortese • Supervisor Mike Wasserman • Alameda County Water District • Bay Area Water Supply & Conservation Agency (BAWSCA) • California Department of Water Resources - Division of Safety of Dams • Central California Irrigation District • City of Gilroy • City of Hollister • City of Milpitas • City of Morgan Hill • City of San Jose • City of Watsonville • County of Santa Cruz Flood Control and Water Conservation District - Zone 7 • Family Farm Alliance • Gilroy Chamber of Commerce • Grassland Water District • Jerry J. Smith, Ph.D. - Fisheries Biologist & San Jose State University Professor • La Raza Roundtable • Loma Prieta Resource Conservation District • Merced County Board of Supervisors 	<ul style="list-style-type: none"> • Metropolitan Water District of Southern California • Monterey County Board of Supervisors • Morgan Hill Chamber of Commerce • National Association for the Advancement of Colored People (NAACP) • Pacheco Pass Water District • Pajaro River Watershed Flood Prevention Authority • Pajaro Valley Water Management Agency • Pajaro/Sunny Mesa Communities Services District • Resource Conservation District of Santa Cruz County • San Benito County Board of Supervisors • San Benito County Farm Bureau • San Benito County Water District • San Jose Water Company • San Luis & Delta-Mendota Water Authority • Santa Clara & San Benito Counties Building & Construction Trades Council • Santa Clara County Farm Bureau • Santa Clara Valley Open Space Authority • Santa Cruz County Farm Bureau • Silicon Valley Black Chamber of Commerce • Silicon Valley Chamber Coalition • Silicon Valley Leadership Group • Silicon Valley Organization • South Bay Clean Creeks Coalition • Sunnyslope County Water District • Sustainable Silicon Valley • Westlands Water District
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BACKGROUND:

On August 14, 2017, the Santa Clara Valley Water District (SCVWD) submitted an application to the California Water Commission requesting \$484.5 million, half of the capital cost of the planned Pacheco Reservoir Expansion Project – located in southeastern Santa Clara County. Key project partners include the Pacheco Pass Water District, San Benito County Water District and eight wildlife refuges in the San Joaquin River Hydrologic Region. Support letters from California state legislators, organizations, resource conservation districts, water agencies and individuals were included in the application.

ATTACHMENT(S):

None

Handouts

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CALIFORNIA WATER COMMISSION

901 P STREET, P.O. BOX 942836
 SACRAMENTO, CA 94236-0001
 (916) 651-7501



Armando Quintero
 Chair

August 31, 2017

Carol Baker
 Vice-Chair

Santa Clara Valley Water District

Joseph Byrne
 Member

5750 Almaden Expressway

San Jose, CA 95118

Joe Del Bosque
 Member

Attn: Norma Camacho, Chief Executive Officer

Andrew Ball
 Member

Dear Ms. Camacho:

Daniel Curtin
 Member

Thank you for submitting your application for the Pacheco Reservoir Expansion Project to the Water Storage Investment Program (WSIP). During our Basic Eligibility and Completeness review, pursuant to California Code of Regulations, title 23, section 6006 (WSIP regulations)¹, we could not locate or access the items listed below. Please review the list and provide the requested information no later than **5:00 P.M. on September 15, 2017**. Only the information specifically listed below and received by the due date will be added to your current application.

Maria Herrera
 Member

Catherine Keig
 Member

David Orth
 Member

Each WSIP applicant was required to submit a complete application by August 14, 2017. Commission staff has reviewed each application for completeness and basic eligibility, per sections 6006(c)(1) and (3). By submitting the information requested in this letter, you will complete your application. Staff will review this additional information pursuant to section 6007. Additional eligibility issues, including the possibility that other items are missing from the application, may arise during the technical review. If the application remains incomplete or does not meet the basic or additional eligibility requirements, the Commission may determine the project to be ineligible for WSIP funding pursuant to section 6006(c).

Please send the requested information via email to the Program Manager, Hoa Ly, Hoa.Ly@water.ca.gov. If the total file size exceeds 50MB, please contact Ms. Ly prior to the due date to arrange for delivery.

Completeness (per WSIP regulations Section 6006(c)(3)). The list below provides specific items needed for the application to be complete per section 6006(c)(3)(A).

- Please provide the following models and associated input and output data files referenced in your application:
 - WEAP
 - Pacheco Creek Steelhead Habitat Suitability Model
 - Pacheco Creek Habitat Suitability Groundwater Model
 - Hydrologic & hydraulic analyses in sufficient detail to verify your claimed flood benefit

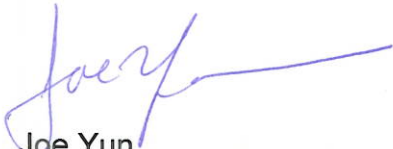
¹ Unless otherwise noted, all references are to the California Code of Regulations, title 23, section 6000 *et seq.*

Norma Camacho, Chief Executive Officer
Santa Clara Valley Water District
August 31, 2017
Page 2

- Please provide the analysis of how the emergency response water is accounted for in the operations modeling for other benefits per section 4.11.3.2 of Technical Reference.
- Please provide the regression model and data used to estimate future water transfer prices per section 5.3 of the Technical Reference.

If you have any questions regarding this request, please contact Hoa Ly at Hoa.Ly@water.ca.gov or (916) 651-9282.

Sincerely,



Joe Yun
Executive Officer
California Water Commission