

Memorandum

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To: CHAIR AND COMMISSIONERS
CALIFORNIA TRANSPORTATION COMMISSION

CTC Meeting: August 20, 2014

Reference No.: 2.5e.(6)
Action Item

From: NORMA ORTEGA
Chief Financial Officer

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Division of
Transportation Programming

Subject: **ALLOCATION FOR SUPPLEMENTAL FUNDS FOR PROJECT PREVIOUSLY VOTED
RESOLUTION FA-14-07**

RECOMMENDATION:

The California Department of Transportation (Department) recommends that the California Transportation Commission (Commission) allocate an additional \$4,200,000 for one State Highway Operation and Protection Program (SHOPP) project identified below.

ISSUE:

Additional funds are needed for one previously approved project in order to award the construction contract.

RESOLUTION:

Resolved, that \$4,200,000 be allocated from the Budget Act of 2012, Budget Act Item 2660-302-042 and 2660-302-0890 to provide additional funds for the project identified below.

<u>Project</u>	<u>Dist-Co-Rte</u>	<u>Original Allocated Amount</u>	<u>Current Allocation</u>	<u>Allocation Adjustment</u>	<u>Revised Allocation</u>	<u>% Increase Above Current Allocation</u>
1	10-Mpa-140	\$13,000,000	\$13,000,000	\$4,200,000	\$17,200,000	32.3%

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Reason for Supplemental Funds	PPNO Program Funding Year Item # Fund Type Program Codes Project ID Adv Phase EA	State Federal Current Amount by Fund Type	State Federal Additional Amount by Fund Type	State Federal Revised Amount by Fund Type
2.5e.(6) Supplemental Funds for Previously Voted Projects			Resolution FA-14-07		
1 \$4,200,000 Department of <u>Transportation</u> Mariposa 10-Mpa-140 42.0/42.7	Near El Portal and Yosemite National Park, 0.5 mile west of South Fork Merced River. <u>Outcome/Output:</u> Remove rock debris caused by major landslide in order to repair and re- open up roadway to traffic. Supplemental funds needed to award construction contract. Total Revised Amount: \$17,200,000	10-0280A SHOPP 2012-13 302-0042 SHA 302-0890 FTF 20.20.201.131 SHOPP 2013-14 302-0042 SHA 302-0890 FTF 1014000079 4 0P9224	\$260,000 \$12,740,000	\$482,000 \$3,718,000	\$260,000 \$12,740,000 \$482,000 \$3,718,000

RECOMMENDATION:

The Department recommends that this request for \$4,200,000 be approved to allow this project to be awarded.



“Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability”

PROJECT DESCRIPTION:

This project is located in Mariposa County on Route 140 near El Portal and Yosemite National Park, 0.5 mile west of South Fork Merced River. In May 2006, a large landslide occurred at this location with tons of large rock and debris coming down the steep slope and burying the highway. Two temporary bridges spanning the Merced River were installed under emergency contract to allow access to the park using State Route 140. Immediate repairs to this major slide were not made due to the instability of the slide area. Temporary bridges were constructed to detour traffic around the damage area, but the highway remains a one-way roadway and is still vulnerable to future slide activity. Removal of the talus material is the first phase of this two-phase project and will expose the original face of the slope and highway, allowing the Department to obtain geotechnical data under the existing highway and horizontally into the slope. With such information, design of the second and final phase to build a roadway structure (rockshed) can be confirmed or modified if necessary. The second phase, construction of the rockshed, is programmed in the 2014 SHOPP in Fiscal Year 2015-16 at a capital construction cost of \$96,100,000.

FUNDING STATUS:

This Permanent Restoration project is programmed in the 2012 SHOPP in Fiscal Year 2013-14 for \$13,000,000 in construction capital funding and \$13,000,000 was allocated by the Commission on May 21, 2014.

REASONS FOR COST INCREASE:

California Public Contract Code Chapter 6.3 (commencing with Section 6700) establishes a pilot program to test the utilization of a Construction Manager-General Contractor method (CM-GC) as a cost-effective option for constructing transportation projects. The Code authorizes the Department to engage a construction manager during the design process to provide input on the design. During the design phase, the construction manager provides advice including, but not limited to scheduling, pricing, and phasing to assist the Department in designing a more constructible project. This project was selected to be part of the CM-GC pilot program in May 2014, at which time the Department had already completed 100 percent of the project's design. Since then, the project development team worked closely with the CM-GC team to review and assess the project. The first cost estimate by the CM-GC team was completed and submitted to the Department on June 12, 2014. The CM-GC's cost estimate was significantly higher than the Department Engineer's estimate in four areas. The Department had since the chance to review actual sub-contractor bids for the work items.

The Department's Engineer concluded that the original estimates were significantly under priced for these four items:

- Cable net drapery is a safety item placed on the face of the cut slope to prevent falling or loose rocks from reaching the travel lanes or construction work zone. After the project was voted, the CM-GC, potential subcontractors that will install the drapery and Department geotechnical experts performed extensive field reviews. The result of these reviews and discussion was to increase the area for the drapery to be installed for greater worker safety during the actual excavation. The cable net drapery square footage doubled due to: 1) additional areas of potential rock fall that was not accounted in the project report; 2) the need to locate the anchors higher on the slope based on safety field reviews which increased the square footage of the drapery needed; 3) underestimation of the amount of overlaps between sheets of drapery and areas of undulations on the slope surface. The area of drapery nearly doubled in size which resulted in the significant increase (174,000 square feet to 310,000 square feet). This item adds \$1,830,000 over the vote amount.
- The CM-GC bid for Time-Related Overhead includes another safety measure, a Slope Stability Radar (SSR). The SSR will be leased to monitor slide movement and provide a warning system during construction. The SSR cost is \$300,000 for the life of the project, plus \$1,300 per day to operate. The state's geotechnical experts agree that this system should be in place as a safety measure. The Department's Engineer estimated working days at 120 days working 10 hours/day 5 days a week. The CM-GC, on the other hand, has calculated 130 working 10 hours/day 7 days a week citing the remoteness and lack of staging and access to the site resulting in low production rates. This item adds \$1,550,000 over the vote amount.
- The Regional Water Quality Control Board has recently met with construction staff and required the installation of a monitoring system at the Merced River to test water quality of the river before construction begins and set a baseline for the project and help reduce the Department's exposure to storm water violation throughout the duration of construction. This item adds \$500,000 over the vote amount.
- The CM-GC traffic management plan is considerably different from the Department Engineer's. In order to maintain the production rates, the CM-GC is planning to shut down the signal in place for the one-way detour. They plan to utilize flaggers and pilot cars during work hours. This is an increase of \$320,000 over the vote amount.

The item increases above total \$4,200,000 over the currently voted amount of \$13,000,000. The Department Engineer's estimate has been revised to reflect these conditions and actual present day bid information. There is a possibility that the project be advertised for bid within the normal procurement process for construction projects as well. This request is to address what is a known cost increase prior to advertisement in order to save time in awarding the contract to a successful bidder should that be the case.

LESSONS LEARNED:

Unfortunately this project was chosen for the CM-GC process after design was 100 percent complete. The estimates made by the Department's Engineer of production rates for the hauling of material were very different from the contractor's. Working days should be thoroughly reviewed taking into consideration the remoteness of the project location in relation to potential material disposal sites. The project is in a location with very limited access and staging areas. In the future, large projects in remote locations, limited access and highly sensitive environmental restrictions, should have their working days estimates reviewed and discussed with experienced contractors during the design process. Additionally, the cable net drapery installation is very specialized work. Prior to design completion, outreach to experienced companies should be made on similar specialized construction items.

FUNDING OPTIONS:

OPTION A: Approve this request for supplemental funds, as presented above, for \$4,200,000 to allow this project to be advertised and awarded.

OPTION B: Deny this request and direct the Department to revise the project to remain within the allocated amount. The Department has considered this option and determined that reducing the scope of work on this project, and executing another project to complete the deleted work later would result in greater cost and more disruption to the traveling public.

RECOMMENDED OPTION:

The Department recommends that this request for \$4,200,000, as presented in Option A, above, be approved to allow this project to be awarded.