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**PLANNING AND PROGRAMMING COMMITTEE  
OCTOBER 15, 2008**

**SUBJECT: STATE ROUTE 134 DESIGN-BUILD SOUNDWALL DEMONSTRATION**

**ACTION: RECEIVE AND FILE**

**RECOMMENDATION**

Receive and file the findings on State Route (SR) 134 Design-Build Soundwall demonstration project.

**ISSUE**

On March 24, 2005, the Board approved an \$11.423 million life-of-project budget for the SR-134 design-build Soundwall demonstration. The purpose of the demonstration was to explore the potential time and cost savings using the design-build delivery method rather than the traditional design-bid-build delivery method. The project is complete, except for some minor close out issues and plant establishment. This report provides findings from using the design-build delivery method.

**BACKGROUND**

Since the adoption of the Post 1989 Retrofit Soundwall Program, we have been working to systematically fund the design and construction of freeway retrofit Soundwalls throughout Los Angeles County. We continuously work with Caltrans to reduce the average costs of Soundwall projects and to identify more efficient delivery methods for these critically important projects.

At the October 2005 meeting, the Board awarded a firm-fixed price design-build contract to D.W. Powell Construction, Inc. for the design and construction of Soundwalls on SR-134 between Louise Street and Harvey Drive in the City of Glendale, in an amount of \$9,777,000. Design-build is an alternative method of procuring both the design and construction services for the delivery of public works facilities from a single entity, by combining the design and construction phases into a single contract. Caltrans reviewed the design-build contractor technical and quality submittals, and we provided the construction management for this design-build contract. We executed a Cooperative Agreement with Caltrans for their participation in the demonstration.

The Notice to Proceed was issued in January 2006 with a delivery date of November 2007. To date, we have administratively approved a cost increase of \$157,758 (1.6%) as well as a 29-day extension to December 2007 to deliver the project. This cost increase was very small compared to the escalating costs of other major capital projects experienced over the past three years. Also, even with the time extension, the project was built faster than other similar soundwall projects.

Some of the cost increase and delay were caused by differing site conditions encountered by the design-build contractor during the installation of piles for the foundation of the Soundwall. In addition, a segment of Soundwall had to be altered to accommodate the development of underground parking for a low-income housing project in the City of Glendale. Other unforeseen modifications included the deletion of an overhead sign requirement (which resulted in a credit to the contract budget), a State requirement to hire a specialized traffic control firm to monitor night time lane closures on the SR-134 and SR-2 Freeways, and unanticipated relocation of utility lines.

## **Findings**

Overall, we found that using one contract to design-build the SR 134 Freeway soundwall resulted in time savings over the standard design-bid-build method. The completion was accomplished in approximately 23 months (the original 22 months plus an extension of 29 days), excluding plant establishment and an unanticipated tree removal issue. This compares favorably to the SR-170 soundwall project that used the design-bid-build method, which took approximately 16 months to design, 7 months to bid and 12 months to construct, for a total of 35 months to complete, excluding the time for plant establishment.

With regards to cost, we did not conclusively observe a cost savings compared to Caltrans more traditional Design-Bid-Build process, and thus could not determine whether the design-build method resulted in cost savings. For comparison purposes, there were no other soundwalls completed within the same time frame with similar characteristics as the SR-134 project. Further, Caltrans' existing policies and procedures are not well suited to respond to a design-build contract. Specifically, Caltrans required that 100% of the design be approved prior to letting the contractor start construction. Although the project was delivered below the life-of-project budget, we could not obtain an accurate accounting of the support costs to deliver the project. It appears that Caltrans may have expended more time than anticipated providing oversight that was not directly charged to the project.

This demonstration project provided a useful learning process for both agencies. With modifications to the cooperative agreement between us and Caltrans, we would expect additional cost savings. Lessons such as clearly defining roles and responsibilities, ensuring that existing site conditions are well documented, level of necessary geotechnical information, etc., will be incorporated into future agreements.

## Options for Future Soundwall Construction

As the project neared completion, we met with Caltrans District 7 Executive staff to determine a path forward for future Soundwalls' design and construction. Options discussed included either Design-Build or Design-Bid-Build methods.

With regard to the Design-Build method, County Counsel has determined that our enabling legislation does not authorize us to enter into design-build contracts to build non-transit related facilities, such as soundwalls, on freeways or other Caltrans property. Further, Caltrans does not have authority to enter into design-build contracts. Therefore, if we were to pursue this option, we would need to obtain legislation to allow us to construct freeway soundwalls.

The two options for the Design-Bid-Build method include Caltrans maintaining responsibility for the Soundwall program delivery or our Construction department contracting for the design and then construction of the soundwalls. For the first option, Caltrans has agreed to establish a Soundwall unit whose sole responsibility will be delivering our 1989 Soundwall Retrofit program. They feel that this will reduce the support costs necessary to deliver the Program. Alternatively, Caltrans District staff is supportive of us assuming contracting responsibilities for both the design and construction of future soundwalls and have informed us that they could provide free oversight should we decide to pursue this option. However, we will need to evaluate our staffing levels and possible needs.

## NEXT STEPS

We will evaluate whether we should seek State legislative authority to enter into design-build contracts for future Soundwall projects and whether our Construction department should assume responsibility for delivering the Soundwall program. Finally, we will continue to work with Caltrans staff to reduce the deliver costs of the 1989 Retrofit Soundwall program including the possibility of combining smaller Soundwall projects into larger single contracts to further reduce support and administrative costs.

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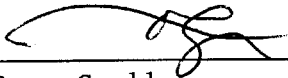
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