



Santa Clara Valley Water District

CONFORMED COPY

File No.: 24-1074

Agenda Date: 1/28/2025

Item No.: 8.1.

BOARD AGENDA MEMORANDUM

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:

Approve an Increase of \$40,000,000 to the Construction Contract Contingency Sum for the Anderson Dam Tunnel Project, as Part of the Anderson Dam Federal Energy Regulatory Commission Order Compliance Project, Project No. 91864006, Contract No. C0663 (Morgan Hill, District 1).

RECOMMENDATION:

Approve an increase of \$40,000,000 to the construction contract contingency sum, bringing the total contingency sum to \$80,000,000 for the Anderson Dam Tunnel Project, as part of the Anderson Dam Federal Energy Regulatory Commission Order Compliance Project (Project No. 91864006), Contract No. C0663.

SUMMARY:

Santa Clara Valley Water District (Valley Water) is undertaking the Anderson Dam Federal Energy Regulatory Commission Order Compliance Project (FOCP) as a result of the February 20, 2020, directive from the Federal Energy Regulatory Commission (FERC) to implement interim risk reduction measures at Anderson Dam. One of those measures is the Anderson Dam Tunnel Project (ADTP).

The proposed action to increase the contract contingency sum by \$40,000,000 will allow the project team to execute change orders as needed to avoid unnecessary delays or consequential costs, ensuring the ADTP is completed as quickly as possible in preparation for the Anderson Dam Seismic Retrofit Project (ADSRP). Significant construction progress has been made on the ADTP with completion anticipated in late 2025. However, the amount of change orders executed to date and expected future change orders described below will exceed the current contract contingency.

Project Background

The ADTP will construct a diversion system to augment the existing outlet, which will consist of a new diversion tunnel, an outlet structure, a micro-tunnel lake tap, and modifications to Coyote Creek just downstream of the base of the dam. The ADTP also includes relocation of the existing Anderson Force Main and modifications to the existing intake structure.

Challenges During Construction

Given the emergency nature of the project, the ADTP encountered more challenges than initially anticipated, stemming from both known and unforeseen risks outlined in the Board Agenda Memorandum titled "Reports of Bids Received and Award of Contract to Flatiron West Inc.," dated April 27, 2021 (Attachment 2). Below is an overview of these challenges and risks, along with the risk mitigation measures implemented during ADTP to support and benefit the future Anderson Dam Seismic Retrofit Project.

Project Review and Approvals Risk: Mandatory Regulatory Agency Coordination and Design Changes

The ADTP adopted a phased Notice to Proceed (NTP) approach to address the time-sensitive nature of the project. This allowed the Contract to be awarded and work to begin on components ready for execution, such as site preparation and construction exploration, while providing regulatory agencies sufficient time to complete reviews and approve critical portions of the design. However, primarily due to resource and time constraints within the regulatory agencies, NTP phases (2A/2B/3) were issued approximately three months later than anticipated in the original Contract.

Additionally, Valley Water issued a series of Contract Document Clarifications (CDCs) - including CDCs 001, 002, 002.1, 002.2, 002.3, 004, 005, 007, 007.1, 007.2, and 007.3 - to address comments and feedback from FERC, the California Division of Safety of Dams (DSOD), the State Water Resources Control Board (SWRCB), the National Marine Fisheries Service (NMFS), and the U.S. Army Corps of Engineers (USACE). While design comments and feedback were expected during the review process, the extent of the required design modifications resulted in significant cost and schedule impacts. These changes included:

- Adjustments to the structural tunnel lining,
- Coyote Creek channel modifications,
- High-level outlet works (HLOW) modifications,
- Steel pipe modifications, and
- Additional environmental monitoring requirements.

Time Impact Analyses (TIA) 1, 2, and 5 were issued to address the Contract time extensions associated with the regulatory agency design changes, resulting in a cumulative delay of 483 calendar days. Furthermore, the delayed issuance of NTPs compounded the cost impacts, as the project faced unprecedented material cost escalations in 2021 due to the post-pandemic market conditions. Steel material on average experienced an escalation of approximately 68% between the 2nd and 4th quarters of 2021.

Construction Risks: Differing Site Conditions

During preparation of the Contract and bid documents, Valley Water staff and the project design consultant evaluated geotechnical engineering data and available as-built records. However, actual geotechnical and subsurface conditions could only be fully understood once construction activities commenced. This was evident during the underwater lake-tap excavation, which required additional and more robust equipment to address unforeseen conditions and associated design changes, resulting in increased costs. Similarly, tunnel excavation work revealed variations from the anticipated bid quantities, necessitating adjustments as work progressed such as bid item overruns and renegotiation of unit rates, in accordance with the Contract. Additionally, unexpected soil conditions during the Diversion Outlet Structure (DOS) foundation excavation work led to increased cost and schedule impacts, including revisions to the soil nail wall design and increased grout takes during DOS rock anchor installation.

These discrepancies between anticipated and actual conditions, including associated bid item quantity overruns, resulted in considerable cost implications for the project.

Anderson Dam Seismic Retrofit Project Risk Mitigation Measures

During construction of the ADTP, Valley Water leveraged the opportunity to implement measures that mitigate risks and provide valuable insights for the future Anderson Dam Seismic Retrofit Project (ADSRP). Recognizing that unforeseen and concealed site conditions resulted in various changes to the ADTP, as described above, Valley Water utilized the ADTP contract to support paleo-seismic and geological trench exploratory excavations. These investigations aimed to further characterize faulting and geological features across multiple locations within the ADSRP footprint, enhancing the understanding of site conditions and informing future project planning and design.

Additionally, Valley Water issued CDC 048 to replace certain sections of the final concrete lining in the tunnel with steel pipes and lightweight cellular concrete (LCC) backfill. This modification was implemented to mitigate future schedule risks and cost impacts associated with the ADSRP. As part of the ADSRP, the Stage 2 diversion system will require partial demolition of the Stage 1 diversion system currently being constructed under the ADTP. By substituting the reinforced concrete lining and articulated segments with steel pipes and LCC, this change eliminates the need for complex structural concrete demolition during the ADSRP, reduces the duration of critical construction activities, and provides future schedule and cost savings.

Valley Water also incorporated the Coyote Creek north channel extension scope of work, originally planned for ADSRP, into the ADTP. The project team identified an opportunity to improve efficiency and achieve environmental benefits by advancing the completion of the north channel extension during the Coyote Creek modification work under ADTP. This extension involved reopening and reestablishing the connection between Coyote Creek downstream of the north channel weir and the confluence of the north and south channels, minimizing fish stranding hazards as prohibited by

environmental regulatory agencies.

Relevant Prior Board Actions

On June 9, 2020, Valley Water's Board of Directors adopted Resolution No. 20-57 setting the time and place of the public hearing on the Engineer's Report and CEQA exemption determination for the Anderson Dam Federal Energy Regulatory Commission Compliance Order Project.

On June 23, 2020, the Board approved the CEQA emergency exemption determination for the FOCP; adopted Resolution No. 20-59 approving the Engineer's Report for the FOCP; and approved the Project.

On August 25, 2020, the Board approved implementing a best value construction contractor selection method for the ADTP.

On January 26, 2021, the Board adopted Plans and Specifications and authorized advertisement for bids for the ADTP, Project No. 91864005.

On April 27, 2021, the Board awarded the construction contract for the ADTP to the top-ranked, best-value proposer, Flatiron West, Inc. (Flatiron), in the sum of \$161,140,321 and approved a contingency amount of \$40,000,000 (25% of the contract price). The Board directed staff to discuss delegating authority for contingency expenditures with the CIP Committee.

On May 25, 2021, the Board accepted the CIP Committee recommendations to delegate authority to staff to approve change orders for the ADTP at the amounts stated below and that the CIP Committee receive regular monthly reports with information regarding approved change orders.

Delegated Approval Authority

Unit Manager: Up to \$100,000

Assistant Officer: Up to \$250,000

Deputy Operating Officer: Up to \$500,000

Assistant Chief Executive Officer: Up to \$2.5 million

Chief Executive Officer: Up to \$5 million

Contract Change Orders

A total of forty-three (43) Contract change orders totaling a net increase of \$30,867,358.58 have been executed to date for this contract to address various field and construction issues, including unforeseen site conditions, regulatory agency design changes including environmental monitoring requirements, Contract design clarifications, bid item quantity adjustments, and risk mitigation measures.

Table 1 below presents a summary of the current construction Contract and contingency amounts. A comprehensive log that summarizes each change order is included in Attachment 3.

TABLE 1
SUMMARY OF CONSTRUCTION CONTRACT
AND CONTINGENCY AMOUNTS

Item	Change Order Amount	Contract Amount	Contingency Amount Remaining
Original Contract	-	\$161,140,321.00	\$40,000,000.00
Executed Change Orders No. 1 through No. 43	\$30,867,358.58	\$192,007,679.58	\$9,132,641.42
Forthcoming Change Order No. 44 (<i>under development</i>)	\$1,531,655.00	\$193,539,334.58	\$7,600,986.42

Increased Construction Contingency Recommendation

Upcoming known change order work and outstanding schedule impact costs have been estimated at \$43,000,000. The current remaining Contract contingency amount of \$9,132,641.42 will not be sufficient to complete the ADTP through construction and completion of the project. To compensate the contractor for future known change order work, future unknown changes that may occur during construction, and outstanding schedule impacts to be negotiated, staff recommends the Board approve an increase in the Contract contingency in the amount of \$40,000,000, resulting in a total contingency of \$80,000,000.

Following a comprehensive evaluation of future change order work, schedule impacts and associated delay costs, an increase of \$40,000,000 in the contingency would allow Valley Water to immediately fund upcoming change orders and quickly respond to any additional unanticipated occurrences during construction. The increase in contingency does not guarantee the contractor will be entitled to the increased amount. Each change order will continue to be evaluated and negotiated to appropriately compensate the contractor.

The total sum of the original Contract amount and contingency, including the proposed increased contingency, is \$241,140,321, which is approximately a 9.1% increase over the original Engineer's estimate of \$221,021,000 for the ADTP, as outlined in the Board Agenda Memorandum titled, "Reports of Bids Received and Award of Contract to Flatiron West Inc." dated April 27, 2021 (Attachment 2).

ENVIRONMENTAL JUSTICE AND EQUITY IMPACT:

There are no environmental justice impacts associated with this item. This action is unlikely to or will not result in adverse impacts and is not associated with an equity opportunity.

FINANCIAL IMPACT:

The Anderson Dam Tunnel Project, Project No. 91864006, as part of the Anderson Dam FOCP, is included in the Capital Improvement Program (CIP) Fiscal Year (FY) 2025-29 Five-Year Plan and in the FY 2024-25 Adopted budget.

Approval of the recommended increase to the construction contract contingency would increase the Total Project Cost (TPC) reflected in the CIP's FY 2025-29 Five-Year Plan by approximately \$40,000,000. This update will be incorporated into the CIP's Draft FY 2026-30 Five-Year Plan. There are adequate funds in the Project's FY 2024-25 Adopted Budget to encumber the planned expenditures for construction to be incurred during this fiscal year. Funds to cover the remaining anticipated construction costs will be included in the biennial budget process during the annual fiscal year budget process or through budget adjustment(s), if needed.

The Project is funded by the Water Utility Enterprise Fund (Fund 61) with 81.66% of the Fund 61 costs allocated to Zone W-2 (North County), 7.53% to Zone W-5 (South County), and 10.81% to Zone W-7 (South County).

CEQA:

The FOCP, which includes ADTP, was determined to be exempt from CEQA, pursuant to Public Resources Code Section 21080(b)(4) and CEQA Guidelines Section 15269(c) which exempt specific actions necessary to prevent or mitigate an emergency. Following the Board's approval of FOCP on June 20, 2020, Valley Water filed a Notice of Exemption with the County of Santa Clara Clerk/Recorder on June 26, 2020. This recommended action would not result in changes to the project that would require additional CEQA as the project being implemented remains exempt from CEQA.

ATTACHMENTS:

Attachment 1: Map
Attachment 2: April 27, 2021 Board Agenda Memorandum
Attachment 3: Construction Contract Change Order Status Log
Attachment 4: PowerPoint

UNCLASSIFIED MANAGER:

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