



# TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

## MEETING MATERIALS

December 17, 2015

CALTRANS

BAY AREA TOLL AUTHORITY

CALIFORNIA TRANSPORTATION COMMISSION





## *Letter of Transmittal*

**TO:** Toll Bridge Program Oversight Committee  
(TBPOC)

**DATE:** December 10, 2015

**FR:** Program Management Team (PMT)

**RE:** TBPOC Meeting Materials Packet – December 17, 2015

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Herewith is the TBPOC Meeting Materials Packet for the December 17<sup>th</sup> meeting. The packet includes memoranda and reports that will be presented at the meeting. A Table of Contents is provided following the Agenda to help locate specific topics.

**TBPOC REGULAR MEETING  
9:00 AM – 11:00 AM, December 17, 2015  
171 Burma Road, Oakland, CA – Trailer 1  
Dial-in Number: 1(866) 803-2146; Access Code: 2474385**

<b>Item Number/ Topic</b>	<b>Presenter</b>	<b>Time</b>	<b>Desired Outcome</b>
<b>1. CHAIR'S REPORT</b>	Steve Heminger, BATA		Information
<b>2. CONSENT CALENDAR</b>			
a. TBPOC Regular/ Urgent Meeting Minutes	Andrew Fremier, BATA	2 min	Approval
1. TBPOC October 13, 2015 Regular Meeting Minutes			
b. FHWA 2015 Annual Update to the Financial Plan	Dan McElhinney, CT	2 min	Approval
<b>3. PROGRAM ISSUES</b>			
a. Program Budget/Risks Update for FY 15-16 (Capital Outlay/Capital Outlay Support/Risk Management)	Dan McElhinney, CT	10 min	Information
b. Revised 2016 TBPOC Calendar	Andrew Fremier, BATA	5 min	Approval
c. Amend the TBPOC Operating Procedures per the Provisions of the Bagley-Keene Open Meeting Act	Stephen Maller, CTC	5 min	Approval
d. Bay Area Toll Bridges Cathodic Protection Systems	Brian Maroney, CT/ Kenneth Brown	10 min	Information
<b>4. SAN FRANCISCO-OAKLAND BAY BRIDGE UPDATES</b>			
a. Yerba Buena Island Transition Span 2 Contract			
1. Construction Update and Bike Path Status	Steven Whipple, CT	10 min	Information
2. Contract Change Order 111 – Resequencing of USCG Related Work	Steven Whipple, CT	15 min	Approval
b. E2/T1 Foundation Construction Contract Quality Assurance/Quality Control Documentation	Steven Whipple, CT	15 min	Information
c. SAS Tower Anchor Rod Testing Program	Brian Maroney, CT	10 min	Information
d. SAS Contract Closeout Update	Dan McElhinney, CT	5 min	Information
e. Demolition Contracts			
1. 504/288 Spans Demolition Update	Steven Whipple, CT	5 min	Information
2. Pier E3 Demonstration Contract	Brian Maroney, CT	10 min	Information
3. Marine Foundations Demolition	Chris Traina, CT	10 min	Information
4. Marine Foundations Demolition – Independent Demolition Cost Review	Peter Lee, BATA	5 min	Information
<b>5. GENERAL PUBLIC COMMENT</b>			
<b>Next TBPOC Regular Meeting: 10:00 AM-1:00 PM, February 11, 2016 Oakland, CA (TBD)</b>			

**Accessibility and Title VI:** TBPOC provides services/accommodations upon request to persons with disabilities and individuals who are limited-English proficient who wish to address Committee matters. For accommodations or translations assistance, please call the Metropolitan Transportation Commission (MTC) at 510.817.5757 or 510.817.5769 for TDD/TTY. We require three working days' notice to accommodate your request.

**可及性和法令第六章:** MTC 根據要求向希望來委員會討論有關事宜的殘疾人士及英語有限者提供服務/方便。需要便利設施或翻譯協助者，請致電 510.817.5757 或 510.817.5769 TDD / TTY。我們要求您在三個工作日前告知，以滿足您的要求。

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**Meeting Conduct:** In the event that any public meeting conducted by TBPOC is willfully interrupted or disrupted by a person or by a group or groups of persons so as to render the orderly conduct of the meeting unfeasible, the Chair may order the removal of those individuals who are willfully disrupting the meeting. Such individuals may be subject to arrest. If order cannot be restored by such removal, the members of the committee may direct that the meeting room be cleared (except for representatives of the press or other news media not participating in the disturbance), and the session may continue on matters appearing on the agenda.

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3	3	<b>PROGRAM ISSUES</b> a. Program Budget/Risks Update for FY 15-16 (Capital Outlay/Capital Outlay Support/Risk Management) b. Revised 2016 TBPOC Calendar c. Amend the TBPOC Operating Procedures per the Provisions of the Bagley-Keene Open Meeting Act d. Bay Area Toll Bridges Cathodic Protection Systems
4	4	<b>SAN FRANCISCO-OAKLAND BAY BRIDGE UPDATES</b> a. Yerba Buena Island Transition Span 2 Contract 1. Construction Update and Bike Path Status 2. Contract Change Order 111 – Resequencing of USCG Related Work b. E2/T1 Foundation Construction Contract Quality Assurance/Quality Control Documentation c. SAS Tower Anchor Rod Testing Program d. SAS Contract Closeout Update e. Demolition Contracts 1. 504/288 Spans Demolition Update 2. Pier E3 Demonstration Contract 3. Marine Foundations Demolition 4. Marine Foundations Demolition –Independent Demolition Cost Review
5	5	<b>GENERAL PUBLIC COMMENT</b>

## **ITEM 1: CHAIR'S REPORT**

**TO:** Toll Bridge Program Oversight Committee (TBPOC)    **DATE:** December 10, 2015

**FR:** Andrew Fremier, Deputy Executive Director, Operations, MTC/BATA

**RE:** Agenda No. - 2a1

Item- TBPOC October 13, 2015 Regular Meeting Minutes

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**Recommendation:**

Approval

**Cost:**

NA

**Schedule:**

NA

**Discussion:**

The Program Management Team has reviewed and requests TBPOC approval of the October 13, 2015 Regular Meeting Minutes.



# TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

## TBPOC REGULAR MEETING MINUTES

October 13 2015, 2:30pm – 4:30pm  
171 Burma Road, Oakland, CA - Trailer 1

**Attendees:** TBPOC Members: Steve Heminger (Chair), Malcolm Dougherty, Will Kempton  
PMT Members: Dan McElhinney, Andrew Fremier  
Participants: Bijan Sartipi, Doanh Nguyen, Brian Maroney, Deanna Vilcheck, Bill Casey, Kenneth Brown, Melanie Brent, Stefan Galvez, Karen Wang, Peter Lee, Leif Vincentsen, Barry Colford, Rosalynn Chongchaikit

Convened: 2:40 PM

	Items	Action
1.	<b>EXECUTIVE SESSION</b> NA	
2.	<b>CHAIR'S REPORT</b> <ul style="list-style-type: none"><li>• NA</li></ul>	
3.	<b>CONSENT CALENDAR</b> <ul style="list-style-type: none"><li>a. TBPOC Regular/ Urgent Meeting Minutes<ul style="list-style-type: none"><li>1. TBPOC September 14, 2015 Urgent Meeting Minutes</li><li>2. TBPOC September 24, 2015 Regular Meeting Minutes</li></ul></li></ul>	<ul style="list-style-type: none"><li>• The TBPOC approved the Consent Calendar items (3-0). W. Kempton motioned and M. Dougherty seconded the motion. Yes –W. Kempton, M. Dougherty, S. Heminger.</li></ul>
4.	<b>PROGRAM ISSUES</b> <ul style="list-style-type: none"><li>a. Program Budget/Risks Update for FY 15-16 (Capital Outlay/Capital Outlay Support/Risk Management)<ul style="list-style-type: none"><li>• Dan McElhinney, Caltrans District 4 Chief Deputy Director, provided an update on the East Span Seismic Safety Projects capital outlay support (COS) budget.</li><li>• Doanh Nguyen, Caltrans District 4 Deputy Director Program Project Management, provided details about the COS budget for the SAS contract including support for closeout of the</li></ul></li></ul>	<ul style="list-style-type: none"><li>• PMT to evaluate further COS budget reduction opportunities to stay within the currently approved FY15/16 COS budget total and report back to the TBPOC at the November 10th meeting.</li></ul>

(Continued)

Items	Action
<p>contract, maintenance manual, and bike path bracket and cable traveler design support. About \$1M of the SAS COS budget is spent.</p>	
<p>5. <b>SAN FRANCISCO-OAKLAND BAY BRIDGE UPDATES</b></p> <ul style="list-style-type: none"><li>a. SAS Tower Anchor Rod Testing Program<ul style="list-style-type: none"><li>• Brian Maroney, Caltrans District 4 SFOBB Project Chief Bridge Engineer, presented information about the recommendations list for the Anchor Rod investigation and repair items. Discussion included B. Maroney's recommendation list including a preliminary schedule showing construction of the repair at the end of 2016 (with the assumption that existing consultant contracts could be amended). B. Maroney also discussed the decision tree for the Tower Seismic Anchor Rod Supplemental Test and Action Plan and discussed that 406 of 407 rods passed with full seismic loads and held peak.</li><li>• PMT provided additional comments on the SAS T1 Seismic Anchor Rod recommendations list.</li><li>• A. Fremier noted that the tower rod detail is primarily affected by the lower rod nut being in some cases exposed to water. This cannot be modified. The mock up is designed to provide a separate redundant system for the lower nut by repairing the grout protecting the rod in the cylinder and relying on the pull out capacity generated by the high strength grout and the 17' development length. If the mock up works, you don't need to rely on the lower nut and therefore the testing recommended is no longer necessary going forward. The purpose of the seismic analysis is to determine how many rods if necessary</li></ul></li></ul>	

**(Continued)**

<b>Items</b>	<b>Action</b>
<p>would be wise to retrofit. Therefore, he recommended doing the seismic analysis and preparing the mock up as a potential solution to be decided on later.</p> <ul style="list-style-type: none"><li>• W. Kempton, CTC Executive Director, questioned why there were no costs shown for item I Possibility of Pile Cap Corrosion. B. Maroney responded that it will be addressed in a memo into the maintenance manual. The possibility of Pile Cap Corrosion is addressed through ongoing maintenance.</li><li>• M. Dougherty questioned about the tower anchor rod grout and B. Maroney responded he does not think the grout can be repaired. The Denso tape has water and should be removed if the grout is removed.</li><li>• W. Kempton questioned why B. Maroney is only recommending 6 of the 10 items from the Action Plan developed with the expert panelists, specifically why items A, B, E, H are not included.<ul style="list-style-type: none"><li>○ For item A Water Monitoring and Water Chemistry, B. Maroney discussed that it is known that water is in the holes and a solution is needed that is insensitive to bay water getting into tiny cracks, therefore a calculation is not needed on how much water is present.</li><li>○ For item B Mechanical Testing, B. Maroney noted the POC already allowed a full-size load test on the rods so it is known some threads are not what we wanted (too small). He cannot say this needs to be done.</li><li>○ For item E Investigation of Rod 3 (155-1-1) Failure, B. Maroney discussed that the panel agreed the rod stripped first and fractured later so his advice is that \$200,000 has been spent investigating the fracture, that's enough, and he cannot justify spending more money on it. The recommendation is to not do that work.</li><li>○ For item H UT-Length Verification and</li></ul></li></ul>	

**(Continued)**

<b>Items</b>	<b>Action</b>
<p>Seismic Proof Testing, B. Maroney stated, it's a redundant test because the full-size load test was already performed.</p> <ul style="list-style-type: none"><li>○ B. Maroney noted he had further discussion with the expert review panel since the July workshop. On a September 11, 2015 conference call, B. Maroney went through his recommendations list from the Action Plan and asked if the panel supported this, as documented in the minutes from that meeting. The group in general had consensus, but did note that they needed proof analytically and in a mock-up.</li><li>● M. Dougherty, Caltrans Director, motioned to approve item C (analysis of galvanizing and micro indication) - \$685,000 COS, item D (investigation of thread stripping, nut diameter and thread pitch) - \$250,000 COS, item F (seismic analysis and sensitivity study) - \$850,000 COS, item G1 (tower anchor rods repair mock-up) - \$750,000 CO and item G2 (tower anchor rods repair mock-up) - \$873,000 COS from the Action List from July 2015 Workshop recommendations list and defer action on the items G3 and G4 (tower anchor rod mitigation work) to later, pending results of the approved tests and analysis.</li><li>● The Chair was in agreement to perform seismic analysis and sensitivity study but did not agree with Items C, D and G (included in the motion). What matters is determining how many rods you need and how many you need to repair. As of right now there are 421 functioning rods as expected. The Chair did not support the motion.</li></ul> <p>b. Yerba Buena Island Transition Span 2 Contract Construction Update Steven Whipple, Caltrans District 4 SFOBB Principal Construction</p>	<ul style="list-style-type: none"><li>● The TBPOC approved item 5a SAS Tower Anchor Rod Investigation motion (2-1). M. Dougherty motioned, W. Kempton seconded the motion. Yes –W. Kempton, M. Dougherty. NO –S. Heminger.</li></ul>

**(Continued)**

<b>Items</b>	<b>Action</b>
<p>Manager, presented an update focusing on the Coast Guard license started in July and an amendment. Discussion included the current license valid through 2016, and anticipation that the YBITS2 contract will not complete until 2017.</p> <p>c. Bike Path/Pedestrian Access to YBI</p> <ul style="list-style-type: none"><li>• Andrew Fremier, BATA Deputy Executive Director, introduced the item. There was a presentation by WMH on the concept for access to YBI, including public access and amenities, surrounding construction activity and UC Coast Guard Quarters 8 and 9 with an associated preliminary schedule and cost estimate.</li><li>• M. Dougherty discussed an alternative plan and Dan will need to follow up with Bijan.</li></ul> <p>d. Demolition Contracts</p> <ol style="list-style-type: none"><li>1. 504/288 Spans Demolition<ul style="list-style-type: none"><li>• S. Whipple, noted the schedule is still on time.</li></ul></li><li>2. Pier E3 Demolition Contract<ul style="list-style-type: none"><li>• Deanna Vilcheck, Caltrans District 4 Area Construction Manager, provided an update on the Pier E3 Demolition Contract and the upcoming implosion activities. Discussion included drilling for insertion of charges should be complete this week. The selected date is Saturday, November 7, morning. If there should be any mammals present in the area, the next opportunity would be later the same day. Two more opportunities exist on Sunday (high and low slack tide), with a final chance on Monday. All permits are in hand.</li><li>• The Chair congratulated the team on getting all the permits on time.</li></ul></li><li>3. Pier E3 Permits Update<ul style="list-style-type: none"><li>• Melanie Brent, Caltrans District 4</li></ul></li></ol>	

**(Continued)**

<b>Items</b>	<b>Action</b>
<p>Deputy District Director Environmental Planning and Engineering requested approval for supplemental capital outlay support funding of \$1,263,000 for Environmental A&amp;E and supplemental capital outlay support of \$898,000 for Water Quality A&amp;E (total COS request of \$2,161,000) to meet monitoring requirements of the Pier E3 Demolition permits.</p> <ul style="list-style-type: none"><li>• W. Kempton motioned to increase the COS budget to \$22,280,000 for the purposes of funding the environmental requirements.</li></ul> <p>4. Demolition Cost Review</p> <ul style="list-style-type: none"><li>• This item will be presented in November.</li></ul> <p>e. Documentation</p> <p>1. E2/T1 Foundation Construction Contract Quality Assurance/Quality Control Documentation</p> <ul style="list-style-type: none"><li>• Staff looked through records of E2/T1 contract.</li></ul> <p>f. Bridge Maintenance Peer Review</p> <ul style="list-style-type: none"><li>• A. Fremier introduced the Bridge Maintenance Peer Review item and presenters and lead authors, Leif J. Vincentsen, Managing Director M.Sc., Sund &amp; Bælt Partner A/S, Denmark and Barry Colford former Chief Engineer and Bridge Master, Forth Road Bridge (now with AECOM complex bridge division), as well as Ken Brown, Caltrans Supervising Bridge Engineer, Division of Structure Maintenance and Investigations (Toll Bridges).</li><li>○ The International Cable Supported Bridge Operators Association (ICSBOA) ESFOBB Bridge Maintenance report does not include any opinions on the tower anchor rods.</li><li>• L. Vincentsen and B. Colford presented their peer review of the ESFOBB</li></ul>	<ul style="list-style-type: none"><li>• TBPOC members approved (2-1) agenda item 5d3 (Pier E3 Permits Update) for the work to proceed but with only an approved supplemental capital outlay support (COS) fund amount of \$280,000 versus the total request for COS supplemental funding of \$2.161 million for Environmental and Water Quality A&amp;E expertise required due to permit amendments. (Total approved = \$280,000 COS). W. Kempton motioned, S. Heminger seconded the motion. Yes –W. Kempton, S. Heminger. NO – M. Dougherty.</li><li>• E2/T1 Foundation Construction Contract Quality Assurance/Quality Control Documentation to be on the November TBPOC agenda.</li></ul>

**(Continued)**

<b>Items</b>	<b>Action</b>
<p>inspection and maintenance. Discussion included strategic complex bridge management, use of engineering manual, recommendations for inspection and maintenance regimes, access provisions, structural health monitoring (SHM) system and acoustic monitoring system, dehumidification system installation, risk-based inspection regime, more inspection of construction remedial work and repairs, replacement procedures for parts with shorter service life (bearing, expansion joints, electrical, mechanical, suspenders), documentation and record keeping.</p> <ul style="list-style-type: none"><li>○ K. Brown commented that at the time of design of ESFOBB SAS, dehumidification was unproven. Caltrans chose a physical protection system to protect the cable. At the same time it was the first in the US to have dehumidification in certain locations of the bridge.</li><li>○ K. Brown commented that the ICSBOA recommendations are on every bridge owners mind and nothing in the report is surprising to those that work on long span bridges.</li><li>○ B. Colford clarified that dehumidification is not an immediate recommendation, but the sooner it's done the less risk there is in the future of deterioration; there is no immediacy for a brand new bridge.</li><li>● The Chair requested an update on the dehumidification in place in the anchorages. K. Brown updated that it was dry at the anchorages in the deck when he was out there earlier that day.</li><li>● The Chair discussed that next steps for the ESFOBB Bridge Maintenance Report would be for Caltrans and BATA to coordinate and update the BATA Oversight Committee.</li><li>● K. Brown discussed that at some point</li></ul>	

(Continued)

<b>Items</b>	<b>Action</b>
<p>the bridge would need a maintenance traveler or cable crawler to perform maintenance work on the bridge. Caltrans has been able to complete inspections on the bridge including the completion of the bi-annual inspection on the ESFOBB. CT does perform a risk analysis and recognizes there are areas more critical to target for inspection on a more frequent basis.</p>	
<p><b>6. OTHER BUSINESS</b></p> <p>a. Report on matters discussed and actions taken at Urgent Meeting</p> <ul style="list-style-type: none"><li>• NA</li></ul> <p>b. Report on matters discussed and actions taken during Executive Session</p> <ul style="list-style-type: none"><li>• NA</li></ul> <p><u>Next TBPOC Meeting</u></p> <ul style="list-style-type: none"><li>• The next TBPOC regular meeting is on November 10th.</li></ul>	
<p><b>7. GENERAL PUBLIC COMMENT</b></p> <ul style="list-style-type: none"><li>• Public comment #1 – Dave Williams commented on his appreciation to hear about the maintenance peer review and his comments included discussion of risk based analysis, stability analysis, and failure modes effect and criticality approach.</li></ul>	

Adjourned: 5:30 PM

***(Continued)***

**TBPOC REGULAR MEETING MINUTES**  
October 13, 2015, 2:30pm – 4:30pm

**APPROVED BY:**

\_\_\_\_\_  
**STEVE HEMINGER**, TBPOC Chair  
Executive Director, Bay Area Toll Authority

\_\_\_\_\_  
Date

\_\_\_\_\_  
**WILL KEMPTON**  
Executive Director, California Transportation Commission

\_\_\_\_\_  
Date

\_\_\_\_\_  
**MALCOLM DOUGHERTY**  
Director, California Department of Transportation

\_\_\_\_\_  
Date

**TO:** Toll Bridge Program Oversight Committee (TBPOC)

**DATE:** December 10, 2015

**FR:** Dan McElhinney, Chief Deputy District Director, Caltrans District 4

**RE:** Agenda No. - 2b

Item- FHWA 2015 Annual Update to the Financial Plan

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**Recommendation:**

DELEGATED APPROVAL TO PMT TO FINALIZE AND SUBMIT

**Cost:** N/A

**Schedule:** N/A

**Discussion:**

The Department submits for approval a final draft of the 2015 Annual Update to the Finance Plan of the San Francisco - Oakland Bay Bridge East Span Seismic Safety Project prepared for Federal Highway Administration (FHWA). This annual update is submitted to FHWA by the Department in accordance with the requirements of Section 1305 (b) of the Transportation Efficiency Act for the 21st Century, and Title 23 United States Code, Section 106 (h).

The San Francisco-Oakland Bay Bridge (SFOBB) East Span Seismic Safety Project (ESSSP) is a recipient of Federal financial assistance with an estimated total cost of \$500,000,000 or more and is required submit an annual financial plan.

The current draft of the plan incorporates budgets and forecasts based on the 2015 3rd Quarter Program Progress Report issued by the TBPOC in November. As the final report is pending a final pro forma financial projection (Table 3 in the report), staff seeks delegated approval of the report to the Program Management Team based on the current draft report.

**Attachment:**

- 1) Draft 2015 Annual Update to the Finance Plan of the San Francisco – Oakland Bay Bridge East Span Seismic Safety Project

**2015 ANNUAL UPDATE TO THE FINANCE PLAN  
OF THE SAN FRANCISCO – OAKLAND BAY BRIDGE EAST SPAN SEISMIC SAFETY  
PROJECT**

This annual update is submitted by the California Department of Transportation (Department) in accordance with the requirements of Section 1305 (b) of the Transportation Efficiency Act for the 21st Century, and Title 23 United States Code, Section 106 (h).

### **Introduction and Summary**

The San Francisco-Oakland Bay Bridge (SFOBB) East Span Seismic Safety Project (ESSSP) is part of the \$8.685 billion Toll Bridge Seismic Retrofit Program (TBSRP). The TBSRP was established to finance the retrofit or replacement of seven state-owned toll bridges. The funding plan for the TBSRP was established by Senate Bill (SB) 60 in 1997, Assembly Bill (AB) 1171 in 2001, and AB 144/SB 66 in 2005.

AB 144 established a comprehensive financial plan for the TBSRP, including the consolidation and financial management of all toll revenues collected on the state-owned toll bridges in the San Francisco Bay Area under the jurisdiction of the Bay Area Toll Authority (BATA). The bill provides \$630 million in additional state funds and authorizes BATA to increase tolls on the Bay Area state-owned toll bridges by at least an additional \$1.00 on January 1, 2007 to provide adequate funding to complete the TBSRP.

In addition, AB 144 and SB 66 significantly strengthen the program and project oversight activities for the TBSRP. The bills created the Toll Bridge Program Oversight Committee (TBPOC) to implement project oversight and control processes for the TBSRP. The TBPOC is comprised of the Director of the Department of Transportation (Caltrans), the Executive Director of BATA, and the Executive Director of the California Transportation Commission (CTC). The TBPOC's program oversight activities include review and approval of contract bid documents, review and resolution of project issues, evaluation and approval of contract change orders and claims, and the issuance of monthly and quarterly progress reports.

Under AB 144, the baseline budget to retrofit or replace the seven state-owned toll bridges was set at \$7.785 billion and a \$900 million program contingency, for a total program budget of \$8.685 billion. The bill reaffirms the self-anchored suspension design for the SFOBB East Span connector.

In January 2010, the seismic retrofit of the Antioch and Dumbarton bridges were added to the Toll Bridge Seismic Retrofit Program per AB 1175. Based on AB 1175, the budget for the seismic retrofit of these two bridges is \$750 million. The total budget for AB 1171/AB 144/AB 1175 is \$9.435 billion. See *Table 1 – Toll Bridge Seismic Retrofit Program Financial Status – Program Budget*.

## Program Budget

AB 1171/AB 144/AB 1175 established a funding level of \$9.435 billion for the TBSRP. The entire program is financed through a combination of toll revenues, federal, state and local funds. See *Table 1 - Toll Bridge Seismic Retrofit Program Financial Status –Program Budget*.

Program Budget as of September 30, 2015 (\$ Millions)		
	Budgeted	Funding Available & Contributions
<b>Financing</b>		
Seismic Surcharge Revenue AB 1171	\$2,282	\$2,282.0
Seismic Surcharge Revenue AB 144	\$2,150	\$2,150.0
Seismic Surcharge Revenue AB 1175 <sup>(2)</sup>	\$750	\$750.0
BATA Consolidation	\$820	\$820.0
<b>Subtotal - Financing</b>	<b>\$6,002</b>	<b>\$6,002.0</b>
<b>Contributions</b>		
Proposition 192	\$790	\$789.0
San Diego Coronado Toll Bridge Revenue Fund	\$33	\$33.0
Vincent Thomas Bridge	\$15	\$6.9
State Highway Account <sup>(1)</sup>	\$745	\$745.0
Public Transportation Account <sup>(1)</sup>	\$130	\$130.0
ITIP/SHOPP/Federal Contingency <sup>(3)</sup>	\$448	\$448.0
Federal Highway Bridge Replacement and Rehabilitation (HBRR) <sup>(3)</sup>	\$642	\$642.0
SHA - East Span Demolition	\$300	\$300.0
SHA - "Efficiency Savings"	\$130	\$130.0
Redirect Spillover	\$125	\$125.0
Motor Vehicle Account	\$75	\$75.0
<b>Subtotal - Contributions</b>	<b>\$3,433</b>	<b>\$3,423.9</b>
<b>Total Funding</b>	<b>\$9,435</b>	<b>\$9,425.9</b>
<b>Allocated to Date</b>		<b>\$8,636.3</b>
<b>Remaining Unallocated</b>		<b>\$789.6</b>
<b>Expenditures</b>		
Capital Outlay		\$6,606.5
State Operations		\$1,828.5
Antioch and Dumbarton Expenditures by BATA		\$12.2
<b>Total Expenditures</b>		<b>\$8,447.2</b>
<b>Encumbrances</b>		
Capital Outlay		\$183.9
State Operations		\$5.2
<b>Total Encumbrances</b>		<b>\$189.1</b>
<b>Total Expenditures and Encumbrances</b>		<b>\$8,636.3</b>

<sup>(1)</sup> The California Transportation Commission adopted a new schedule and changed the PTA/SHA split on December 15, 2005.

<sup>(2)</sup> As of January 1, 2010, seismic retrofitting of Antioch and Dumbarton Bridges became part of the Toll Bridge Seismic Retrofit Program with the passage of AB 1175.

<sup>(3)</sup> The Skyway contract is the only contract in the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project with federal funds. The Federal Aid Project No. is 0801(090) for the amount of \$321,645,209.22.

Of the \$9.435 billion budgeted for the TBSRP, \$8,636.3 million has been allocated, and \$8,447.2 million has been expended as of September 30, 2015.

In December 2005, CTC adopted a schedule of contributions to pledge state fund contribution to the financing of the TBSRP per BATA's adopted finance plan of the Toll Bridge Seismic Retrofit Program. See *Table 2 - Schedule of Contributions to the Toll Bridge Seismic Retrofit Program*. To date all funds identified in Table 2 have been transferred to BATA.

Table 2 - Schedule of Contributions to the Toll Bridge Seismic Retrofit Program (\$ in Millions)

Source	Description	2005 - 06 (Actual)	2006 - 07 (Actual)	2007 - 08 (Actual)	2008 - 09 (Actual)	2009 - 10 (Actual)	2010 - 11 (Actual)	2011 - 12 (Actual)	2012 - 13 (Actual)	2013 - 14 (Actual)	Total
AB 1171	SHA	290									290
	PTA	80	40								120
	Highway Bridge Replacement and Rehabilitation (HBRR)	100	100	100	42						342
	Contingency				1	99	100	100	148		448
AB 144	SHA*	2	8				53	50	17		130
	Motor Vehicle Account (MVA)	75									75
	Spillover		125								125
	SHA**									300	300
		547	273	100	43	99	153	150	165	300	1830

\* Caltrans Efficiency Savings

\*\* SFOBB East Span Demolition Cost

\*\*\* Actual as of September 2015

## Program Financing and Cash Flow Projections

AB 144 consolidated the administration of all toll revenues collected on the state-owned Bay Area toll bridges and financing of the TBSRP under the jurisdiction of the BATA. BATA has direct programmatic responsibilities for the administration of all toll revenues collected on the state-owned bridges in the Bay Area and responsibilities for financial management of the TBSRP, including:

- Administrative responsibility for collection and accounting of all toll revenues.
- Authorization to increase tolls on the state-owned bridges by \$1.00, effective no sooner than January 1, 2007.
- Project level toll setting authority as necessary to cover additional cost increases beyond the funded \$900 million program contingency in order to complete the toll bridge seismic retrofit program.
- Assumption of funding all of the roadway and bridge structure maintenance from Caltrans once bridge seismic retrofit projects are completed.

In accordance with its responsibilities provided under the law, in September 2005, BATA adopted a finance plan for the TBSRP. The major components of the finance plan include:

- Issuing \$6.2 billion in debt, including defeasance of \$1.5 billion in outstanding State Infrastructure Bank bonds and commercial paper;
- Increasing tolls on the state-owned bridges by \$1.00 (from \$3.00 to \$4.00 for two-axle vehicles), effective January 1, 2007;
- Securing the maximum amount of state funding early in the construction schedule to most efficiently use toll funds (see discussion below); and,
- Locking in historically low interest rates to the extent possible in order to improve the chances that the entire toll program construction and the operations and maintenance can be delivered within the \$4.00 auto toll level.

In September 2005, BATA approved a Finance Plan for the TBSRP and other toll bridge improvement programs dependent on toll revenues from the state-owned bridges. The finance plan calls for \$6.2 billion in new debt issuances, including defeasance of the existing outstanding I-Bank bonds. Consistent with the finance plan, in December 2005, BATA approved the issuance of up to \$1.0 billion of 2006 toll bridge revenue bonds. The bond issuance will provide adequate cash flow to fund the SAS contract for the ESSSP, which was awarded on May 3, 2006.

Furthermore, in March 2006, BATA approved the issuance of \$1.3 billion in bonds to defease the I-Bank bonds approved in October 2005. Additionally, pursuant to the law, BATA held two public hearings, one in October and one in November 2005, to receive public testimony regarding the proposed \$1.00 seismic surcharge toll increase beginning on January 1, 2007 on the state-owned toll bridges in the Bay Area. BATA approved the toll increase on January 25, 2006.

Furthermore, SB 66, enacted on September 29, 2005, appropriates \$75 million of specified Motor Vehicle Account funds and \$125 million of other specified state funds for state-owned toll bridges in the Bay Area. These funds have already been transferred to the Toll Bridge Seismic Retrofit Account.

Furthermore, AB 1175, enacted on January 1, 2010, added the seismic retrofit of the Antioch and Dumbarton bridges to the TBSRP. BATA has taken action to raise tolls on the state-owned Bay Area toll bridges to fund these projects. The toll increases went into effect in the summer of 2010. These increases include tolls for carpoolers and congestion pricing on the Bay Bridge. The total budget for the seismic retrofit of these two bridges per AB 1175 is \$750 million.

The following pro forma financial statement projects the financial operations and results for BATA for fiscal years 2016-2023. See *Table 3 – Bay Area Toll Authority Pro Forma Financial Projections*.

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*Place Holder for BATA Pro Forma Financial Projection*

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## Project Description

The SFOBB ESSSP is seismically retrofitted through the complete replacement of the original east span. The project includes construction of the Skyway portion of the bridge, which consists of two parallel concrete structures, each approximately 1.3 miles in length; an SAS bridge consisting of a 510-foot tower supporting a bridge deck connecting the Skyway to Yerba Buena Island Transition Structures (YBITS) on YBI and on the Oakland Touchdown portion on the east end of the bridge connecting the bridge to the toll plaza area; and the demolition of the original east span after the new bridge is completed. Many contracts have been created to facilitate construction staging.

The SFOBB ESSSP currently consists of 22 contracts. Seventeen contracts are complete, three contracts are in construction and two contracts in the design phase.

## Current Status

The current 22 contracts for SFOBB ESSSP are identified below:

Seventeen contracts are complete:

- Interim Retrofit (Original Bridge)
- East Span Retrofit (Original Bridge)
- Pile Installation Demonstration
- OTD Geofill
- YBI Archaeology
- United States Coast Guard (USCG) Road Relocation on YBI
- SAS Land Foundations (W2)
- YBI Electrical Substation
- OTD Submarine Cable
- Skyway
- SAS Marine Foundations (E2/T1)
- Stormwater Treatment Measures
- OTD Contract 1
- South/South Detour
- SAS
- YBITS No.1
- OTD Contract 2

Three contracts are under construction:

- YBITS No.2 including the dismantling of the Cantilever Section ( 65% complete as of September 2015)
- E3 Foundation Implosion
- Dismantling of the 504'/288' Superstructures

Two contracts are in the Design Phase:

- YBITS No.3 Landscape contract
- Dismantling of the Remaining Marine Foundations (CM/GC)

The funding previously reserved under the OTD Electrical System was distributed to the contracts where the installation had taken place.

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## Project Timeline/Implementation Plan

On September 2, 2013, the new East Span of the San Francisco-Oakland Bay Bridge opened to traffic and seismic safety was achieved. However, construction activities on SAS, YBITS No.1, YBITS No.2 and OTD No. 2 contracts continue beyond the opening of the new East Span. At the time of this update, construction of the SAS, the YBITS No.1, and the OTD No.2 contracts are complete. For the YBITS No.2 contract, construction activities are to build the new EB on-ramp to Route 80, and to restore the local roads on YBI that are impacted by the construction of the new East Span. At the end of the third quarter of 2015, the demolition of the Cantilever segment (included in the YBITS No.2 contract) is completed. The E3 foundation implosion demonstration was done on November 14, 2015. The removal of the remaining marine foundations is progressing. It is expected to be complete in 2019; thereby, the delivery of the TBSRP. See *Table 4 – SFOBB ESSSP Baseline and Projected Schedule Summary*.

Table 4 - SFOBB ESSSP Baseline and Projected Schedule Summary.

Contract	AB 144/SB 66 Baseline Project Completion Date ( a )	Approved Changes (Months) ( b )	Current Approved Schedule ( c ) = ( a ) + ( b )	3rd Quarter 2015 Forecast Project Completion date ( d )	Variance (Months) ( e ) = ( d ) - ( c )
Skyway	April 2007	8	December 2007	December 2007	
SAS Marine Foundation	June 2008	(5)	January 2008	January 2008	
SAS Superstructure	March 2012	33	December 2014	September 2015	9
YBI Detour	July 2007	39	October 2010	October 2010	
YBI Transition Structures (YBITS)	November 2013	43	June 2017	October 2017	4
YBITS 1			February 2014	February 2014	
YBITS 2			June 2017	October 2017	4
Oakland Touchdown	November 2013	10	September 2014	September 2015	12
OTD1			June 2010	June 2010	
OTD 2			September 2014	September 2015	12
Submarine Cable			January 2008	January 2008	
Existing Bridge Demolition	September 2014	42	March 2018	December 2019	21
Stormwater Treatment Measures	March 2008		March 2008	March 2008	
Westbound Open	September 2011	27	December 2013	September 2013	(3)
Eastbound Open	September 2012	15	December 2013	September 2013	(3)

For additional information regarding the Implementation Plan, see *Attachment 1 - San Francisco Bay Area, Toll Bridge Seismic Retrofit and Regional Measure 1 Programs – 2015 Third Quarter Project Progress and Financial Update*.

## Cost Estimate

### TBSRP Reporting

The Department, together with the TBPOC, uses three primary measures to monitor and report the financial status of the SFOBB ESSSP: the Baseline Budget established by California AB 144 of 2005, the current TBPOC Approved Budget, and the current Forecast Cost.

### Baseline Budget

The budget established when AB 144 became law in July 2005 was the baseline budget.

### Forecast Cost

The TBSRP forecast cost at completion depends on the quality of plans, contractor's performances, construction administration and effectiveness of implementing risk mitigation measures. Consequently, the Department has undertaken a probabilistic assessment of the expected program cost at completion. Quantitative cost risk analyses associated with TBSRP Capital Outlay (CO) and Capital Outlay Support (COS) are reported in the Quarterly Risk Management Report (QRMR) and considered in the TBPOC's cost forecasts.

### Cost History

The AB 144/SB 66 baseline budget for the Toll Bridge Program established in 2005 is \$8,685 million with \$900 million in Program Contingency. In 2010 with the passage of AB 1175, additional \$750 million was added to the TBSRP Budget. Since then, TBPOC made a series of reductions to the Approved Program Budget. Currently, the TBPOC Approved Program Budget is \$8,952 million, \$8,685 million from AB 144/SB 66 and \$267 million from AB 1175. The Program Contingency Balance at the end of the 3<sup>rd</sup> Quarter 2015 is \$135.2 million.

The AB 144/SB 66 baseline budget for SFOBB ESSSP is \$5,486.6 million with \$959.3 million in COS and \$4,527 million in CO. The current TBPOC approved budget was \$6,397.0 million, an increase of \$910.4 million from the AB 144/SB 66 baseline budget. The 3<sup>rd</sup> Quarter 2015 forecast of the SFOBB ESSSP is \$6,632.1 million. The additional budget is funded by redirecting project savings from the Richmond-San Rafael Bridge, savings from other completed contracts within the East Span, and from the program contingency. See *Table 5 - Toll Bridge Seismic Retrofit Program, Cost History*.

Table 5 - Toll Bridge Seismic Retrofit Program, Cost History (\$ in Millions)

Contract a	AB 144/ SB 66 Budget b	Approved Changes c	Current Approved Budget d = b + c	3rd Quarter 2015 Forecast f	Variance g = f - d
<b>Completed Projects</b>					
Benicia-Martinez	177.8	0.0	177.8	177.8	0.0
Carquinez	114.2	0.0	114.2	114.2	0.0
San Mateo-Hayward	163.5	-0.1	163.4	163.4	0.0
Vincent Thomas	58.5	-0.1	58.4	58.4	0.0
San Diego-Coronado	103.5	-0.9	102.6	102.6	0.0
SFOBB West Span	307.9	-5.7	302.2	302.2	0.0
Richmond-San Rafael	914.0	-97.5	816.5	794.5	-22.0
SFOBB West Approach	429.0	40.7	469.7	457.4	-12.3
Antioch		70.8	70.8	70.8	0.0
Dumbarton		114.2	114.2	113.6	-0.6
<b>Ongoing Projects</b>					
SFOBB East Span	5,486.6	910.4	6,397.0	6,632.1	235.1
Capital Outlay Support	959.3	346.2	1,305.5	1,373.6	68.1
Capital Outlay	4,527.3	564.2	5,091.5	5,258.5	167.0
Skyway	1,293.0	-55.8	1,237.2	1,237.2	0.0
SAS Superstructure	1,753.7	293.1	2,046.8	2,048.2	1.4
SAS E2/T1 Foundations	313.5	-38.7	274.8	274.8	0.0
YBI South/South Detour	131.9	341.4	473.3	473.3	0.0
YBI Structures	299.3	0.1	299.4	324.5	25.1
YBITS 1			203.7	202.9	-0.8
YBITS 2			92.4	118.3	25.9
YBITS 3			3.3	3.3	0.0
Oakland Touchdown	283.8	46.8	330.6	329.0	-1.6
OTD Submarine Cable			5.7	5.7	0.0
OTD Westbound			205.3	205.3	0.0
OTD Eastbound			72.6	71.1	-1.5
OTD2 Detour			47.0	46.9	-0.1
OTD Electrical Systems			0.0	0.0	0.0
Existing Bridge Demolition	239.2	7.3	246.5	392.4	145.9
Dismantling the Cantilever Section			69.0	65.0	-4.0
Dismantling the 504'/288' Superstructures			103.5	109.6	6.1
Dismantling the Marine Foundations				217.8	217.8
Stormwater Treatment Measures	15.0	3.3	18.3	17.3	-1.0
East Span Completed Projects	90.4	-0.5	89.9	90.5	0.6
Right-of-Way and Environmental Mitigation	72.4	0.0	72.4	69.0	-3.4
Other Budgeted Capital	35.1	-32.8	2.3	2.3	0.0
Miscellaneous Program Costs	30.0	0.0	30.0	30.0	0.0
<b>Subtotal TBSRP (CO and COS)</b>	<b>7,785.0</b>	<b>1,031.8</b>	<b>8,816.8</b>	<b>9,017.0</b>	<b>200.2</b>
Net Programmatic Risks				78.2	78.2
Program Contingency	900.0	-764.8	135.2	-143.2	-278.4
<b>TOTAL</b>	<b>8,685.0</b>	<b>267.0</b>	<b>8,952.0</b>	<b>8,952.0</b>	<b>0.0</b>

Note: \*The Skyway contract is the only contract in the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project with federal funds.

The Federal Aid Project No. is 0801(090) for the amount of \$321,645,209.22.

\*\*Decimal may not sum to totals due to rounding effects.

## Summary of Significant Cost Change

The TBSRP Quarterly Report includes a discussion of the status of TBSRP projects and financial information consisting of baseline costs and forecast costs. The TBSRP Quarterly Report currently includes a discussion of risks and the adequacy of Program Contingency provided by Risk Management.

Caltrans continuously evaluates project and contract cost forecasts. The forecast as of September 30, 2015, the AB 144/SB 66 baseline budget, and the TBPOC approved budget are shown in *Table 5 - Toll Bridge Seismic Retrofit Program, Cost History*.

The significant cost changes since AB 144/SB 66 became law are:

- Since the commencement of the YBITS No.1 contract, the TBPOC approved a series of Contract Change Orders (CCO) for the YBITS No.1 contract. These CCO's were to facilitate achieving seismic safety as soon as possible. The current TBPOC approved CO budget is \$203.7 million, an increase of \$59.7 million above the original budget of \$144 million.
- To mitigate any potential schedule risk, it was proposed that the OTD Detour be built in advance (in 2011) rather than have it built later under the OTD No.2 contract. In the first quarter of 2011, the TBPOC approved the budget to advance the construction of the OTD Detour. The original approved CO budget for the OTD Detour was \$51 million and was revised to \$47 million, the approved COS budget is \$15 million. The current forecast for the OTD Detour is \$46.9 million.
- In the third quarter of 2010, the TBPOC approved a revised CO budget for the SAS. The additional \$293.1 million will facilitate the execution of significant change orders to resolve outstanding contract issues and to provide incentives for accelerating the opening of the new bridge. The revised budget is \$2,046.8 million. The current forecast for the SAS is \$2,048.2 million. This forecast includes work require to fix the failed bolts connecting the E2 bearings to Pier E2.
- A decrease of \$55.8 million in the AB 144 contract budget for the Skyway contract due to savings after contract closeout. The construction was completed in 2008.
- A decrease of \$38.7 million in the budget for the SAS Marine Foundation (E2/T1) contract due to savings after contract closeout. The construction was completed in 2008.
- In June 2008, the TBPOC approved a number of changes to the YBI South/South Detour (SSD) contract to better integrate the detour work into the current project schedule and to reduce overall project risks. These changes will mitigate risks related to the tie-in of the detour viaduct to the existing viaduct as well as mitigate the overall schedule risks. The current TBPOC approved contract budget is \$473.3 million, an increase of \$341.4 million over the AB 144/SB 66 baseline budget.
- On March 13, 2014, TBPOC approved CCO 63 that will facilitate the early completion of work for the dismantling of the Cantilever section and also allow the Department to sequence

the remaining work on the contract. The current TBPOC approved budget is \$246.5 million, a net increase of \$7.3 million over the \$239.2 million under AB 144.

All of the approved cost increases discussed above can be funded from a combination of savings from closeout contracts (Richmond-San Rafael, Skyway, and SAS Marine Foundation, OTD No.1, South-South Detour), and also from the program contingencies.

For additional information, please refer to *Appendix B - TBSRP East Span Only AB 144/SB66 Baseline Budget, Forecasts, and Expenditures through September 30, 2015*, pages 44 - 47 in the *Attachment 1– San Francisco Bay Area, Toll Bridge Seismic Retrofit and Regional Measure 1 Programs, 2015 Third Quarter Project Progress and Financial Update*.

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## SFOBBESSSP Risk Management

Caltrans continues to implement comprehensive risk management on all SFOBB ESSSP contracts in accordance with AB 144. Currently, Caltrans, CTC and BATA have embarked on an initiative to manage risk jointly. Risk response efforts continue to focus on encouraging low bids for future contracts and mitigating the estimated cost and schedule impacts of identified risks. Updates of these risk management activities are included in *Attachment 1 - San Francisco Bay Area, Toll Bridge Seismic Retrofit and Regional Measure 1 Programs, 2015 Third Quarter Project Progress and Financial Update*.

Cost and schedule risk management activities are ongoing for all contracts. The “bottom line” of cost risk analysis is whether the Program Reserve remains adequate to cover project risks. AB144 requires Caltrans to regularly assess the adequacy of the Program Reserve.

AB 144 set a \$900 million Program Reserve (also referred to as the Program Contingency). The TBPOC approved Program Contingency is at \$135.2 million as of the end of the third quarter 2015. Each contract has a contingency allowance within its budget. The sum of these contingency allowances is compared to the total of capital outlay, capital outlay support and program-wide risks. Any excess of the risks over the contingency allowances represents a potential draw on the Program Contingency (the reserve). As of the end of the third quarter 2015, the potential draw on Program Contingency ranged from about \$220 million to \$320 million, as shown in Figure 1.

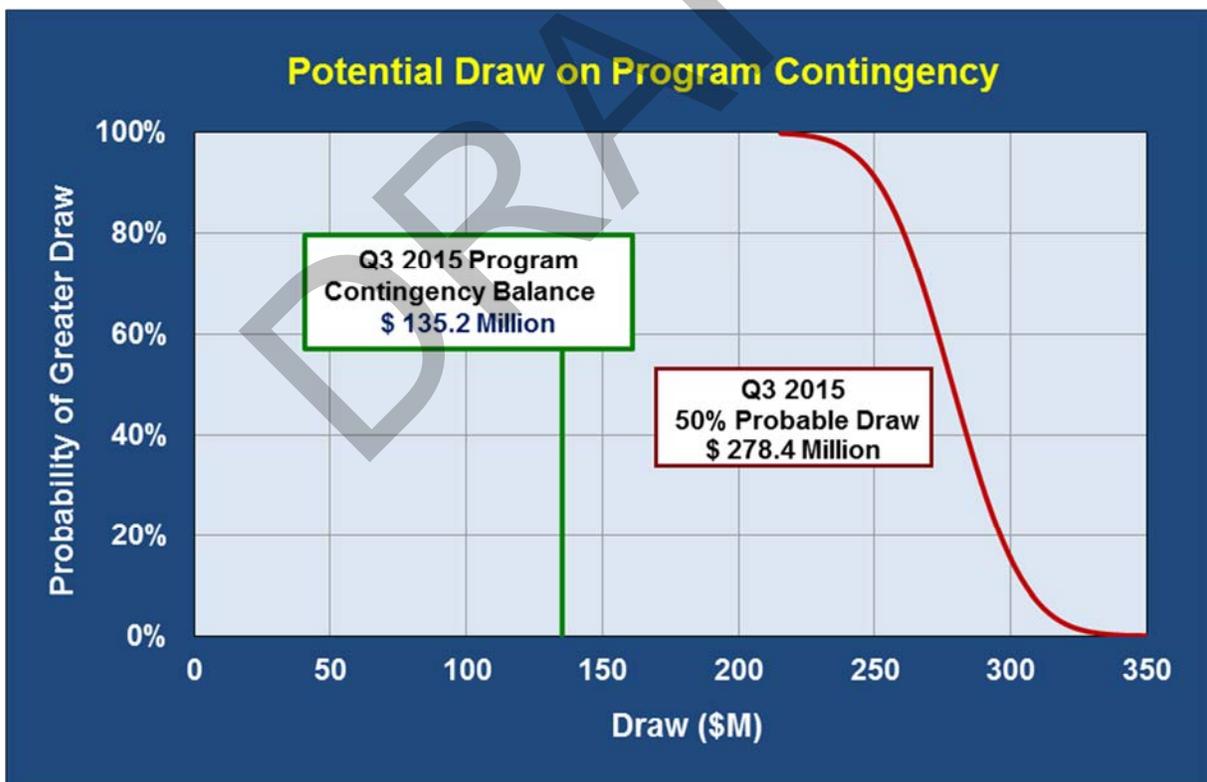


Figure 1. Potential Draw on Program Contingency

The Program Contingency is currently insufficient to cover the cost of identified risks and it is likely that a portion of the \$483 million that was transferred out of the program since 2010 will need to be reinstated to help pay for the remainder of the work.

Figure 2 shows the risk trend since 2007.

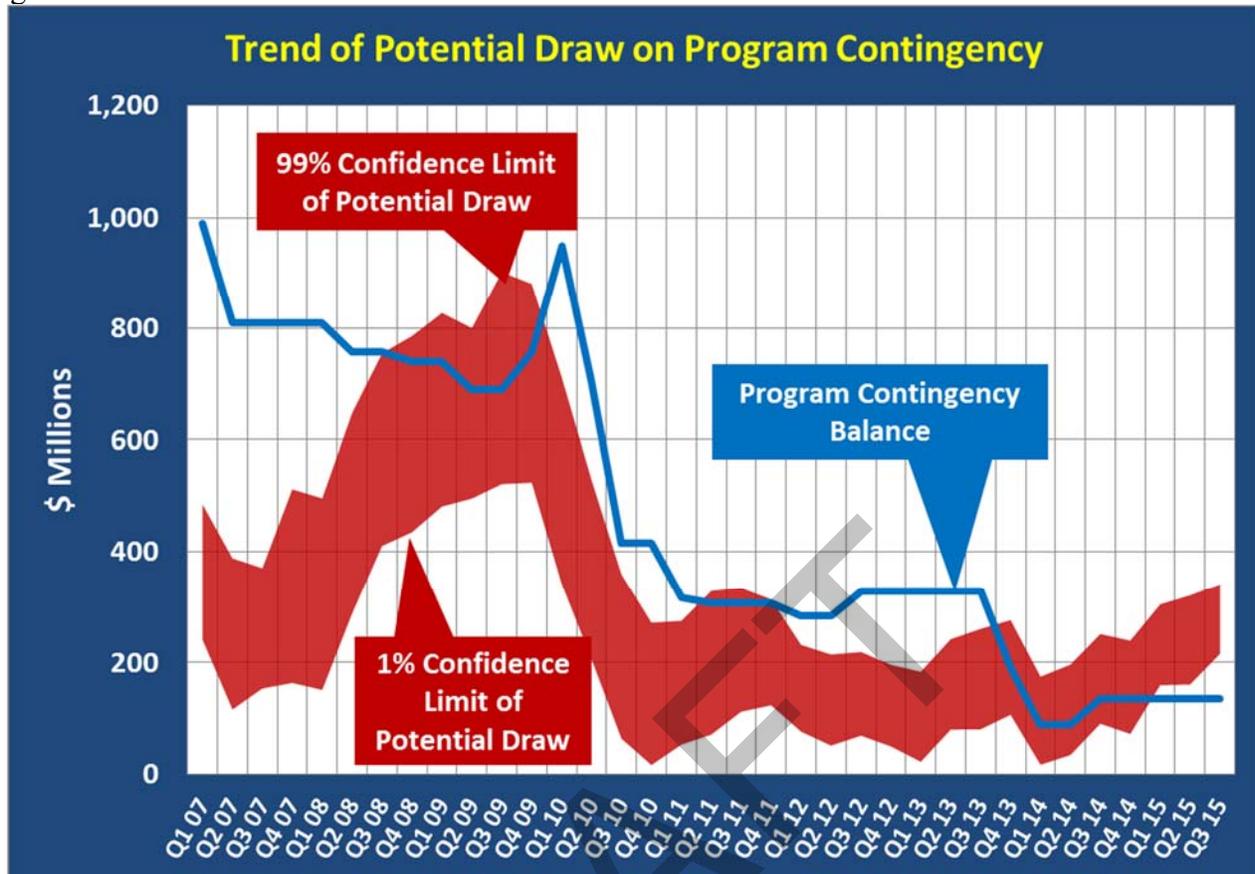


Figure 2. – Risk Trend

The solid red area depicts the range of the total cost of all capital outlay, capital outlay support and program-wide risks that are a draw on Program Contingency. Since the previous Financial Update, the range of the potential draw has shifted to higher levels while the Program Contingency balance has remained unchanged. As shown in Figure 2, the draw on program contingencies has been trending higher since the 1<sup>st</sup> Quarter 2013.

### Risk Management Milestones

The SAS contract was accepted in September 2015, with the project finishing within the \$2,047 million budget established in the 3<sup>rd</sup> Quarter 2010. The project team is now working to close out the project and resolve the \$49.2 million in exceptions to the proposed final estimate that the Contractor submitted on November 9, 2015.

The OTD #2 contract was also accepted in September 2015 and the project team expects to resolve all matters with the Contractor and close out the projects in early 1<sup>st</sup> Quarter 2016.

The YBITS #2 contract has completed dismantling the cantilever truss of the old bridge, and handed over the E3 footing to the Marine Foundations Contractor on schedule in July 2015. This is a year ahead of the program schedule and was a result of delay risk mitigation measures identified and enacted by the project team. Construction of the new eastbound on-ramp and the bike path continues and these facilities are due to open in the summer of 2016.

The two remaining dismantling contracts are underway: The contract for removal of the superstructure east of the cantilever was awarded in March and removal of the 1<sup>st</sup> 504' span is scheduled to occur in the 1<sup>st</sup> Quarter 2016. The foundation removal project was procured using the

Contract Manager/General Contractor (CM/GC) method, the 1<sup>st</sup> contract to demolish the E3 caisson footing was awarded in 2015 and the work was successfully completed by implosion on November 14<sup>th</sup> 2015.

## **Major Risks & Responses**

Risk identification, updating and mitigation activities are ongoing on all contracts in the project.

### **1. Tower Foundation Anchor Rods**

Many of the tower anchor rods were exposed to sea water and the investigation to determine the condition and strength of the rods continues. The scope of the testing is still under discussion and is likely to change as new information is obtained. The cost of the testing is paid from the Capital Outlay Support budget. However, there will be capital costs for a new construction contract for corrective actions when testing is completed. The scope of work is still undefined but the risk register carries a range of cost for this work.

### **2. Competitive Bids for 504'/288' Dismantling Project**

Entering 2015 one of the largest risks the program faced was the risk of not getting a competitive bid for the 504'/288' Dismantling project. In 2014 the project team scheduled a couple of constructability workshops to obtain contractors feedback on the project plans, specifications, estimate and schedule of the project. The contractors input was evaluated and changes were made to the contract to address their concerns. The project team looked at the feasibility of completing minor modifications to the 288' spans that would enable the trusses to be lowered onto barges or allow the structure to act like a continuous truss and thereby reduce or eliminate the need for falsework piles in the bay. These alternative means and methods were made known to all bidders and significantly helped reduce both the cost and schedule for the 504'/288' contract. And finally, a stipend was offered to the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> lowest responsive bidders to encourage competitive bidding. Four responsive bids were received and the low bid came in over 25% below the Engineer's estimate.

### **3. Project Permitting of Marine Foundation Removal**

The permitting of the marine structures removal is the most challenging portion of the Bay Bridge dismantling project, as it involves underwater work in the San Francisco Bay. The project needed to obtain various permits by October 2015 so as not to delay removal of the E3 foundation. Several risk responses were identified to address this issue, in particular, the project environmental team began consultation with the environmental agencies. In June of 2011 and in March 2014 the project team held workshops with all the regulatory agencies to present an advanced planning study that showed the feasibility of demolishing the deep marine foundations with controlled explosives. The agencies were supportive of the plan and agreed to help resolve permitting issues in a timely manner. A hydro acoustic specialist, in collaboration with the CMGC Contractor, developed the permitting documents related to the noise attenuation system that was used to dampen the sound/blast wave from a controlled explosion of the deep caissons. And finally, a water quality expert was also engaged addressing permitting concerns with underwater dismantling of the Marine Structures. The rigorous work by the various functional groups and the CMGC Contractor allowed the permit to be attained and the implosion was successfully carried out in November 2015. The information attained from the E3 demonstration implosion will be used to develop the permit request for the remainder of the marine foundation demolition work. It is anticipated that the data obtained from the E3 implosion

will help streamline the permitting process, as the demonstration project proved that the implosion demolition has the least environmental impact and is the most cost effective. The cost estimate for the removal of the remainder of the marine foundations is based on using implosion to dismantle all piers. If the implosion method is not permitted for the remainder of the marine foundations, the project will have to revert to conventional dismantling methods over \$60 million in additional costs over and above the Engineer's Estimate for the project.

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## Summary

The enactment of AB 144 provides the financing necessary to complete the TBSRP as quickly as possible. The bill required the Department and BATA to amend the cooperative agreement to incorporate certain oversight and control responsibilities of each agency. The bill also required the formation of a Toll Bridge Program Oversight Committee, comprised of the Director of the Department, the Executive Director of the BATA, and the Executive Director of the CTC.

All of these requirements have been met. In addition, AB 144 specifies BATA has financial control of the program while the Department has the responsibility for construction. The bill provides that any further cost increases must be paid by BATA.

BATA has the authority to increase tolls to fund these potential cost increases, if necessary. The bill gives BATA control of all three existing dollars and the new fourth dollar imposed on January 1, 2007.

In 2010 AB 1175 became law and the seismic retrofit of the Antioch and Dumbarton Bridges was added to the Toll Bridge Seismic Retrofit Program. The total Toll Bridge Seismic Retrofit Program budget from AB 144/SB 66 and AB 1175 is 9,435.0 million. As of September 30, 2015 the TBPOC Approved Program Budget is \$8,952.0 million and the approved budget for SFOBBESSSP is \$6,397.0 million. The demolition of the remaining marine foundation of the original East Span is expected to be completed in 2019.

No change in federal funds has occurred since the 2014 financial update. The Federal-aid used on the San Francisco-Oakland Bay Bridge Seismic Retrofit Project was on the Skyway contract, FPN 0801(090). The final authorized amount was \$323.0 million and the actual expenditure at contract closed out was \$321,645,209.22. The request to release the unused balance of \$1,354,790.78 was made in December 2012. No other federal funds will be used on this project in the future.

The following attachment incorporated by reference to this annual update:

*Attachment 1 - San Francisco Bay Area, Toll Bridge Seismic Retrofit and Regional Measure 1 Programs, 2015 Third Quarter Project Progress and Financial Update.*

**TO:** Toll Bridge Program Oversight Committee (TBPOC)                      **DATE:** December 10, 2015

**FR:** Dan McElhinney, Chief Deputy District Director, Caltrans District 4/  
Doanh Nguyen, Deputy District Director, Program Project Management, District 4

**RE:** Agenda No. - 3a  
Item- Program Budget/Risks Update for FY 15-16 (Capital Outlay/Capital Outlay  
Support/Risk Management)

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**Recommendation:**  
Information

**Cost:** TBD

**Schedule:** N/A

**Discussion:**

On July 20, 2015 the TBPOC requested the PMT and Department be more innovative and efficient this fiscal with a fiscal year budget set at \$22 million in support of ongoing contracts and the SAS tower anchor rod investigation, including reducing field construction staffing as well as A&E consultant support. In addition, the TBPOC asked that a contingency be built from the reduced budget. At the September 24, 2015 and October 13, 2015 TBPOC meetings, the Department provided updates on the East Span Seismic Safety Projects capital outlay support (COS) budget request and estimated expenditures based on the August 2015 COS budget action plan (see Attachment 1) which has no risk reserve or contingency budget included as directed. On October the TBPOC approved a supplemental funding for a FY COS Total Budget of \$24.88 million, with E3 implosion amended permit requirements and implosion activity cost increase a strong cost risk ahead.

Construction, Environmental, Design, Project Management, and Materials Testing managers are involved in managing their portion of the budget. Consultant firms on the team are also committed as well to be more efficient in delivering the workload and within more efficient task order budgets. This difficult change process is ongoing and is tracked and monitored closely by staffing unit and each contract to reduce risks, deliver quality more cost efficiently, and manage the total budget. Cost data available, though preliminary pending final invoices and quality checks, totals \$12.6 million COS expended through November 2015.

The project team is continuing to implement the August action plan to manage progress within the original budget and subsequent approved supplements. Higher efforts have been expected in the first half of the FY to close out SAS, tower anchor rod investigation, and to complete the implosion of the marine foundation E3. The expenditures through November reflect the

## *Memorandum*

significant efforts exerted, which resulted in the SAS close-out and successful E3 implosion, and totaled about sixty percent of the current available budget. Considerable cost risks/pressures remain present due to timely bike path fabrication in Korea, resolution of Marine Foundation Contract scope and CMGC contract bids, and environmental permit preparation and mitigation development for the next marine foundations removal of piers E4-E5.

Risk assessment indicates a potential need for additional FY budget supplement:

- The total FY expenditure through end of November 2015 is currently \$12.6M.
- The state staff and A&E support expenditures through end of November are approximately \$5.3M and \$7.3M, respectively.
- Added environmental A&E support work for the marine foundation demolition impacted the initial total budget about \$2 million additional, with invoices still pending.
- Risk assessment of projected workload is currently estimated at a need of \$3 - 3.5 million for this FY (\$28 million).

### **Attachments:**

1. August 2015 COS Budget Action Plan
2. 2013-2015 FY First Quarter COS Graph
3. FY 2015 First Quarter Budget, Expenditures, and Risks Summary
4. FY 2015 First Quarter Budget, Expenditures, and Risks Summary (pending)

**SFOBB East Span Projects  
FY 15/16 COS Budget Action Plan\***

**Final August 2015**

<b>Table 1 - State Staff Budget Detail (\$ in thousands)</b>			
	<b>Division</b>	<b>Plan FTE</b>	<b>Plan Dhrs</b>
CONST	Pier 7 Const - D04	10.3	\$2,617
	Pier 7 Const - D59	11.8	\$2,988
	CONST SVCS	1.2	\$311
<b>CONST Total</b>		<b>23.3</b>	<b>\$5,916</b>
TOLL BR DGN	TOLL BR DGN	5.3	\$1,345
<b>TOLL BR DGN Total</b>		<b>5.3</b>	<b>\$1,345</b>
Dist 4 Support	ADMIN	0.2	\$61
	DESIGN	0.6	\$160
	ENV	1.2	\$306
	EXT_AFFAIRS	0.1	\$20
	MAINT		
	MGMT	1.9	\$492
	ROW	0.7	\$168
	TOLL BR MGMT	1.2	\$302
	TRAFFIC OPER	0.1	\$35
<b>Dist 4 Support Total</b>		<b>6.1</b>	<b>\$1,544</b>
ENGR SVCS Support	ENGR SVCS DGN	2.3	\$584
	ENGR SVCS METS/GEO	2.2	\$558
	ENGR SVCS MGMT	0.4	\$112
	ENGR SVCS OE	0.6	\$142
<b>ENGR SVCS Support Total</b>		<b>5.5</b>	<b>\$1,396</b>
<b>Grand Total</b>		<b>40.2</b>	<b>\$10,200</b>

**Note:** 1. Full Time Equivalent (FTE Staffing Budget as shown).

**Additional Notes:**

1. Assumptions in this COS Budget Action Plan include no contingency or risk reserve for scope or schedule changes at this time, as these changes will only be presented as separate future budget requests if unmitigated risks, scope or schedule changes occur.
2. "Others" include: Dumbarton Public Access, YBI Landscape, YBITS 1 and West Approach Landscaping.
3. COS savings within contracts listed above will be shifted to other contracts listed above if needed.
4. AE Budgets listed are at high risk (20-30%) but are being redeveloped in task order discussions to balance workload, expertise, and cost effectiveness within budget targets shown, agreements pending.

**ATTACHMENT 1:**

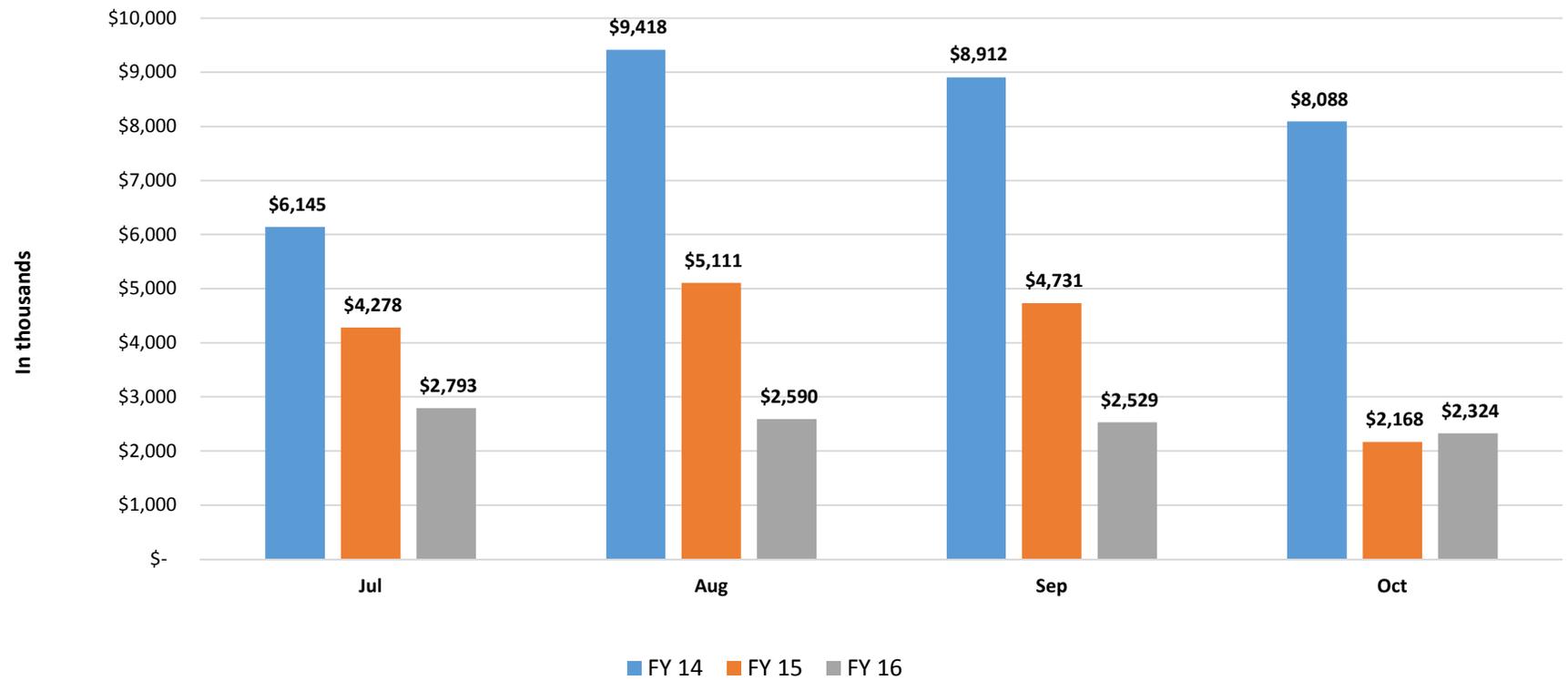
**August 2015 COS Budget Action Plan**

\* Action plan based on the TBPOC budget decision July 20, 2015.

<b>Table 2 - A&amp;E Contracts Budget Detail (\$ in thousands)</b>					
<b>Division</b>	<b>Contract</b>	<b>Vendor</b>	<b>Scope of Services</b>	<b>Task Manager</b>	<b>Budget</b>
ENV	04A4712	AECOM	Env	Stefan G.	\$900
	04A4426	BROWN AND CALDWELL	Env	Hardeep T.	\$900
	04A4151	GARCIA & ASSOCIATES	Env	Stefan G.	\$170
	04A3970	SF Bay Conser. & Dev. Comm	Env	Stefan G.	\$70
	04A4312	WRECO	Env	Hardeep T.	\$100
	04A4306	WATER BOARD	Env	Hardeep T.	\$10
DESIGN	04.0135CM	Kiewit/Manson JV	CM/GC	Patrick T.	\$290
	04A0148	PB AMERICAS INC	Design	John U.	\$900
	59A3824	TY Lin International	Design	Wenyi L.	\$150
	59A0040	TY Lin Int M/N JV	Design	Wenyi L.	\$1,750
METS	04A3819	ALTAVISTA	METS	Keith H.	\$3,260
GEO	04A4534	EMI	Geotech Eng	Saba M.	\$390
	59A0053	FUGRO-EARTH MECH	Geotech Eng	Saba M.	\$300
CONST	04A3357	CH2M HILL	Sched/Claims	Bill C.	\$200
	04A4611		Claims	Deanna V.	\$200
MGMT	04A4265	CALTROP ENG. Risk	Risk Mgmt	Patrick T.	\$90
	04A2968	HNTB	Mgmt	Dan M.	\$240
	Various	Other Contracts	Various	Various	\$0
<b>Grand Total</b>					<b>\$9,920</b>

**Note:** 1. Negotiations will take place with A&E Firms listed to confirm scope of services stay within budget as shown

SFOBB COS Expenditure Jul - Oct for FY 14, FY 15, FY 16



**ATTACHMENT 2:**  
2013-2015 FY First Quarters COS Graph

### SFOBB COS Expenditure from Jan to Oct 2015



**ATTACHMENT 3:**  
2015 COS by Month Jan-Oct Graph

**TO:** Toll Bridge Program Oversight Committee (TBPOC)      **DATE:** December 10, 2015

**FR:** Andrew Fremier, Deputy Executive Director, BATA

**RE:** Agenda No. – 3b  
Item – Revised 2016 TBPOC Calendar

---

**Recommendation:**

From the TBPOC Chair, approval for the TBPOC to meet on a quarterly basis as attached.

**Costs:**

N/A

**Schedule Impacts:**

N/A

**Discussion:**

For 2016, the TBPOC had approved a schedule to meet monthly. With the Toll Bridge Seismic Program nearing completion and focusing primarily on demolition, the TBPOC Chair has requested that the TPBOC meet quarterly to coincide with the approval of the Quarterly Project Progress and Financial Update for the Toll Bridge Seismic Retrofit Program as required by statute.

Attached is the previously approved 2016 meeting schedule and a revised schedule for approval without January, March, April, June, July, September, October and December meetings.

**Attachments:**

- 1) 2016 TBPOC Meeting Calendar (previously approved, effective September 24, 2015)
- 2) 2016 TBPOC Meeting Calendar (proposed effective as of December 17, 2015)

2016 TBPOC Meeting Calendar  
(as of September 24, 2015)

# 2016

January						
SUN	MON	TUE	WED	THU	FRI	SAT
					Holiday	2
		TBPOC Sac				
3	4	5				9
			BATA OC			
10	11	12	13	14	15	16
	Holiday		CTC	CTC		
17	18	19	20	21	22	23
			MTC			
24	25	26	27	28	29	30
31						

1 - New Year's Day  
18-ML King Jr. Day

February						
SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
			BATA OC	TBPOC Bay		
7	8	9	10	11	12	13
	Holiday					
14	15	16	17	18	19	20
			MTC			
21	22	23	24	25	26	27
28	29					

15- President's Day

March						
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
			BATA OC	TBPOC Sac		
6	7	8	9	10	11	12
			CTC	CTC		
13	14	15	16	17	18	19
			MTC			
20	21	22	23	24	25	26
27	28	29	30	31		

April						
SUN	MON	TUE	WED	THU	FRI	SAT
						1
						2
3	4	5	6	7	8	9
			BATA OC	CTC		
10	11	12	13	14	15	16
		TBPOC Bay				
17	18	19	20	21	22	23
			MTC			
24	25	26	27	28	29	30

May						
SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
			BATA OC	TBPOC Sac		
8	9	10	11	12	13	14
			CTC	CTC		
15	16	17	18	19	20	21
			MTC			
22	23	24	25	26	27	28
	Holiday					
29	30	31				

30 - Memorial Day

June						
SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
			BATA OC	TBPOC Bay		
5	6	7	8	9	10	11
12	13	14	15	16	17	18
			MTC			
19	20	21	22	23	24	25
			CTC	CTC		
26	27	28	29	30		

July						
SUN	MON	TUE	WED	THU	FRI	SAT
						1
						2
	Holiday					
3	4	5	6	7	8	9
			BATA OC	TBPOC Sac		
10	11	12	13	14	15	16
17	18	19	20	21	22	23
			MTC			
24	25	26	27	28	29	30
31						

4 - Independence Day

August						
SUN	MON	TUE	WED	THU	FRI	SAT
					TBPOC Bay	
	1	2	3	4	5	6
7	8	9	10	11	12	13
			CTC	CTC		
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September						
SUN	MON	TUE	WED	THU	FRI	SAT
						1
						2
	Holiday			TBPOC Sac		
4	5	6	7	8	9	10
			BATA OC	CTC		
11	12	13	14	15	16	17
			CTC			
18	19	20	21	22	23	24
			MTC			
25	26	27	28	29	30	

5 - Labor Day

October						
SUN	MON	TUE	WED	THU	FRI	SAT
						1
						2
						3
						4
						5
						6
						7
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						10
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						31

November						
SUN	MON	TUE	WED	THU	FRI	SAT
						1
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						26
						27
						28
						29
						30

11 - Veteran's Day  
24 - Thanksgiving Day and day after

December						
SUN	MON	TUE	WED	THU	FRI	SAT
						1
						2
						3
						4
						5
						6
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						29
						30
						31

26 - Day after Christmas Day

TBPOC Meetings in Sacramento, 1PM - 4PM  
TBPOC Mgs in Bay Area, 10AM - 1PM  
TBPOC meetings are planned monthly and are subject to change as determined by the Toll Bridge Program Oversight Committee.

 Quarterly Report Schedule

2016 TBPOC Meeting Calendar  
(as of December 17, 2015)

# 2016

January						
SUN	MON	TUE	WED	THU	FRI	SAT
					Holiday	2
		TBPOC Sac				
3	4					9
			BATA OC			
10	11					16
	Holiday		CTC	CTC		
17	18					23
			MTC			
24	25					30
31						

1 - New Year's Day  
18-ML King Jr. Day

February						
SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
			BATA OC	TBPOC Bay		
7	8					13
QTR	Holiday					
14	15					20
			MTC			
21	22	23				27
28	29					

15- President's Day

March						
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
			BATA OC	TBPOC Sac		
6	7	8				12
			CTC	CTC		
13	14	15				19
			MTC			
20	21	22				26
27	28	29	30	31		

April						
SUN	MON	TUE	WED	THU	FRI	SAT
						1 2
3	4	5				9
			BATA OC	CTC	CTC	
10	11	12				16
		TBPOC Bay				
17	18	19				23
			MTC			
24	25	26				30

May						
SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
			BATA OC	TBPOC Sac		
8	9	10				14
QTR			CTC	CTC		
15	16	17				21
			MTC			
22	23	24				28
	Holiday					
29	30	31				

30 - Memorial Day

June						
SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
			BATA OC	TBPOC Bay		
5	6	7				11
12	13	14				18
			MTC			
19	20	21				25
			CTC	CTC		
26	27	28				30

July						
SUN	MON	TUE	WED	THU	FRI	SAT
						1 2
3	Holiday					9
10	11	12	BATA OC	TBPOC Sac		16
17	18	19				23
			MTC			
24	25	26				30
31						

4 - Independence Day

August						
SUN	MON	TUE	WED	THU	FRI	SAT
					TBPOC Bay	
	1	2	3	4	5	6
7	8	9	10	11	12	13
QTR			CTC	CTC		
14	15	16				20
21	22	23				27
28	29	30	31			

September						
SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
	Holiday			TBPOC Sac		
4	5	6	7	8	9	10
			BATA OC	CTC	CTC	
11	12	13				17
			MTC			
18	19	20				24
25	26	27				30

5 - Labor Day

October						
SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
			BATA OC	TBPOC Bay		
9	10	11				15
			CTC	CTC		
16	17	18				22
			MTC			
23	24	25				29
30	31					

November						
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
			BATA OC	TBPOC Sac	Holiday	
6	7	8				12
QTR			MTC			
13	14	15				19
				Holiday	Holiday	
20	21	22				26
27	28	29	30			

11 - Veteran's Day  
24 - Thanksgiving Day and day after

December						
SUN	MON	TUE	WED	THU	FRI	SAT
						1 2 3
				CTC	CTC	
4	5	6				10
		TBPOC Bay	BATA OC			
11	12	13				17
			MTC			
18	19	20				24
	Holiday					
25	26	27				31

26 - Day after Christmas Day

QTR Quarterly Report Schedule  
Proposed to remove meeting from calendar  
(as of December 17, 2015)

**TO:** Toll Bridge Program Oversight Committee      **DATE:** December 10, 2015  
(TBPOC)

**FR:** Stephen Maller, Deputy Director/Chief Engineer CTC

**RE:** Agenda No. - 3c  
Amend the TBPOC Operating Procedures per the Provisions of the  
Item- Bagley-Keene Open Meeting Act

---

**Recommendation:**

**APPROVAL**

**Cost:**

NA

**Schedule Impacts:**

NA

**Discussion:**

In light of the Governor signing AB 1284 making the TBPOC subject to the Bagley-Keene Open Meeting Act, the Agreement on Committee Procedures for the Toll Bridge Program Oversight Committee needs to be amended. After review of the original 2005 Agreement and the 2014 Agreement to Supplement and Amend the 2005 Agreement, the attorneys representing each TBPOC member determined that the TBPOC should (1) rescind the 2014 Agreement to Supplement and Amend in its entirety and (2) the original 2005 Agreement be amended so that it conforms to the Bagley-Keene Act as shown on the attached Appendix B.

**Attachments:**

1. 2015 Agreement on Committee Procedures as Amended Effective January 1, 2016.
2. Appendix A, Rescission of the 2014 Agreement to Supplement and Amend.
3. Appendix B, original 2005 Agreement as amended with black line underscoring and strikeout.
4. 2015 TBPOC Agreement as Amended December 17, 2015, Effective January 1, 2016 – Clean Final.



**TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE**

**2015 Agreement on Committee Procedures  
As Amended Effective January 1, 2016**

- 1.1 WHEREAS, the enactment of Assembly Bill 1284 (Stats. 2015 ch. 172) overrides certain provisions of the Toll Bridge Program Oversight Committee’s original “Agreement on Committee Procedures for the Toll Bridge Program Oversight Committee” (hereafter, “Original 2005 Agreement”), adopted November 21, 2005, as amended by the “Agreement To Supplement and To Amend the *Agreement on Committee Procedures for the Toll Bridge Program Oversight Committee*” adopted on April 24, 2014 (hereafter, “2014 Amendments”); and
- 1.2 WHEREAS, the Toll Bridge Program Oversight Committee (hereafter, “Committee”) had, pursuant to the 2014 Amendments, agreed to adopt procedures in harmony with the state’s open meeting laws (including the Brown Act and the Bagley-Keene Act),
- 2.1 NOW, THEREFORE, the Committee members agree as follows:
1. Effective January 1, 2016, the 2014 Amendments to the Original 2005 Agreement (set forth as Appendix A) are hereby rescinded; and
  2. Effective January 1, 2016, the Original 2005 Agreement is amended by adding and striking out language as shown on the attached Appendix B.

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**STEVE HEMINGER**, TBPOC Chair  
Executive Director, Bay Area Toll Authority

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Date

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**WILL KEMPTON**  
Executive Director, California Transportation Commission

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Date

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**MALCOLM DOUGHERTY**  
Director, California Department of Transportation

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Date



## Appendix A

[The 2014 Agreement To Supplement and To Amend is rescinded in its entirety.]

*Agreement To Supplement and To Amend the  
Agreement on Committee Procedures  
for the Toll Bridge Program Oversight Committee*

The Members of the Toll Bridge Program Oversight Committee agree to supplement and to amend the *Agreement on Committee Procedures for the Toll Bridge Program Oversight Committee*, dated November 9, 2005 (together with this supplement and amendment, "Agreement"), with the following (which may be referred to herein as a "supplement and amendment"):

### I. INTRODUCTION

The Toll Bridge Program Oversight Committee ("POC") was established by the Bay Area Toll Authority ("BATA") and the California Department of Transportation ("Caltrans"), as required by Assembly Bill 144, an urgency measure enacted by the Legislature in 2005. The POC is directed by law to provide oversight over the Benicia-Martinez Bridge, the Antioch Bridge, and the Dumbarton Bridge projects, and the state toll bridge seismic retrofit program projects (collectively, the "Project"). (Sts & Hwys C. §§30952.05, subd. (c) and 188.61, subd. (c).) Caltrans' primary role is to oversee construction of the project. BATA's primary role is to fund the construction of the project.

Pursuant to Assembly Bill 144, the membership of the POC consists of the Executive Director of BATA, the Director of Caltrans, and the Executive Director of the California Transportation Commission ("CTC"). The chairmanship of the POC alternates between the Executive Director of BATA and the Director of Caltrans.

The POC's responsibilities include, but are not limited to, reviewing bid specifications and documents, reviewing and approving significant change orders and claims, and keeping the Legislature and the California Transportation Commission informed of project progress and status.

While the POC has made public various documents and information pertaining to the project and to its actions and decisions, the POC considers it to be in the public interest to establish a more formal framework governing its meetings that recognizes the public's desire that, to the extent possible, the POC's actions and decisions occur in a public setting, as well as the public's desire to be kept informed of the POC's activities and decisions. In directing the establishment of the POC, the Legislature stated that the POC was not a "state body" within the meaning of the Bagley-Keene Open Meeting Act nor a "local agency" within the meaning of the Brown Act. (Sts & Hwys C. §30952.1, subd. (e)). Notwithstanding that legislative statement, the POC interprets the law as providing the POC with the discretion to adopt its own policy making its operations

~~public, to the extent doing so is in the public interest, in a manner that recognizes the unusual nature of the POC and the unique role it plays in providing oversight over a complex project.~~

~~The POC also recognizes that, as is also the case with existing open government laws, while the default position should be in favor of transparency, there are some matters with respect to which taking action in the public view would not be in the public interest. For instance, when Caltrans is negotiating a change order or responding to a construction claim, the POC may advise Caltrans as to negotiating strategy and monetary risks. Making this information public prior to final execution of the change order or final resolution of the claim would undermine Caltrans' negotiating position. Recognizing the public's right to be informed, as soon as possible after a change order is executed or a claim resolution is reached and no later than the next Regular Meeting, the POC will inform the public of any cost or schedule implications.~~

~~On the other hand, issues involving the structural integrity of the bridges that are within the POC's purview are matters about which the public is entitled to know. It is the POC's intent to keep the public fully informed as to such matters, and to discuss these matters during meetings open to the public.~~

~~However, there are circumstances in which it might not be in the public interest to discuss matters that touch upon sensitive contractual matters in a public setting. These circumstances could include, for example, a discussion of possible litigation or potential security measures to protect the bridges.~~

~~Guided by this perspective and philosophy, the POC intends this agreement to serve as a framework that provides as much transparency as possible while being tailored to fit the unusual nature of the POC's operations and the exigencies with which it is often confronted.~~

~~The POC generally meets on a monthly basis. On occasion, it meets on very short notice, via telephone conference call, when a matter must be dealt with urgently and cannot await discussion and action at the monthly meeting. For instance, section 30925.05, subdivision (e)(8), provides that Caltrans shall "quickly" provide information to the POC regarding unexpected events that will affect "the project's overall budget and schedule." Such events may lead to a need for a contract change order to an existing contract that must be resolved quickly in order to avoid delay and delay costs.~~

## **II. DEFINITIONS**

For purposes of this Agreement, the following terms have the indicated meanings:

1. "Agreement on Committee Procedures" refers to the *Agreement on Committee Procedures for the Toll Bridge Program Oversight Committee*, dated November 9, 2005.
2. "Approved Agenda" means an agenda that has been reviewed by all members of the POC and which has been approved by a majority of the members of the POC.
3. "Designated Meeting Location" and "Designated Location of Meeting" refer to the location of a regular or urgent meeting as designated in the notice of meeting.

4. "Executive Session" means a meeting of the members of the POC from which members of the public are excluded.

5. "Regular Meeting" refers to a meeting such as the monthly meeting. It does not refer to an "Urgent Meeting."

6. "Urgent Meeting" refers to a meeting at which the POC considers or takes action on a matter which, because of its nature, cannot be postponed until the next regular meeting.

### **III. PROCEDURES**

#### **1. Types of Meetings**

Each meeting of the POC shall be either a Regular Meeting or an Urgent Meeting.

Each Regular Meeting will be held according to a POC approved schedule which shall be posted on the website. The date, time, and Designated Location of each Regular Meeting shall be determined following consultation with and among all members of the POC.

In the event a matter must be discussed or an action must be taken urgently and without delay, an Urgent Meeting may be held, in person or by telephone or other electronic means, as soon as possible, taking into account the schedules of each of the members of the POC. A Designated Location shall be established for each Urgent Meeting. The POC shall postpone to the next Regular Meeting the discussion or the decision pertaining to a matter on an Urgent Meeting Agenda if the POC determines that the matter need not be dealt with urgently.

#### **2. Meetings Open to the Public**

Regular Meetings and Urgent Meetings of the POC shall be open to the public. Members of the public may attend such meetings at the Designated Location.

However, if the POC determines that discussion or action on a particular matter is not in the public interest, as described below under "Public Interest Exception," that matter shall be considered during an Executive Session.

#### **3. Notice of Meetings**

Notice of each Regular Meeting shall be given to each member of the POC, in writing or via e-mail, and shall be posted at least 5 days prior to the Regular Meeting on the project website at <http://baybridgeinfo.org/>.

Notice of each Urgent Meeting shall be given to each member of the POC, in writing or via e-mail, and shall be posted as soon as possible and, in any event, prior to the Urgent Meeting on the project website at <http://baybridgeinfo.org/>.

#### **4. Agenda**

~~The agenda for each Regular Meeting of the POC shall be given to each member of the POC, in writing or via e-mail, and shall be posted on the internet at least 5 days prior to such meeting. A brief description of each agenda item shall be included.~~

~~The agenda for each Regular Meeting shall contain the following standing agenda items: "Report on matters discussed and actions taken at Urgent Meetings," and "Report on matters discussed and actions taken during Executive Sessions"~~

~~The agenda for each Urgent Meeting of the POC shall be given to each member of the POC, in writing or via e-mail, and shall be posted on the internet as soon as possible and, in any event, prior to such meeting. A brief description of each agenda item shall be included.~~

~~When a matter requiring discussion or action by the POC at its next meeting arises after the agenda for such meeting has been posted, the new matter may be added to the agenda. A brief description of such matter will be added to the agenda as soon as possible. The revised agenda shall be posted on the internet prior to the meeting if possible. An announcement shall be made at the beginning of the meeting that an item has been added to the agenda along with an explanation as to why notice could not be given sooner.~~

#### **5. Public Comment**

~~Members of the general public who are present at a Regular Meeting or Urgent Meeting of the POC may comment on an agenda item during the discussion and prior to the decision on an item on the agenda. The POC may limit each speaker's time and the total time for public comment if it appears to the POC that it is reasonable to do so. If time permits, the POC may also provide the public an opportunity to make general public comment.~~

#### **6. Recess of Meeting and Postponement of Agenda Item**

~~When necessary, as determined by the POC, meetings may be recessed and continued to a later day, if need be, in order to discuss any matter on the agenda. In such cases, a public announcement shall be made prior to recessing the meeting, and a notice shall be posted on the internet, giving the date, time, and Designated Location at which such meeting shall be resumed.~~

## **7. Participation of POC Members by Telephonic or Electronic Means**

A member of the POC may participate in any meeting by telephone or through the use of any other electronic means. At regular meetings, at least one member of the POC shall be present at the designated location.

The means ~~used~~ to link a member or members participating by telephone or other electronic means shall be so that all persons present can hear the member or members, and so that the member or members can hear all persons present at the Designated Location. At least one staff person shall be physically present at the Designated Location to connect the persons present there with the member or members participating by telephone or other electronic means.

A remote location from which a member of the POC is participating through telephone or other electronic means shall not be considered a Designated Location.

## **8. Report of Discussion and Actions**

Discussions and actions taken during Executive Sessions or Urgent Meetings shall be reported publicly at the next Regular Meeting, subject to the provisions below under "Public Interest Exception." The report for any matter shall include a brief, general description of the matter, a description of any decision or action that was taken, and, if a vote of the POC was taken, the vote of each member of the POC.

## **9. Public Interest Exception**

It is the intention of the POC to provide transparency of its operations, including its decisions and actions. Doing so is generally in the public interest. However, in some instances it may not be in the public interest to disclose certain information immediately. If the POC determines that the public interest in withholding the information outweighs the public interest in disclosing the information, the information shall not be disclosed.

In the event the POC withholds information from the public pursuant to this provision, it shall withhold only that portion of the information that it determines is necessary to withhold in order to serve the public interest. Moreover, when an event occurs or situation changes so that withholding the information is no longer in the public interest, the information shall be made public as soon as possible and as directed by the POC, and no later than at the next Regular Meeting of the POC.

The POC may meet in Executive Session concerning any matter if the POC determines that the public interest is better served by doing so. If the POC determines by majority vote that the public interest in considering the matter in Executive Session outweighs the public interest in doing so in a meeting that is open to the public, the matter will be considered in Executive Session. Apart from POC members, those persons whose presence the POC in its sole discretion determines is necessary in order to discuss the matters may also be present for an Executive Session. If the POC determines that the public interest in withholding an oral report of all or certain aspects of the discussion or actions taken in Executive Session outweighs the public interest in disclosing such

~~information, the report of discussion and action at the next Regular Meeting will be limited accordingly.~~

~~This provision applies to all other provisions in the Agreement.~~

~~10. Record of Meetings~~

~~Caltrans will be the custodian of the POC's minutes.~~

~~11. Deletion of Provision Pertaining to Actions without Meetings~~

~~Section II(F), at page 3 of the Agreement on Committee Procedures, pertaining to actions without a meeting, is hereby deleted.~~

~~12. Conflicts between a provision in this agreement and the *Agreement on Committee Procedures*~~

~~In case of any conflict between a provision contained in this supplement and amendment and the *Agreement on Committee Procedures for the Toll Bridge Program Oversight Committee*, dated November 9, 2005, prior to its amendment by this document, the terms in this supplement and amendment shall control.~~

~~13. Effectiveness~~

~~This supplement and amendment shall take effect immediately from and after its execution by the Members of the POC.~~

~~IN WITNESS WHEREOF, the Members of the Toll Bridge Program Oversight Committee hereto have agreed to this Agreement on the date opposite their respective names.~~

## Appendix B

### AGREEMENT ON COMMITTEE PROCEDURES FOR THE TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

This Agreement is entered into and effective this 9th day of November, 2005, by and among the Director of the California Department of Transportation, (the "Department"), the Executive Director of the Bay Area Toll Authority (the "Authority") and the Executive Director of the California Transportation Commission (the "Commission"), for the purpose of outlining the roles and areas of responsibility set out in Chapter 71, Statutes of 2005, related to the duties and responsibilities of the Toll Bridge Program Oversight Committee. The Department, Authority and Commission are collectively referred to as the "Agencies." This agreement is amended effective January 1, 2016.

#### RECITALS

WHEREAS, the California Streets and Highways Code (SHC) Section 330952.1 requires the Department and Authority hereinafter referred to collectively as the "Establishing Agencies," to establish a Toll Bridge Program Oversight Committee, hereinafter referred to as the "Committee," consisting of the Director of the Department, the Executive Director of the Authority and the Executive Director of the Commission, hereinafter collectively referred to as the "Committee Members;" and

WHEREAS, the Committee Members desire to establish an agreement outlining their roles and responsibilities in carrying out the work of the Committee;

NOW, THEREFORE, the Committee Members hereto agree as follows:

#### I. TERM.

The term of this Agreement shall commence when fully executed, and unless amended earlier, shall terminate when the Bridge Projects have been accepted by the Department, the Bridge Projects contractor claims have been resolved through settlement or public works arbitration and environmental mitigation has been concluded.

#### II. TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE MANAGEMENT AND ORGANIZATION

##### A. Committee Members Qualifications

In the event a Committee Member, for whatever reason, no longer serves in his or her Director's position with his or her respective Agency, the Committee Member shall be replaced by his or her successor or acting successor, as determined by that Committee Member's Agency.

B. Chairperson

The Committee will select a Chairperson. The Chairperson position will rotate between the members affiliated with the Establishing Agencies every two years. The Chairperson shall preside over the meetings of the Committee and shall perform all other duties incident to the position or as assigned to him or her by the Committee.

C. Decision-making

The Committee will endeavor to make decisions on a consensus basis. When a vote by the Committee is necessary, a majority vote of Committee Members is required to approve an item. Every act or decision made by the majority vote of the Committee Members is an act of the Committee. A quorum of the Committee is two. A meeting at which all the Committee Members are initially present may continue to make decisions and transact business notwithstanding the withdrawal of one of its members.

D. Responsibilities

The Committee will:

1. Provide oversight and financial direction for the Bridge Projects.
2. Review and approve project reporting of the Bridge Projects status, program costs and schedules and provide reports to the Authority on a monthly basis.
3. Approve all contracts for project oversight and control for the Bridge Projects.
4. Review and recommend for approval contract specifications and bid documents for the Bridge Projects.
5. Resolve project budget issues and review and recommend budget and fund allocation adjustments.
6. Evaluate Bridge Project changes and review and approve significant change orders and claims over one million dollars (\$1,000,000).
7. Develop and regularly update cost estimates, risk assessment, and cash flow requirements for all phases of the Bridge Projects.
8. Review staffing structures and levels for the Bridge Projects.
9. Review and approve consultant and contractor services related to the oversight duties of the Committee for the Bridge Projects.

10. Report to the Transportation and Fiscal committees of both houses of the Legislature and the Commission on a quarterly basis, as specified in SHC Section 30952.2(b).
11. Assume such other responsibilities as may be assigned to it by the Agencies or as a result of subsequent legislative amendments.

E. Meetings

Regular meetings of the Committee shall be held monthly or as otherwise determined by the Committee. ~~Special meetings of the Committee can be held for any purpose, by any method, including the use of conference telephone, electronic video screen communication or other electronic communications equipment, so long as all members participating in such meeting can concurrently communicate with the other members.~~ Meetings may be called at any time by the Chairperson or any other of the Committee Members. Notice of all meetings shall be given in the manner required by law. ~~at least two business days prior to the meeting.~~ Notices of meetings shall also be posted at <http://www.baybridgeinfo.org> and on the internet sites of the Authority, the Department, and the Commission. Notice shall include an agenda of items on which the Committee will take action. Any member of the Committee has the right to request that action on a particular item be deferred to allow for further review of the proposed item. Upon such a request, action on that item will be deferred for the time period requested by that member, up to a maximum of ~~seven days~~ one month. Each member of the Committee has the right to place a matter on the Committee's agenda for consideration.

F. ~~Actions Without a Meeting~~

~~Any action required or permitted to be taken by the Committee may be taken without a meeting by way of written memorandum if all members of the Committee, individually or collectively, consent in writing to that action. The written consent or consents shall be filed with the minutes of the Committee. Action by written consent shall have the same force and effect as a vote of the Committee Members taken during a meeting.~~

G. F. Records, Minutes of Meetings, and Inspection Rights

The Committee shall keep all records, documents and minutes of meetings at the principal executive offices of the Department. In the event a request for records or documents generated for or by the Committee is received by a member of the Committee, or by that member's agency, the member shall, within 24 hours, notify all other Committee members of the request.

#### H.G. Project Management Team

The Committee hereby establishes a Project Management Team (PMT) that shall assist the Committee in the performance of its duties. The PMT shall consist of one staff member selected by each member of the Committee. The members of the PMT shall review matters that are to be brought before the Committee.

At the request of the Committee, the PMT may perform the following:

- Prepare agendas for the Committee's meetings.
- Assist the Committee in the performance of its duties by providing regular reports to the Committee on Bridge Project status, scope and issues involving budgeting, expenditures, staffing and contractor services.
- Assist the Committee in the review of contract specifications and bid documents, and other documents.
- Assist the Committee in the review of project status and schedules and to anticipate, identify, evaluate, and report to the Committee concerning any project issues as they arise.
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- Review proposed contract change orders for Committee consideration and approval.
- Review claims for Committee consideration and approval.
- Assist the Committee in reviewing staffing levels and structures.
- Prepare other project related reports for Committee review.
- Perform such other assignments as appropriate.
- In carrying out the above tasks, seek assistance whenever appropriate from consultants retained by any of the Agencies doing work related to the Bridge Projects.

The PMT shall keep Committee Members informed as to its work, and will promptly provide any information in its possession which may be requested by a Committee Member.

~~I.H.~~ Advance Notice of Significant Issues

Each Committee Member will provide to the other Committee Members and to the PMT advance notice of significant change orders and claims and other potential action items which are likely to be brought before the Committee by the Agency with whom that Member is associated in order to provide the Committee Members an adequate opportunity for review and preparation.

**III. GENERAL**

**A. Integration Clause**

This Agreement constitutes the complete and entire understanding among the Committee Members.

**B. Amendments**

This Agreement may be amended in writing from time to time upon agreement of the Committee Members.

**C. ~~Counter Parts~~ Counterparts**

This Agreement may be executed in counterparts, each one of which will be an original or the equivalent thereof.

**D. Miscellaneous**

This Agreement is intended solely as a guide to the obligations, intentions and policies of the Committee Members, and is subject to applicable law. In the event of a conflict with applicable law, the law shall prevail. This agreement † does not constitute an authorization for funding a project nor does it constitute a legally binding agreement amongst the Agencies.

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\_\_\_\_\_  
**STEVE HEMINGER**, TBPOC Chair  
Executive Director, Bay Area Toll Authority

\_\_\_\_\_  
Date

\_\_\_\_\_  
**WILL KEMPTON**  
Executive Director, California Transportation Commission

\_\_\_\_\_  
Date

\_\_\_\_\_  
**MALCOLM DOUGHERTY**  
Director, California Department of Transportation

\_\_\_\_\_  
Date

## *Memorandum*

**TO:** Toll Bridge Program Oversight Committee (TBPOC)      **DATE:** December 10, 2015  
**FR:** Brian Maroney, SFOBB Project Chief Bridge Engineer, Caltrans/  
Ken Brown, Chief of Toll Bridge Structures Maintenance and Investigations, Caltrans  
**RE:** Agenda No. – 3d  
Item – Bay Area Toll Bridges Cathodic Protection Systems

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**Recommendation:**

Information

**Costs:**

N/A

**Schedule:**

N/A

**Discussion:**

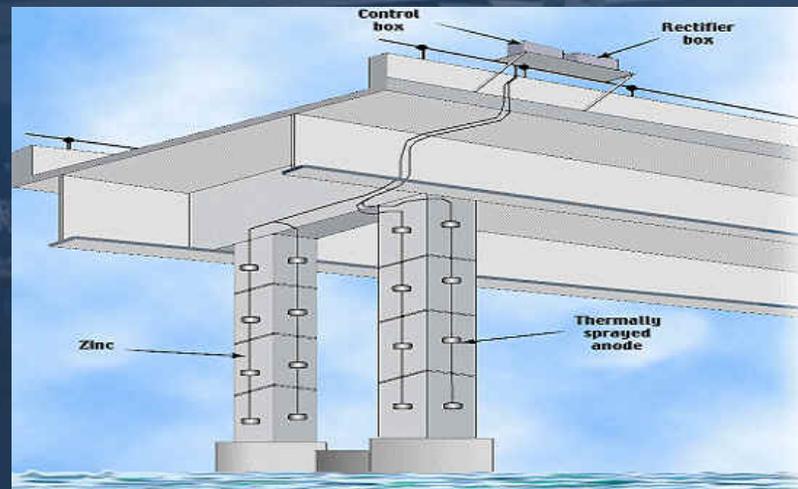
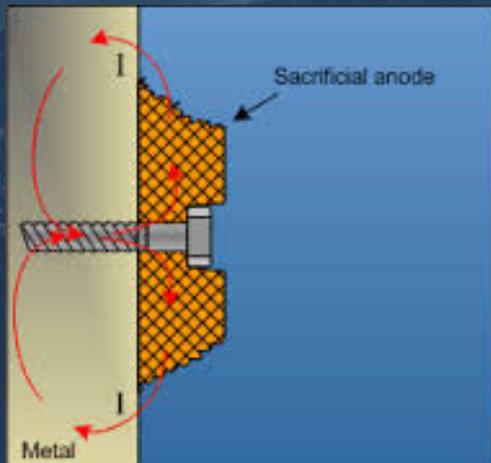
Caltrans will present an overview on bridge cathodic protection at the December 17<sup>th</sup> TBPOC meeting.

**Attachment:**

Cathodic Protection Overview (slides)

# What is Cathodic Protection?

Cathodic Protection (CP) is a technique used to control the corrosion of a metal surface by making that surface the cathode of an electrochemical cell by substituting a new source of electrons. By imparting a direct current onto the metal to be protected to a “sacrificial metal”, the sacrificial metal then corrodes instead of the protected metal.

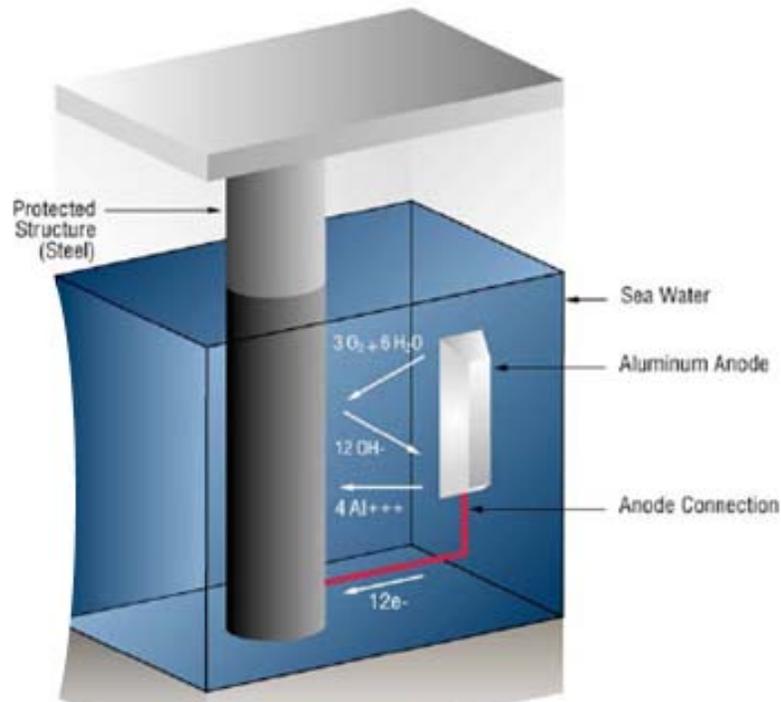


# Types of Cathodic Protection

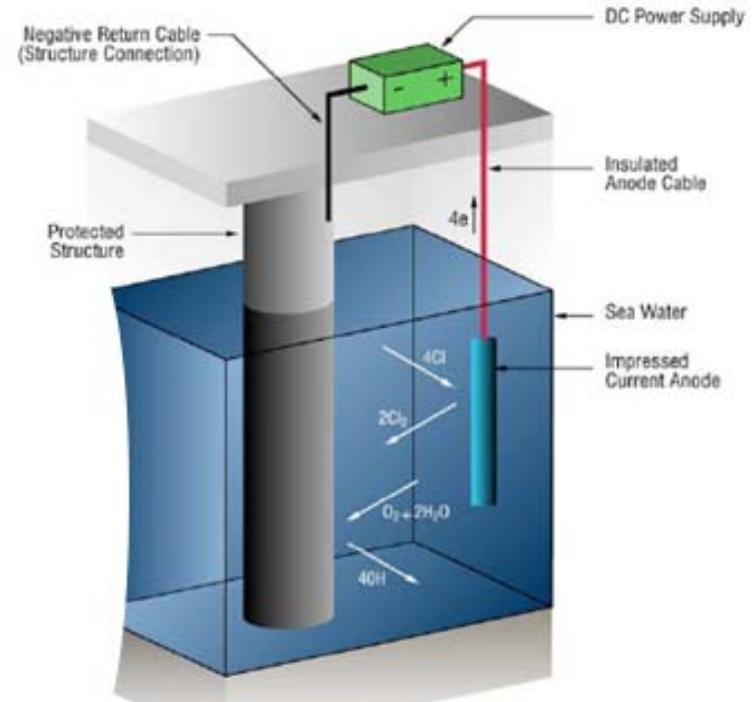
- Galvanic anode systems employ reactive metals as auxiliary anodes that are directly electrically connected to the steel to be protected. These systems are generally low output with limited anode life but are usually less expensive and require little to no maintenance. These systems are commonly referred to as passive systems.
- Impressed-current (ICCP) systems employ inert anodes and use an external source of DC power to impress a current from an external anode onto the cathode surface. The ICCP systems are usually used on large structure as the power source can generate quite a large voltage force. These systems are commonly referred to as active systems.



# Types of Cathodic Protection



**Galvanic Anode Systems  
(Passive System)**



**Impressed-Current (ICCP) Systems  
(Active System)**

<https://www.youtube.com/watch?v=RA1C75xG4qU>

<https://www.youtube.com/watch?v=QYd9ENn1nP0>



THE SAN FRANCISCO-OAKLAND  
**BAY BRIDGE**  
SEISMIC SAFETY PROJECT

Attachment 1: TBPOC Agenda Item 3d

Images by Deepwater Corrosion Services Inc.

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

# Cathodic Protection Systems on the Bay Area Toll Bridges

Cathodic protection was first introduced on the Bay Area Toll Bridges in the form of two pilot programs, the Richmond-San Rafael Bridge in the early 1970's and San Mateo-Hayward Bridge in 1980. Both systems were installed primarily to assess corrosion protection of the steel piles supporting the piers. The results of these pilot projects showed that cathodic systems were a viable means of corrosion control however the pilot programs were not expanded to wholesale deployment on either bridge.

The first full scale use of cathodic protection on a toll bridge was in 1991 when a fairly complex impressed current system was installed on the Dumbarton Bridge. Again, this system was deployed to protect the steel piles supporting the piers. In 2008, system was only partially active and the decision was made to remove it to facilitate the seismic retrofit of the bridge. In the decision to remove the cathodic protection system, it was noted that the system was providing minimal benefit because corrosion rates for steel piles driven in soils below the water table are generally low.



# Cathodic Protection Systems on the Bay Area Toll Bridges

As part of the seismic retrofit of the Richmond-San Rafael Bridge, a galvanic CP system was installed on piers A-18, 20-29, 31-33, 36-43, 45-54, and 56-66. All of these piers were retrofitted with either 4-foot high or 8-foot high steel bell casings to stiffen the existing concrete bell-shaped footings (see photo below). There are typically four 28" x 9.5" x 9.5" aluminum sacrificial anodes installed on each bell casing below the water surface. The system is currently monitored by the Caltrans Translab on a yearly bases. Designed service life for the system is 20 years.



Steel Bell Casings and Connection Hardware Being Protected By Galvanic Cathodic System, Richmond San Rafael Bridge



# Negative Side of Cathodic Protection

- Improperly applied cathodic protection can have the exact opposite effect of preventing corrosion as an excessive negative potential can cause accelerated corrosion.
- A byproduct of a CP system may be the formation of atomic hydrogen which may be absorbed into the protected metal, and subsequent hydrogen embrittlement of welds and materials with high hardness.



# Standard Corrosion Measures Toll Bridges

- Sacrificial steel allowance for driven steel piling (i.e. using a thicker pile than required knowing that the outer face will corrode).
- Epoxy-coated reinforcement for reinforced concrete exposed to marine waters or deicing salt applications.
- Proper concrete cover to meet a desired design life.
- Mineral admixture concrete for reduced permeability to chloride for substructure and superstructure (including deck) concrete.

These types of mitigation measures are preferred alternatives for new structures as well as for bridge rehabilitation projects.



**TO:** Toll Bridge Program Oversight Committee (TBPOC)                      **DATE:** December 10, 2015

**FR:** Steven Whipple, SFOBB Principal Construction Manager , Caltrans/  
Deanna Vilcheck, SFOBB Area Construction Manager, Caltrans

**RE:** Agenda No. - 4a1

Item- YBITS 2 Construction Update and Bike Path Status

---

**Recommendation:**  
INFORMATION

**Cost:**  
NA

**Schedule Impacts:**  
NA

**Discussion:**

Construction Update:

The new East bound on ramp (EBOR) is nearing completion. The deck, overhang and bike path concrete sections for frame 1a, 1b and 2 have been completed with the exception of the two remaining concrete deck panels for the bike path adjacent to the W2 cantilever beams (addressed in the bike path section below). Paving for the bike path polyester is underway and anticipated to complete, except for the section mentioned above, in December 2015.

Completion of abutment 11 on the West end of the EBOR has been constrained by a utility relocation that was completed on December 10, 2015. Work on the excavation for retaining wall 50 that allows completion of the abutment work can now proceed. The estimated completion date for the ramp is early summer 2016, pending weather impacts.

Further to the west of the Yerba Buena Island Edge Beam Support Structure (YBIEBSS or edge beam) is scheduled to start in April 2016 and complete in May, 2017. Some preliminary work on the foundation for the edge beam and temporary edge beam support that allows the upcoming work was completed earlier this year.

Bike Path Status:

A portion of the YBITS-2 bike path that is supported from the edge of the W2 pier. The initial design used a truss structure that was state furnished and would bolt to the side of W2 to support the bike path tubs. On May 6, 2014, the TBPOC approved a design change that used three steel cantilever beams (instead of the truss work) to support the bike path. California Engineering Contractors Inc. and Silverado Contractors Inc. a Joint Venture (CECSC) was issued CCO 76 authorizing procurement of the three cantilever beams. CECSC elected to have Hansteel in Korea fabricate the cantilever beams and that work started in mid-July 2015 with a scheduled ship date of early September 2015 arriving on the project late September.

On 09-02-15 it became known that there was a clearance situation on the cantilever beams involving a concavity between the top plate and the top of the internal diaphragm. The clearance was specified as 2 mm and the measured clearances were running as high as 6 mm. An investigation was done on all three beams and a map of all the top plate to diaphragm plate clearances was generated. The contractor/fabricator developed several repair procedures with the last submission found to be acceptable to the Department.

Consideration to move back to the truss supports has been negated by the removal of the connecting bolts by the previous contractor. The original BD bolts that were cut would be extremely difficult to replace in the same location and finding a way to connect to them is not desirable.

Repair Progress:

On December 1, 2015 it was agreed with the contractor and METS that the Korean fabricator Hansteel would proceed with a repair method that used longitudinal gouges cut into the top plate and then welded back. Once the new weld cooled and contracted, the resulting tension should pull the top plate closer to the diaphragm plate.

The repair on the first beam began on December 8, 2015 and initial reports of the repair procedure on the first beam are extremely positive and work has begun on the second and third beams.

The repair work may be completed by the end of December and if so, the beams should be shipped shortly thereafter.

If repair of the last two beams are not successful, refabrication will be necessary and would push the completion of the work in Korea to late February 2016.

Painting of the beams will occur in California.

Bike Path Schedule:

The approved base line schedule (that used the state furnished truss) showed an installation completion date of 10-24-14. There have been numerous delays totaling 430 days to the schedule related to seismic safety opening (SSO), pile driving, and internally guyed columns and others that have moved the cantilever installation date to 03-24-16 as of the October schedule update.

It is anticipated that weather will impact the completion of the bike path components and therefore the opening of the bike path is currently projected to occur in the early summer of 2016.

The contract contemplates that the EBOR and the bike path will open at the same time. If the availability date for the bike bath completion begins to separate from the EBOR significantly, consideration of a separate opening the EBOR will be considered.

Risk Management:

The quantitative analysis of the Risk Register indicates a total risk cost of \$25,808,000. The most critical risk is the relationship between the USCG work (potential resequencing) and the uphill work on retaining wall 51 and the embankment confinement system (ECS). All risks carry a potential schedule impacts with them. If the work in Korea extends past December 2015, a COS risk for METS is estimated at \$300,000. All risks are being actively managed to lessen the chance of occurrence including the potential to resequence the Coast Guard work and the potential redesign the Southgate road section.

**TO:** Toll Bridge Program Oversight Committee (TBPOC)      **DATE:** December 10, 2015

**FR:** Steven Whipple, SFOBB Principal Construction Manager, Caltrans/  
Deanna Vilcheck, SFOBB Area Construction Manager, Caltrans

**RE:** Agenda No. - 4a2

Item- CCO #111 – Resequencing of USCG Related Work

---

**Recommendation:**

APPROVAL

The Department recommends approval of CCO proposal to resequence the Contractors operations and achieve USCG base security as detailed in the proposed amended license, by the June deadline if possible.

**Cost:**

\$5,000,000 (Capital Outlay) estimated with risks up to \$10,000,000

**Schedule Impacts:**

This is a resequence of item work, therefore there is a possibility that future work may be impacted. Those impacts are not known at this time and will be examined through a time impact analysis (TIA) once the re-sequencing work is complete.

**Discussion:**

Construction of the YBI Detour and YBITS-1 contracts was performed within the USCG base under a license from the USCG. The Department entered into a series of license agreements, the first from 2002 to 2007 which was amended to extend to 2009. A second license was negotiated that spanned 2009 to 2015 which was amended to end December 31, 2016. The Department is currently reviewing a second amendment from the USCG to the second license that would extend the end date to December 31, 2018. This amendment also contains an internal milestone for base security of June 2016.

There have been several delays on the project totaling 430 days. Among the decisions made that contributed to these days was the initial delay to the start of work until seismic safety opening (SSO) was achieved. The initial delay drove the pile driving out of season and due to environmental restrictions, the contract time was impacted further. Had these delays not

happened, the project could have been completed under the current license and an amendment would not be required.

The draft of this last USCG amendment has two stipulations added that are the reason for this re-sequencing work. They are (from the draft agreement):

- “1. Licensee shall immediately and permanently restore all project areas shown South of the blue and red lines depicted on the attached drawing marked Exhibit (“A-1”), attached hereto and made a part hereof. The blue line shall be a temporary fenced perimeter that completely separates the permanently restored property from the Licensee’s remaining project activities and can be adjusted by the Local Coast Guard Representative, POC Mr. Greg Ressio, 415-399-3536.
2. Licensee shall provide Sector San Francisco with a fully operational permanent entrance, two-way base traffic circulation for all size vehicles, and sufficient parking capacity as determined by the Local Coast Guard Representative, all located within the fenced perimeter on or before June 30, 2016.”

Note that from 1 above the blue line is “adjustable” and this adjustability could aid the Department when in achieving the date of 06-30-16. An important aspect discussed by the USCG supporting the date is the heightened security at all Department of Defense facilities. Since the heightened security alert, the YBI base has security concerns.

The work bounded by the blue line and the 06-30-16 completion date was first identified in February 2015. In early May CECSC submitted an estimate of \$9.4 million and staging plans for the requested re sequencing work. At the June 23<sup>rd</sup> TBPOC meeting the contractors’ proposal and price was discussed. TBPOC members indicated their desire to negotiate with the USCG for a way to involve less impact to the contractors operations and therefore less cost to the program.

During the summer and fall, the Department and the USCG met to resolve a changed scope and the potential date of completion for a secure base. Though it appeared that both the scope and date of completion could change, the current requirement by the Coast Guard continues to be the original line and date. Negotiations continue with the USCG but their security concerns continue to be a driving force behind final requirements in the amendment.

The Department, along with representatives from BATA, will meet with the USCG command to discuss options to resequencing the Contractors operations on December 10, 2015. Discussion will focus on means to mitigate potential project costs while providing for the needs of the USCG.

## *Memorandum*

In preparation for the potential re-sequence work, the Department received approval for CCO 117 in the TBPOC 07-07-15 that allows the acceleration of the Eastbound On Ramp (EBOR) work and subsequent removal of falsework to be complete by 09-30-2015. This work was a predecessor to any possible re-sequencing of operations for the USCG. This milestone date was achieved on time.

Analysis of the schedule indicates that by stacking subcontractors it may be possible to come close to the requested completion time stipulated in the proposed license amendment. The USCG has indicated it would recognize impacts of a wet winter if that was to occur, however the USCG expressed their desire to see work start as soon as possible.

Pending the outcome of the December 10<sup>th</sup> meeting, the proposed change order would call for the contractor to provide additional labor and equipment resources to expedite the work. Inefficiencies and premium labor costs will also be compensated under this Change order on a time and materials basis.

CCO 111-S0, currently estimated at \$5,000,000 will provide for the resequencing of the USCG base reconstruction in order to satisfy the Department's licensed obligations to the USCG. The resequencing will construct the inner portion of the base prior to the perimeter of the base in contrast to the contract staging plans.

The \$5,000,000 is a reduction from the originally contractor submitted \$9,400,000 in costs. The reduction in costs stems from the exclusion of CECSC's risk contingencies, due to the work being performed on a time and materials basis and (to a lesser extent) pulling out the EBOR delay mitigation costs paid under CCO 117.



**TO:** Toll Bridge Program Oversight Committee (TBPOC)      **DATE:** December 10, 2015

**FR:** Brian Maroney, SFOBB Project Chief Bridge Engineer, Caltrans (CT)

**RE:** Agenda No. – 4c  
Item – SAS Tower Anchor Rod Testing Program

---

**Recommendation:**  
Information

**Costs:**  
N/A

**Schedule:**  
Refer to attachment

**Discussion:**

The project team has initiated work on the tower anchor rod work items selected by the TBPOC on October 13, 2015. The items of work have been organized, prioritized and initiated as below:

Seismic analyses (F)( priority one)

- Materials Engineering and Testing Services (METS) was assigned to collect, organize and report as-built material properties of base-of-tower skin and stiffener plate. This work has been completed.
- Design has been assigned to modify computational models to incorporate stiffeners, as-built properties and allow for nonlinear material behavior at the base of the tower. This work is underway. Bay Area Toll Authority (BATA) is currently scheduling a review of this work by its consultant. CT has invited Federal Highway Administration (FHWA) to participate.
- Design has been alerted to the potential for nonlinear behavior to be incorporated into the anchor rod system depending on the outcome of the mock-up results.

Mock-ups (G)( priority one)

- Design for mockups I and II has been completed.
- The Department is continuing to work to bring a contractor on board for the mockups

Micro-indication tests (C)( priority two)

- CT (including TYLin) and BATA (including BAMC) representatives met at L. Raymond & Associates (LRA) Laboratories on December 1<sup>st</sup>, 2015 and were successful at defining details

## *Memorandum*

for the micro-indication testing. These tests are expected to begin in December 2015 and be completed in January 2016.

### Thread measurements (D)( priority two)

- METS has been assigned to design a plan to measure a sample of threads on the rods removed and a sample of the tops of rods and are currently finalizing their work plan.

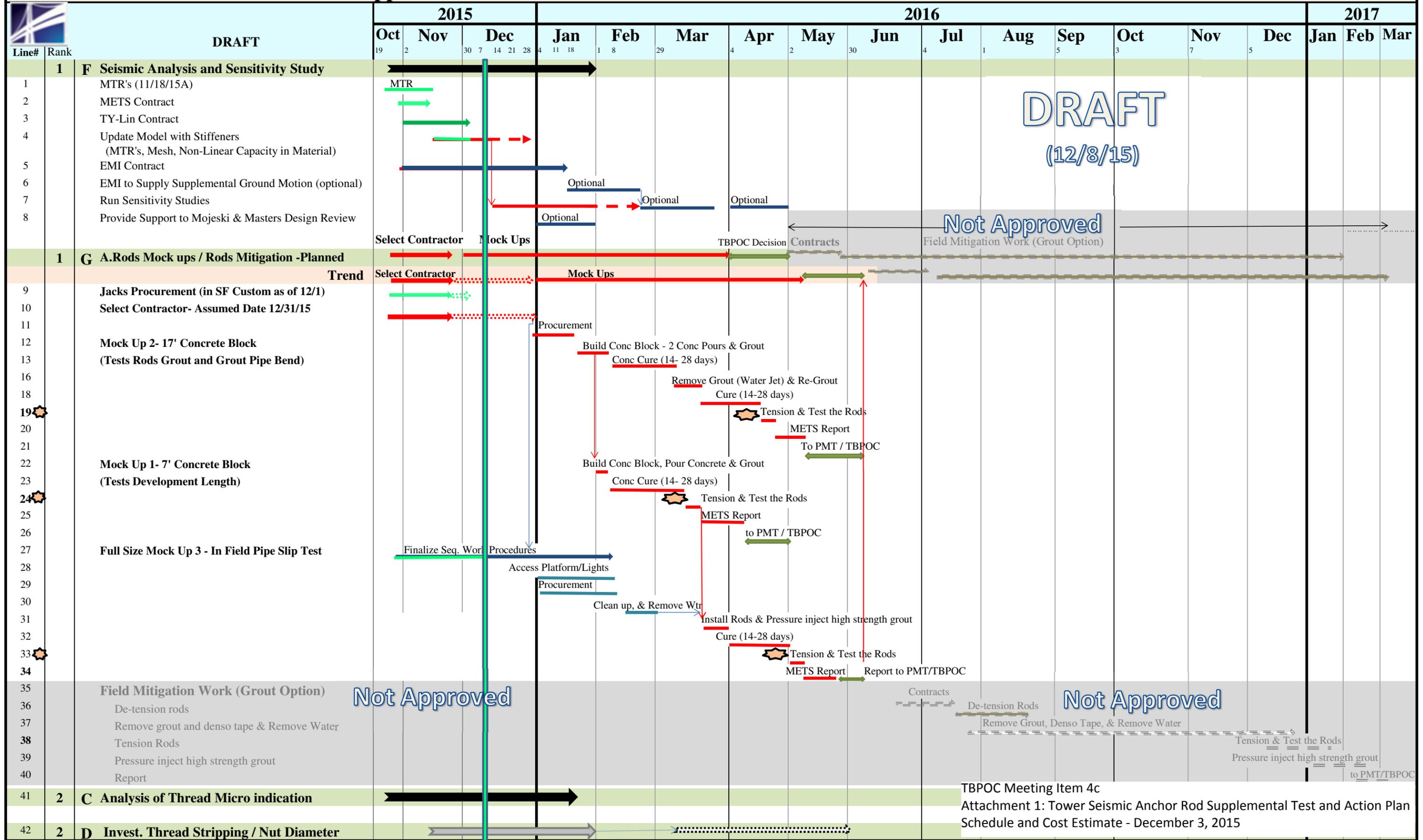
The weekly task force meetings to maximize coordination and information sharing have begun and are scheduled into the future. All of the work approved by the TBPOC is currently under budget.

### **Attachment:**

1. Tower Seismic Anchor Rod Supplemental Test and Action Plan - Schedule and Cost Estimate  
- December 3, 2015

# Tower Seismic Anchor Rods- Supplemental Test Schedule

DRAFT as of 12/8/2015



DRAFT  
(12/8/15)

Not Approved

Not Approved

Not Approved

TBPOC Meeting Item 4c  
Attachment 1: Tower Seismic Anchor Rod Supplemental Test and Action Plan  
Schedule and Cost Estimate - December 3, 2015

## *Memorandum*

**TO:** Toll Bridge Program Oversight Committee (TBPOC)                      **DATE:** December 10, 2015

**FR:** Dan McElhinney, Chief Deputy District Director, Caltrans District 4

**RE:** Agenda No. - 4d

Item- SAS Contract Closeout Update

---

**Recommendation:**

Information

**Cost:**

N/A

**Schedule:**

N/A

**Discussion:**

As part of the construction contract close out procedures, the Department accepted the SAS contract on September 24, 2015 after taking appropriate deductions (via CCO) per TBPOC direction in September 2015 (Motion #1) including for unacceptable tower anchor rod grout that will need future repairs. After accepting this contract the following closeout process, including dispute resolution, is underway:

- The Department processed the Proposed Final Estimate (PFE) within 40 days and the Contractor received the PFE on November 5, 2015,
- The Contractor returned the exceptions to the PFE on November 6, 2015.
- Currently the Department is reviewing the Contractor's response.
- After day 240 (May 22, 2016), or within 90 days of a final determination of claims, the contractor may file for arbitration with the Public Works Contract Arbitration Program.

Initial steps for Motion #2, as directed by the TBPOC during the September 2015 meeting, are underway.

**Attachment:**

None

**TO:** Toll Bridge Program Oversight Committee (TBPOC)      **DATE:** December 10, 2015

**FR:** Steven Whipple, SFOBB Principal Construction Manager, Caltrans

**RE:** Agenda No. - 4e1

Item- 504/288 Span Demolition Update

---

**Recommendation:**

Information

**Cost:**

NA

**Schedule Impacts:**

NA

**Discussion:**

The 504 288 Superstructure Dismantling contract work involves the removal of five 504' truss spans, fourteen 288' truss spans, twenty one supporting steel columns, and the remaining concrete Oakland mole bridge structure. Below is a brief update as to the status of the Construction activities.

The Contractor has sequenced the bridge removal operations into seven phases of dismantling. These phases begin with the upper deck and initial truss removal operations (Phase 1), through the removal of the 504' (Phase 2) and 288' (Phases 3 & 4) steel truss spans, to the removal of the Oakland mole bridge structure, E23 to E29 (Phase 5), to the removal of the supporting steel columns (Phases 6 & 7). The Contractor is performing Phase 1 work along with some initial Phase 2 work while the Phase 2 Engineering and Submittal effort is completed. Engineering and submittal activities for the remaining phases are in progress. The status of the work as of November 30, 2015 is as follows:

- Current operations:
  1. Phase One of Seven started on 6/9/2015.
    - a. Upper/Lower deck marker button removal completed. Completed
    - b. Upper deck asphalt & concrete removal on 504 trusses. Completed
    - c. Rem. steel curbs, handrails, utilities, & other nonstructural steel. Completed

## Memorandum

- |  |           |
|--|-----------|
| d. Remove 504/288 upper deck joist and stringers.  | Completed |
| e. Remove 504/288 upper deck floorbeams.           | Completed |
| f. Remove lower deck asphalt.                      | Completed |
| g. Remove select upper chords & vertical elements. | Completed |
| h. Remove lower concrete deck (Span E4-E5)         | Ongoing   |
2. Phase Two of Seven – 504’ Spans Removal (E4 to E8).
    - a. Assemble Large Barge to receive 504’ Spans. Ongoing
    - b. Sequentially Prepare and Lower 504’ Spans. Ongoing

Lowering system installation and truss modifications 38% complete for the five 504’ truss spans (E4 to E9) with the first truss span (E4 to E5) 80% complete. Lowering operation of the first 504’ truss span (E4 to E5) is anticipated to take place in the month of January 2015.
  3. Bird deterrent measures installation began on Sept 18<sup>th</sup>, 2015.
    - a. Bird nesting season extends from February 1<sup>st</sup> through August 30<sup>st</sup>.
    - b. Under deck (lower deck) bird deterrent exclusionary scaffolding measures 48% complete (Spans E4 to E9 only).
  4. Coordination with Museum/MTC for salvage material.
    - a. Artist proposing uses for Group B Salvage Elements – Three site visits completed on August 24<sup>th</sup>, September 3<sup>rd</sup>. and September 10<sup>th</sup>.
    - b. Salvaged Material should become available in August 2016.
- Active submittal work:
    1. CPM Baseline accepted, monthly updates also continue to be submitted/reviewed/accepted.
    2. Submittals related to Phase Two of the Demolition Plan (95% Complete):
      - a. Contractor has provided all submittals related to Phase Two of the Demolition Plan. A detailed hour by hour 504’ truss lowering procedure will be requested.
      - b. Wind Monitoring plan under review.
      - c. All Phase Two SWPPP submittals approved, newly received SWPPP Amendment 4 under review.
      - d. USCG reviewing Anchor and Marine Operations plans.

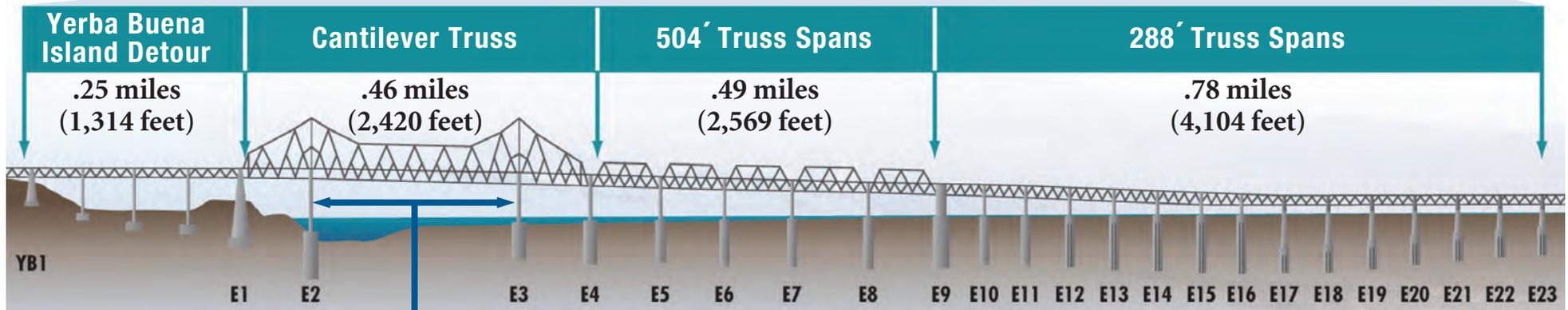
Attachment(s):

1. Original East Span Demolition by the Numbers Fact Sheet
2. Preliminary Removal Plan (Phase 1- 7)
3. Bridge Removal Status dated November 27, 2015



# ORIGINAL EAST SPAN DEMOLITION BY THE NUMBERS

- Length of East Span – **1.97 miles**
- Total steel – **58,209 tons**
- Total concrete – **245,470 tons**
- Bridge steel – **51,687 tons**
- Pier/foundation steel – **6,522 tons**
- Bridge concrete – **66,962 tons**
- Pier/foundation concrete – **158,470 tons**



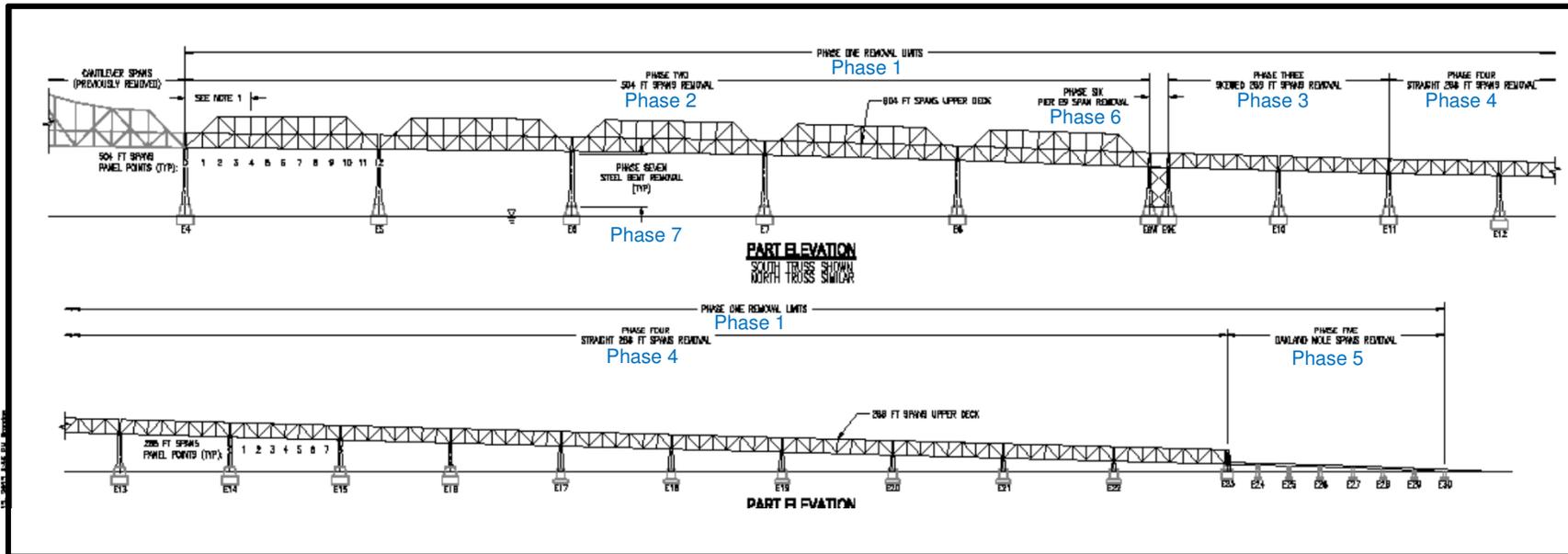
## CANTILEVER STRUCTURE:

- Cantilever bridge steel – **20,412 tons**
- Cantilever pier/foundation steel – **2,257 tons**
- Cantilever concrete – **12,460 tons**
- Cantilever pier/foundation concrete – **53,553 tons**
- Height of tallest point of cantilever above the water – **382 feet**

## BETWEEN PIERS E2 AND E3 (FIRST PHASE OF DEMOLITION):

- Length of cantilever upper deck to be removed – **1,400 feet**
- Amount of concrete to be removed – **2,125 tons**
- Amount of rebar to be removed – **375 tons**
- Amount of steel deck supports to be removed – **1,300 tons**

# 504/288 Spans - Demolition Contract Update Preliminary Removal Plan



Phase 1	Upper deck asphalt removal and initial truss removal
Phase 2	504 FT span removal
Phase 3	Skewed 288 FT (E10 to E9) span removal
Phase 4	Straight 288 FT (E11 to E22) span removal

Phase 5	Oakland mole (E23 to E29) span removal
Phase 6	Pier E9 Span removal
Phase 7	Steel bent (E4 to E16) removal







**TO:** Toll Bridge Program Oversight Committee (TBPOC)      **DATE:** December 10, 2015

**FR:** Brian Maroney, SFOBB Project Chief Bridge Engineer, Caltrans (CT)

**RE:** Agenda No. – 4e2  
Item – Pier E3 Demonstration Contract

---

**Recommendation:**

Information

**Costs:**

N/A

**Schedule:**

N/A

**Discussion:**

This memo is to report to the TBPOC preliminary information on the November 14, 2015 SFOBB old east span's pier E3 foundation implosion. This report is preliminary and covers factual data from the work completed during and following the implosion. A draft report is planned to be completed in mid-December 2015.

Structurally speaking, the work was successful in using hundreds of small charges sequenced fractions of a second apart to break enough of the concrete away from the internal reinforcing steel to compromise the ability of the structure to hold itself up under its own weight and collapse into the voids within the foundation below the bay floor. The charges went off as designed. Preliminary sonar images show generally deeper water depths inside the perimeter of the remaining foundation than expected final bay floor water depths. Cleanup in and around Pier E3 is expected during the month of December.

A Blast Attenuation System (BAS) was deployed and successfully operated during the implosion. The blast was carried out near slack tide to allow the air bubbles to flow relatively uninterrupted vertically from the floor of the bay to the water surface contributing to a high level of performance of the BAS. A complex array of pressure sensors were deployed and for the first time ever, water pressures were recorded from an underwater implosion of a cellar bridge pier. Preliminary reviews of some of the first data processed show the BAS was effective. In the coming weeks and months, the massive quantity of data collected will continue to be reviewed and analyzed.

## *Memorandum*

A large team of scientists specializing in marine mammal identification and behavior were successfully deployed prior to the blast at observation locations as far away as 5 miles from the E3 foundation. The blast was carried out during daylight hours to make sure the observers had enough light for good visibility. Communication links by phone and radio facilitated the marine mammal team to communicate to the blaster-in-charge that no mammals were present in the restricted areas. The team of observers continued to monitor for three days in case of subsequent strandings. No injuries or strandings have been reported.

During and following the blast, biologists specializing in marine fish wildlife carried out scientific studies including caged fish observations at various distances outward from the blast, trawling to collect fish for observation before and after the blast, and necropsies of a sample of the study population. Preliminary results from this work show no fish were likely killed from the effects of the blast in the caged fish study from as close as 150 feet to as far as 4000 feet, no federal or State listed species were identified in any of the trawl-catches, and a small number of trawl-caught fish (not listed) could have been injured due to either blast effects or trawling gear. It is important to recognize that the implosion was carried out in the month of November, which is a time of year that listed species are likely to be present in low numbers or not present at all.

Before and after the blast, scientists specializing in water quality collected water samples and monitored water conditions. Water clarity, pH, and temperature were measured. Following the blast there were no visible signs of change in turbidity. Increases in pH levels were less than expected. The duration of the effects on the water was smaller than expected. Overall, the effects on water quality were smaller than expected.

Just before the blast until an “all clear” was communicated, vehicular traffic on the Bay Bridge and commuter rail traffic in the underground BART tube were temporarily halted. Both transportation systems were started safely and quickly after the blast. Motion sensors inside the BART tube registered motions similar to a passing BART train.

Biological scientists specializing in avian (bird) behavior established observation stations on the water and on the bike path. No diving birds were observed in the designated bird safety zone area during the blast. An air cannon sounded, along with several blasts of local foghorns right before the blast.

All data collected and reviewed to date suggest the Pier E3 implosion demonstration project was a success. Project personnel are working to document all data and analyses of that data, as well as advance plans for removal of additional in-water piers.

Special appreciation is offered to BCDC, USCG, CHP, CDFW, FHWA, NOAA Fisheries, RWQCB and others that were present and active in this important breakthrough project.

Photo 1: Pier E3 Prior to Implosion



Photo 2: PierE3 Implosion



Photo 3: Pier E3 Implosion (view from USACE Boat)



Photo 4: Pier E3 Post Implosion



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**TO:** Toll Bridge Program Oversight Committee (TBPOC)      **DATE:** December 10, 2015

**FR:** Chris Traina, Marine Foundation CMGC Contract Project Manager, Caltrans District 4

**RE:** Agenda No. – 4e3  
Item – Marine Foundations Demolition (Existing Pier Retention)

---

**Recommendation:**

Information

**Discussion:**

The Department continues to move forward with the removal of the old San Francisco-Oakland Bay Bridge (SFOBB). The contracts to remove the existing marine foundations are in varying stages of design and construction. With the successful implosion of Pier E3 on November 14, 2015, the Project Development Team (PDT) will begin negotiating contracts to remove Piers E2 to E22, consistent with existing permit requirements.

Phase 2 of the Contract Manager/General Contractor (CMGC) began in July 2015 and the PDT has estimates and schedules currently at the 30% design level. The 60% Estimates for removal of Piers E2 to E22 will be completed on December 11, 2015. For the 100% estimate and contract negotiations the PDT plans to estimate the removal of Piers E4 through E18. Piers E4 and E5 should be released to the project from the 504/288 contractor on June 2018 and will be scheduled to be demolished in November 2016. Piers E6 to E12 will be scheduled for demolition in the fall of 2017 with the assumption of at least a two month blast window being allowed in project permits. Piers E13 to E18 would be demolished in 2018. If necessary, Piers E2 and E19 to E22 could be demolished in 2019.

The estimated cost for removal of the remaining piers is \$193 million. The PDT is continuing to evaluate the potential benefits of removing some of the foundations solely through mechanical means and methods. The current strategy is use implosion to demolish Piers E4 to E18.

The TBPOC should note as previously outlined in March 2015 the approved marine foundation demolition budget is not sufficient to complete the new scope without supplementing funds for contract award planned in Spring 2016.

**Background:**

On March 7, 2013, the TBPOC was briefed on plans for the removal of the existing foundations of the old SFOBB. Options for retaining some of the foundations were presented. The TBPOC voted to move forward with an option that would retain several of the piers for the purpose of providing

## Memorandum

future public access on both Yerba Buena Island (YBI) and near the Oakland Touch Down (OTD). Staff was directed to seek permit amendments to retain Pier E2 near YBI for public access, and retain up to four piers (Piers E19 to E22) and create a public access trestle at that location. Staff was also asked to identify a non-State owner for these structures.

Since the March 7, 2013 TBPOC meeting the following events have taken place:

- Internal team meeting on August 20, 2014: discussions on creating simulations of existing foundations left in place with piers removed in preparation for an Agency meeting on September 4, 2014
- The CMGC contract was approved on August 26, 2014. The retention of some of the existing foundations was included as an option in the contract scope.
- Agency meeting on September 4, 2014:
  - United States Coast Guard (USCG) indicated that when elements of the bridge are no longer used for transportation, then there is no longer a bridge and the elements (existing foundations) must be removed
  - USCG indicated that a permit from the United States Army Corps of Engineers (USACE) is required to leave any elements in place. Until then, USCG will insist that all piers/existing foundations be removed per USCG bridge permit. If the USACE grants a permit to leave some piers in place, the USCG bridge permit will be updated to reflect this.
  - The Bay Conservation Development Commission (BCDC) indicated that pier removal was mitigation for a new bridge. Their permit requires removal of all elements.
  - BCDC seemed intrigued with the idea of public access to E2, but said that their baseline position is that everything must be removed and a public hearing would be needed to pursue otherwise.
- Meeting with the USACE and Regional Water Quality Control Board (RWQCB) on November 17, 2014:
  - USACE indicated that it will be a big hurdle to clear to leave any piers in place
  - For USACE to allow this would require in-kind compensation elsewhere (remove in-bay piers from somewhere else)
  - USACE would require approvals from all other agencies first before giving approval.
  - USACE reminded us that removing piers was our mitigation for allowing a new bridge.

During the project development phases for the superstructure removal contracts and Pier E3 removal demonstration contract, the Environmental team began discussions with BCDC and USACE regarding retention of some of the existing piers (see above). The value of the retained piers would be to increase public access and provide protected wildlife habitat. It is important to recognize that current permits require all marine piers, E2 through E22, be removed from bay waters.

## *Memorandum*

The main focus of the PDT over the past year has been to ensure the Pier E3 Demonstration project remained on track and to secure permits for this project. The team deferred the pier retention discussion until after successful completion of the demonstration project due to limited resources.

On August 17<sup>th</sup>, 2015, the Project Management Team (PMT) was briefed on the status of the pier retention efforts and the ongoing Pier E3 removal contract as well as the ongoing planning meetings with the Kiewit-Manson CMGC team for removal of the remaining foundations. Dr. Brian Maroney provided the PMT with a decision tree (attached) for the removal of the remaining foundations. The PMT asked staff to continue to pursue retention of Pier E2 and Piers E19 to E22 and to provide cost differentials between removal and retention options. Foundation removal costs will be estimated during ongoing phases of the CMGC contract. The current staffing plan was discussed as additional resources will be necessary to produce a meaningful study that decisions can be made on. The PMT asked the team to be prepared to discuss these issues at a future TBPOC meeting in 2015.

### **Cost Impacts:**

The following ROM (rough order of magnitude) cost estimates are offered for informational purposes and are considered to be at the Advanced Planning Study level of design (30%):

Capital Outlay Support (COS): COS costs associated with retention of the piers have not been estimated or included in this FY budget. The Department would require staff time to prepare meeting materials, attend internal and external meetings with all of the resource agencies who will have to issue permit amendments to allow some existing foundations to remain in place, prepare and submit permit amendment applications, and prepare all information requested by resource agencies for this effort. Additionally, it is anticipated that the resource agencies would seek compensation for the increase of in-bay fill.

Capital Outlay (CO): The current ROM estimates for removing piers E2 & E4-E22 ranges from \$185 to \$205 million, with a potential reduction up to \$40 million if piers E2 & E19-22 are left in place. If the blast window time can be opened up by permit to a two month period each year, instead of only being allowed to blast in the month of November, another potential reduction up to \$30 million may be realized. Any cost differential may be offset by the needed increase in COS and any possible mitigation to offset the increase of in-bay fill (and potential site access improvements) if piers E2 & E19-E22 remain in place.

### **Schedule Impacts:**

## Memorandum

If the option of retaining Pier E2 and Piers E19-E22 is pursued, the PDT will require time to secure approvals and negotiate compensation with the resource agencies. This will be done on a parallel process with the current CMGC contract and construction activities to remove Piers E4 to E18.

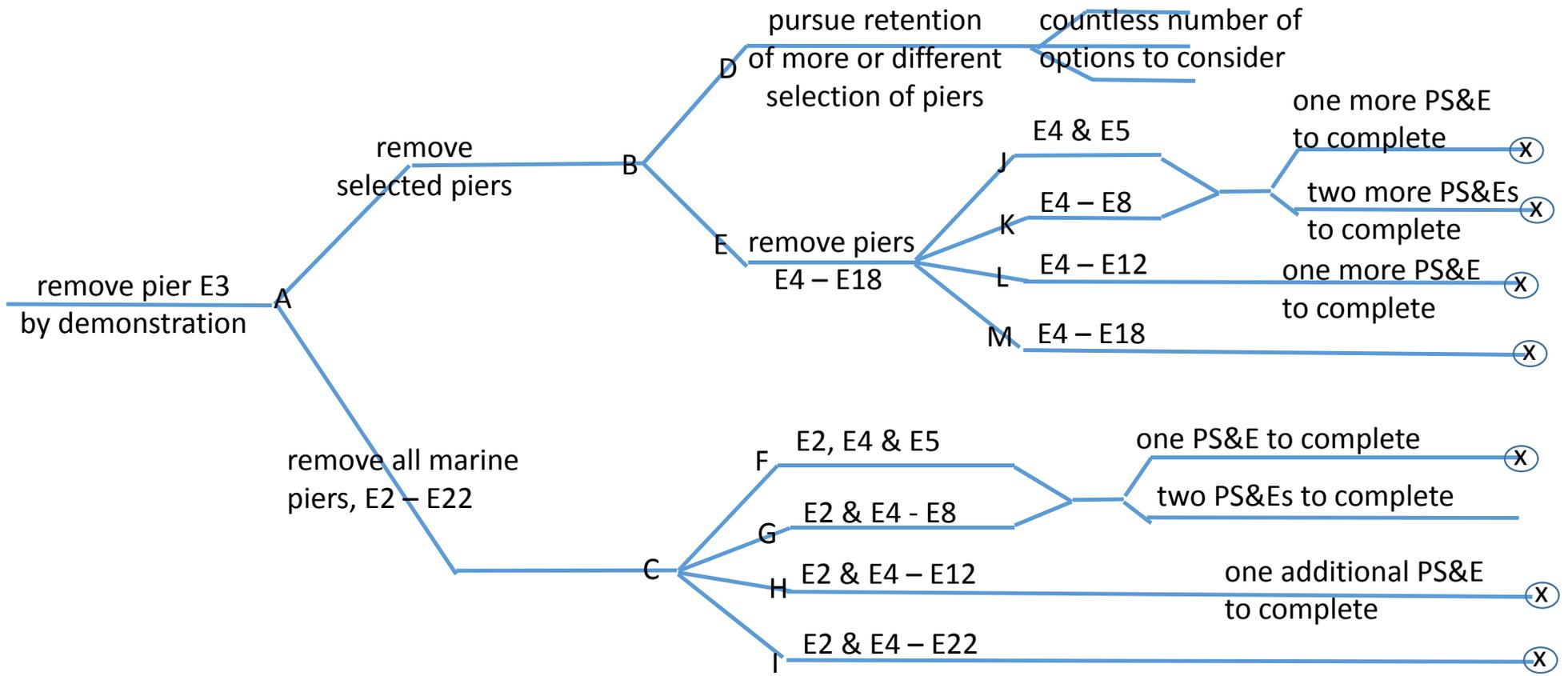
If the blasting window is just one month per year, the removal of Piers E2 to E22 will require 5 blasting seasons, but if piers E2 & E19-22 remain in place just 4 blasting seasons to remove piers E4-E18. If the blasting window can be opened up to two months per year, it reduces each option by a blasting season, such that the removal of Piers E2 to E22 will require 4 blasting seasons, and if piers E2 & E19-22 remain in place just 3 blasting seasons to remove piers E4-E18. The following items outline a schedule for the completion of the marine foundation removal contracts:

- Rough Order of Magnitude (ROM) estimates for remaining foundations - 9/30/2015.
- Pier E3 Implosion - November 2015.
- 60% Estimate completion - December 2016.
- Re-engage permitting agencies on Phase 2 demolition and retention of Piers - January 2016.
- Prepare project studies for retention of existing piers (plans, estimates, schedule)- January to March 2016.
- Negotiate CMGC contract for remaining foundations January to March 2016.
- Notice To Proceed (NTP) anticipated April/May 2016.
- Begin mechanical demolition work on Pier E4 demolition – July/August 2016.
- Remaining foundations will be removed as they become available from the 504/288 demolition contract.

### Attachments:

1. Marine Foundation Decision Tree 8-13-2015
2. Marine Foundation Demolition General Plan
3. Marine Foundation Demolition Contract Location Exhibit
4. Foundation Size and Quantities
5. Pier E2 Visual
6. Pier E19 to E22 Visual

# Decision Tree for Foundation Removal Contracts



(X) = demo complete

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF/AIa	80			

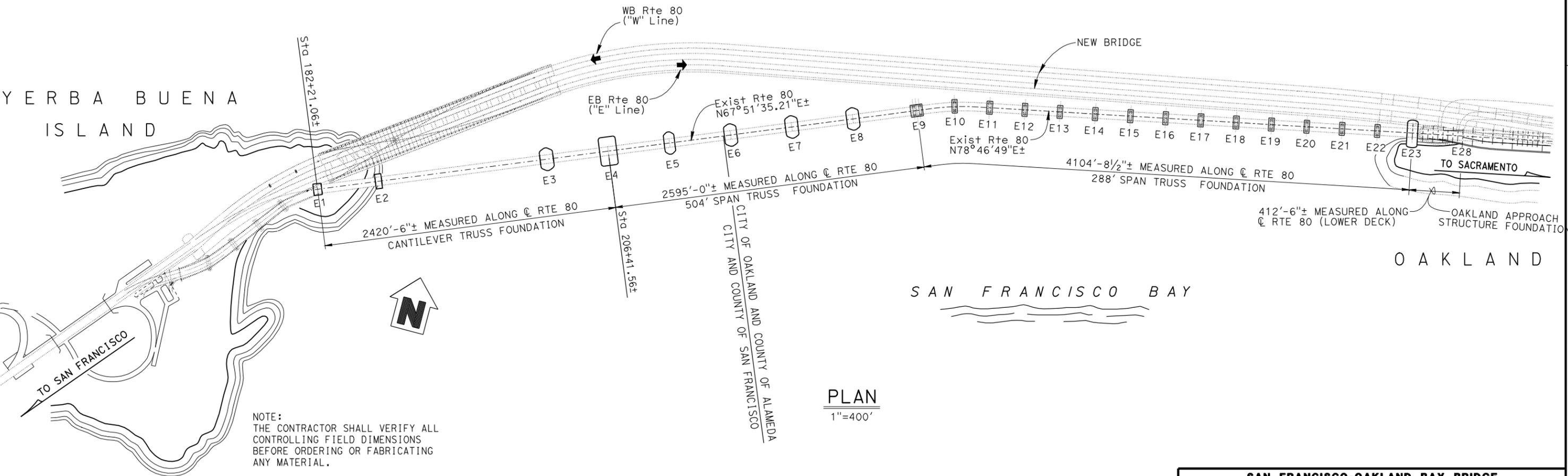
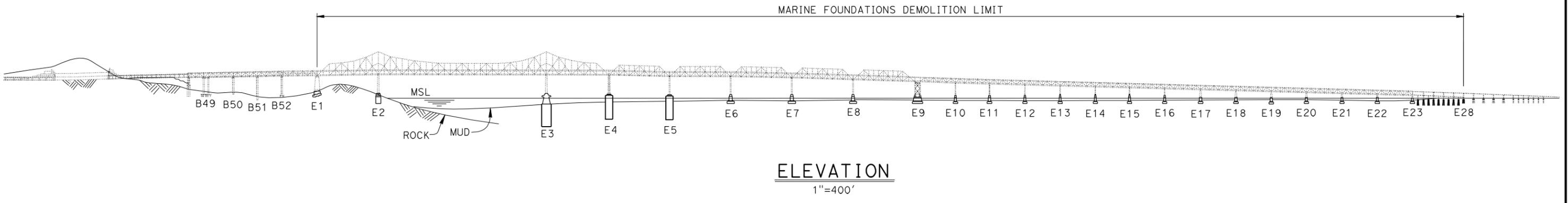
REGISTERED CIVIL ENGINEER	X	DATE
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER	X
No.	X
Exp.	X
CIVIL	

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

DRAFT COPY



NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

X  
DESIGN ENGINEER

DESIGN	BY	Yong Pil Kim	CHECKED	X
DETAILS	BY	Carlo Cancino	CHECKED	X
QUANTITIES	BY	X	CHECKED	X

LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/ "LOW-BOY" PERMIT DESIGN VEHICLE
LAYOUT	BY X
SPECIFICATIONS	BY X

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 8

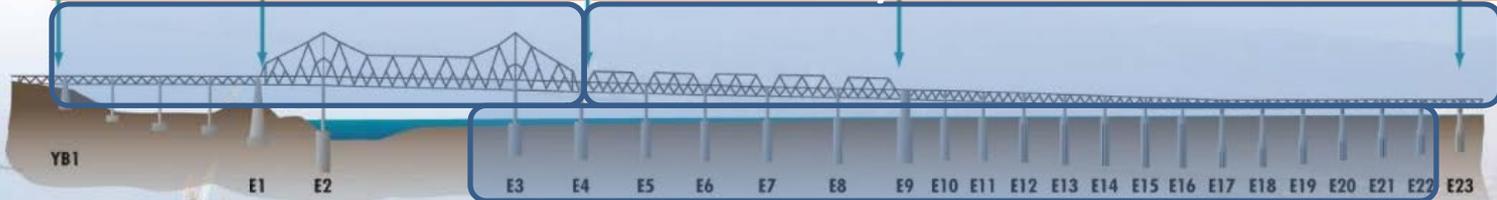
BRIDGE NO.	33-0025
POST MILE	X

**SAN FRANCISCO-OAKLAND BAY BRIDGE  
EAST SPAN SEISMIC SAFETY PROJECT**

**MARINE FOUNDATION DEMOLITION  
GENERAL PLAN**

YBITS 2 Contract

504/288 Contract



Marine Foundation Contract



TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

THE SAN FRANCISCO-OAKLAND BAY BRIDGE  
EAST SPAN SEISMIC SAFETY PROJECT

## Foundation Sizes and Quantities 12-4-2015

Pier	Length (Feet)	Width (Feet)	Cutoff Elevation (Feet)	Concrete Removal Volume (Cubic Yards)	Concrete Volume Mechanical Demolition In Caisson Disposal (Cubic Yards)	Concrete Volume Implosion Demolition In Caisson Disposal (Cubic Yards)	Concrete Volume Off Site Disposal (Cubic Yards)
E2	43	122	-8.0	2,790	0	0	2,790
E3	80	135	-49.5	11,350	4,015	7,335	0
E4	60	90	-49.5	7,900	1,735	6,165	0
E5	60	90	-41.0	4,650	1,700	2,950	0
E6	68	128	-46.5	7,450			7,450
E7	68	128	-36.3	4,100			4,100
E8	68	128	-33.8	3,550			3,550
E9	100	100	-31.0	6,450			6,450
E10	30	98	-31.3	2,100			2,100
E11	34	94	-29.5	2,030			2,030
E12	30	94	-27.5	1,530			1,530
E13	30	94	-28.5	1,620			1,620
E14	30	94	-25.8	1,360			1,360
E15	30	94	-25.0	1,330			1,330
E16	30	94	-26.0	1,390			1,390
E17	34	94	-24.8	1,900			1,900
E18	34	94	-20.0	1,530			1,530
E19	34	94	-17.5	1,270			1,270
E20	30	94	-18.0	1,180			1,180
E21	30	94	-18.0	1,010			1,010
E22	30	94	-23.5	1,080			1,080
Totals				67,570	7,450	16,450	43,670
<b>Concrete Volumes (1.6 Bulking Factor)</b>					11,920	26,320	69,872
				<b>Total Disposed in Caissons</b>		<b>38,240</b>	







**TO:** Toll Bridge Program Oversight Committee (TBPOC)      **DATE:** December 10, 2015

**FR:** Peter Lee, Principal, BATA

**RE:** Agenda No. – 4e4  
Item – Marine Foundations Demolition – Independent Demolition Cost Review

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**Recommendation:**

Information

**Costs:**

NA

**Discussion:**

The TBPOC Chair requested an independent cost review of the demolition of the old eastern span of the San Francisco-Oakland Bay Bridge. BATA contracted with CH2MHill to perform the review.

Since contracts for the dismantling of the superstructure of the old bridge is already underway, the review focused on the demolition of the remaining marine foundations (E4 to E22) and the cost risks should the implosion method not be implemented for the remaining piers.

The CH2MHill team has completed their cost review and met with Caltrans cost estimators to validate the assumptions on construction methodologies, schedules and environmental constraints to verify the estimates are comparable. The baseline cost review assumed demolition of the remaining piers (E2 and E4 to E22) by implosion with a limited two-month implosion window. The 2015 3<sup>rd</sup> Quarter Report forecast for the work was \$193.7 M. The CH2MHill cost review estimate was close with a baseline cost of \$180.0 M and a confidence level of -5% to +15% or \$171.0 M to \$207.0 M.

Forecast Comparison to Remove Old San Francisco-Oakland Bay Bridge Marine Foundations (E2 and E4 to E22) by Implosion Method	
2015 3 <sup>rd</sup> Quarter Report Forecast	\$193.7 M
CH2MHill Cost Review	\$180.0 M

## *Memorandum*

The CH2MHill review estimate also reaffirmed that demolition by the implosion method would be significantly less than by conventional mechanical means with cofferdams. CH2MHill estimated that conventional demolition would cost an additional \$86.0 M and add an additional year to the schedule.

Further, the review did reaffirm opportunities for cost, schedule and risk reductions as identified by TBSRP risk management report and the Department's report to the TBPOC in Item 4.e.3 on Marine Foundation Demolition. These opportunities include:

1. Expanding the Schedule Window for Implosion – The recent pilot pier implosion of E3 was permitted only a one-month window in November to perform the implosion and clean-up of the pier. To meet the current schedule, up to six piers a year would need to be imploded and cleaned up within the one-month window. Given the apparent environmental success of the E3 implosion, requesting a longer window would reduce cost and schedule risk due to need for additional equipment, potential breakdowns, and unexpected environmental delays.
2. Reducing Scope – The TBPOC has directed staff to investigate saving as many piers as possible. Resource agencies have had limited briefings on the subject and noted that keeping the piers in place would require permit changes and face other challenges for approval. Not removing the piers in shallow water near the Oakland shoreline would directly save costs and reduce the overall schedule by one to two seasons.

CH2MHill staff will be available at the December TBPOC meeting to discuss the cost review.

## **ITEM 5: GENERAL PUBLIC COMMENT**