

# Toll Bridge Seismic Retrofit Program Report



## TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION



**Fourth Quarter Report**  
December 31, 2008





# TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

Toll Bridge Program Oversight Committee  
Department of Transportation  
Office of the Director  
1120 N Street  
P.O. Box 942873  
Sacramento, CA 94273-0001

February 9, 2009

Mr. John Chalker, Chair  
California Transportation Commission  
1120 N Street, Room 2221  
Sacramento, CA 95814

Mr. Bob Alvarado, Vice-Chair  
California Transportation Commission  
1120 N Street, Room 2221  
Sacramento, CA 95814

Dear Commissioners Chalker and Alvarado:

The Toll Bridge Program Oversight Committee (TBPOC) is pleased to submit the 2008 Fourth Quarter Toll Bridge Seismic Retrofit Program Report, prepared pursuant to California Streets and Highways Code Section 30952. The TBPOC is tasked to exercise project oversight and control over the Toll Bridge Seismic Retrofit Program (TBSRP) and comprises the Director of the Department of Transportation (Caltrans), the Executive Director of the Bay Area Toll Authority (BATA), and the Executive Director of the California Transportation Commission (CTC). This fourth quarter report includes project progress and activities for the Toll Bridge Seismic Retrofit Program (TBSRP) through December 31, 2008.

In this fourth quarter, Caltrans certified seismic safety on the San Francisco-Oakland Bay Bridge West Approach Replacement Project on December 22, 2008 – eight months ahead of schedule. Likened to open-heart surgery while the patient is running a marathon, Caltrans and its contractor successfully replaced a critical transportation route that weaved through the heart of San Francisco, while keeping all lanes of traffic open for daily commuters. Over the next quarter, Caltrans will be closing out the project and reopening the Harrison Street off ramp.

In December 2008, BATA and Caltrans staff identified that both the Dumbarton and Antioch bridges were in need of seismic retrofit. When first developed in the 1990's, the TBSRP excluded these two bridges based on their relatively young age and judgment at the time. Further seismic vulnerability studies have determined that the bridges are in need of an estimated \$950 million in retrofit work. Funding for the retrofit has not yet been identified. We recommend legislation to amend current law to include the Dumbarton and Antioch retrofit projects in the current TBSRP.

John Chalker  
Bob Alvarado  
February 9, 2009  
Page 2

We look forward to discussing the projects with you and working to find a legislative solution to ensure seismic safety on these two bridges.

On the San Francisco-Oakland Bay Bridge East Span Seismic Replacement Project, there have been recent news reports concerning the fabrication challenges on the Self-Anchored Suspension Span (SAS). These reports include questions about the quality of the welds on the steel being fabricated for the new span. As we have reported in past quarterly reports, we have been working diligently to resolve these fabrication challenges, maintain quality and to keep the project on schedule.

Caltrans has instituted protocols reviewed by engineering professionals from around the world and has placed a number of qualified construction and inspection staff at the fabrication facilities to ensure quality. This staff has been on site since early 2007. Furthermore, the TBPOC is negotiating directly with the SAS contractor to mitigate any schedule delays. No part of the new bridge will be shipped unless it is fit to be installed and all efforts will be made to keep the project on schedule and on budget. No additional funds beyond those already authorized are needed to resolve these issues and the bridge is still scheduled to open as planned in 2012 westbound and 2013 eastbound.

The next year will be one of the most critical for the new east span with a number of milestone activities. In March, we anticipate the delivery of a new shearleg crane barge (perhaps the largest operating in the United States) that will be used to lift sections of the new bridge into place. Towards the middle of the year, the first shipments of steel roadway sections are scheduled to arrive. These sections will be followed by the tower segments later in the year. Finally, a weekend closure of the Bay Bridge is expected in the latter half of the year for the roll out of a section of the existing bridge and the roll in of a new section to allow for the detour of traffic off the existing bridge and construction of new transition structures from the Yerba Buena Island tunnel to the SAS.

The TBPOC is committed to providing the Legislature with comprehensive and timely reporting on the TBSRP. If there are any questions, or if any additional information is required, please do not hesitate to contact the members of the TBPOC.

Sincerely,



WILL KEMPTON  
Director  
California Department of Transportation  
Chair, Toll Bridge Oversight Committee



JOHN F. BARNA, JR.  
Executive Director  
California Transportation Commission



STEVE HEMINGER  
Executive Director  
Bay Area Toll Authority



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Toll Bridge Program Oversight Committee  
Department of Transportation  
Office of the Director  
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P.O. Box 942873  
Sacramento, CA 94273-0001

February 9, 2009

Mr. Gregory Schmidt  
Secretary of the Senate  
State Capitol, Room 3044  
Sacramento, CA 95814

Mr. E. Dotson Wilson  
Chief Clerk of the Assembly  
State Capitol, Room 3196  
Sacramento, CA 95814

Dear Messrs. Schmidt and Wilson:

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Gregory Schmidt  
E. Dotson Wilson  
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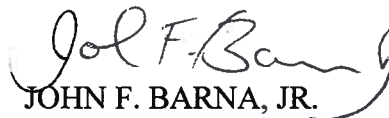
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WILL KEMPTON  
Director  
California Department of Transportation  
Chair, TBPOC



JOHN F. BARNA, JR.  
Executive Director  
California Transportation Commission



STEVE HEMINGER  
Executive Director  
Bay Area Toll Authority

# Table of Contents

<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
TABLE 2-TOLL BRIDGE SEISMIC RETROFIT PROGRAM—COST SUMMARY .....	5
TABLE 3-TOLL BRIDGE SEISMIC RETROFIT PROGRAM—SCHEDULE SUMMARY.....	6
<b>PROGRAM COSTS</b> .....	<b>7</b>
BASELINE AND PROJECTED BUDGET .....	7
<b>PROGRAM SCHEDULE</b> .....	<b>8</b>
BASELINE AND PROJECTED SCHEDULE.....	8
<b>PROGRAM FUNDING AND FINANCING</b> .....	<b>9</b>
<i>Funding Status</i> .....	10
<b>PROJECT STATUS</b> .....	<b>12</b>
ONGOING CONSTRUCTION PROJECTS .....	12
<i>SFOBB West Approach</i> .....	12
<i>Milestones Achieved</i> .....	12
<i>SFOBB East Span Seismic Replacement</i> .....	13
<i>Milestones Achieved – East Span Contracts</i> .....	15
<i>Major Risk Issues</i> .....	21
<i>SFOBB East Span Project Replacement Risk Management Plan</i> .....	21
COMPLETED PROJECTS .....	23
<b>RISK MANAGEMENT PROGRAM</b> .....	<b>24</b>
<b>OTHER TOLL BRIDGES</b> .....	<b>28</b>
<i>The Dumbarton Bridge</i> .....	28
<i>The Antioch Bridge</i> .....	28
SUMMARY OF TBPOC EXPENSES.....	30
<b>APPENDICES</b> .....	<b>32</b>
APPENDIX A-1 TBSRP ALL BRIDGES AB144/SB 66 BASELINE BUDGET, FORECASTS AND EXPENDITURES. ....	33
APPENDIX A-2 .....	33
APPENDIX B. TBSRP EAST SPAN ONLY AB 144/SB 66 BASELINE BUDGET, FORECASTS, AND EXPENDITURES .....	34
APPENDIX C. CTC FOURTH QUARTER SCHEDULE .....	36
APPENDIX D. SEISMIC RETROFIT PROJECT YERBA BUENA ISLAND TRANSITION STRUCTURES PROGRESS DIAGRAM ....	38
APPENDIX E. SEISMIC RETROFIT PROJECT OAKLAND TOUCHDOWN #1 .....	39
APPENDIX F. PROJECT/CONTRACT PHOTOGRAPHS/DIAGRAMS .....	40
APPENDIX G. ANTIOCH AND DUMBARTON BRIDGES SEISMIC RETROFIT DIAGRAMS .....	48

## Executive Summary

The Toll Bridge Program Oversight Committee (TBPOC) submits the 2008 Fourth Quarter Report ending December 31, 2008 for the Toll Bridge Seismic Retrofit Program (TBSRP) in accordance with Assembly Bill (AB) 144 and Senate Bill (SB) 66. This report provides the following:

1. Information on the progress of each project in the program
2. Baseline budget for Capital Outlay (CO) and Capital Outlay Support (COS)
3. Current projected costs for CO and COS
4. Expenditures to date
5. Comparison of the baseline schedule to the December 2008 projected schedule
6. Summary of the milestones achieved during the quarter
7. Major risk assessment for the remaining projects
8. Summary of expenses incurred by the TBPOC in performing its duties

## Major Highlights during the Fourth Quarter 2008

Of the seven toll bridges in the TBSRP, only the San Francisco-Oakland Bay Bridge (SFOBB) remains to be retrofitted. Highlights of major milestones and actions made during the quarter include:

- On the San Francisco-Oakland Bay Bridge West Approach Replacement Project, the California Department of Transportation (Caltrans) certified seismic safety on the project on December 22, 2008 – eight months ahead of schedule. To accelerate the project and minimize impacts to the local community and the traveling public, the TBPOC has approved a number of contract changes, including most recently an additional allocation of \$17 million to the project budget in November 2008. The costs of these changes are within the TBSRP contingency and will not result in a change to the overall program budget. Final closeout and punchlist work is ongoing on the contract and



West Approach Project Progress





*Temporary Support Truss Being Fabricated at ZPMC*

will be completed in the first quarter of 2009. (See project notes on page 12.)

- As part of the SFOBB East Span Seismic Replacement Project, the Self-Anchored Suspension Span (SAS) contract is constructing the superstructure of the signature span between the Skyway and Yerba Buena Island (YBI). Work is occurring both in the Bay Area and around the world to complete the span.

American Bridge/Fluor, the prime contractor on the project, is performing civil work both on YBI and out on the bay with construction of the W2 and E2 support piers and with the erection of temporary support structures that will support the SAS deck sections during construction.

A labor dispute arose in December 2008 involving the off-loading of the temporary structures from a ship while tied off to the job site dock. The dispute was resolved to allow for off-loading of the ship in the middle of the bay. The contractor and the TBPOC are working to resolve the dispute for future shipments. Completion of all temporary foundation structures is expected in the summer of 2009.

Fabrication of the towers, roadway decks, and saddles continues in Asia. While significant

progress has been made on the decks and towers, the SAS contractor has stated that the fabrication schedule for the roadway boxes is behind schedule. This delay may increase and result in additional cross-impacts to the corridor schedule. (See “Risk Management Program” on page 25 for more information.) The contractor and TBPOC have negotiated a tentative agreement to accelerate the work. The agreement should be finalized in the first quarter of 2009. The cost for this agreement is within the contract contingency set aside and should not affect the overall program budget. The TBPOC and contractor continue to evaluate options to accelerate the project.

A large barge-mounted crane needed to erect the new bridge has been completed and will arrive in the Bay Area in early March 2009.

There have been recent news reports concerning the fabrication challenges on the SAS. These include questions about the quality of the welds on steel being fabricated for the new span. As the TBPOC has reported in past quarterly reports, the SAS contractor has reported some fabrication challenges that have been addressed and resolved by Caltrans and the TBPOC.



*Testing of the Shearleg Crane Barge at ZPMC*

Caltrans has already instituted inspection protocols approved by engineering professionals from around the world and placed a number of qualified construction and inspection staff at the fabrication facilities to ensure quality. Furthermore, the TBPOC is negotiating directly with the SAS contractor to mitigate any schedule delays. No part of the new bridge will be shipped unless it is fit to be installed and all efforts will be made to keep the project on schedule and on budget. No additional funds beyond those already budgeted for the program are needed to resolve these issues, and the bridge is scheduled to open as planned in 2012 westbound and 2013 eastbound.

- The Yerba Buena Island Detour contract (YBID) is constructing a temporary detour structure from the Yerba Buena Island tunnel to the existing east span. The contract is making progress on the temporary detour viaduct and on advanced work on a number of foundations for the future transition structure from the SAS to the tunnel. Clearly visible to the traveling public, the double-deck steel truss of the temporary detour viaduct is being assembled just south of the existing bridge.

The contract originally intended to put traffic on a temporary detour in 2006 to meet an earlier east span replacement schedule. The current revised schedule will not have traffic on the temporary detour until 2009. To better integrate the contract into the revised project schedule, the TBPOC has approved a number of changes to the contract. These changes included adding the deck replacement work near the tunnel that was rolled into place over Labor Day Weekend 2007, advancing future transition structure foundation work and making design enhancement to the temporary detour structure.

- Significant construction risks have been identified that will require additional funds to be budgeted for the YBID contract. In June 2008, the TBPOC approved a revised project budget of \$442.2 million for the project, which is \$107.8 million higher than the previously

approved budget. The revised forecast for the project is \$461.2 million, which includes additional contingencies to cover the potential project risks. The budget change will be funded from the TBSRP program contingency and redirected project savings from the E2/T1, Skyway and Richmond-San Rafael Bridge contracts.

- When first conceived, the Toll Bridge Seismic Retrofit Program only identified seven of the nine state-owned toll bridges to be in need of seismic retrofit, excluding the Dumbarton and Antioch bridges. Further seismic vulnerability studies were recently completed by Caltrans and BATA on those structures, which determined that both structures were now in need of retrofit based on current seismic standards. While final designs for the retrofit of the bridges is still being prepared, the total cost to retrofit both structures is estimated to cost \$950 million. Full funding for the project has not yet been identified, but will likely come from a combination of sources, including toll increases and other state or federal funding. (For more information, see discussion on page 28.)



Yerba Buena Island Transition Structures Column

## Program Overview

Seven of the nine state-owned toll bridges were identified for seismic retrofit in the TBSRP:

1. Benicia-Martinez Bridge
2. Carquinez Bridge
3. San Mateo-Hayward Bridge
4. Vincent Thomas Bridge
5. San Diego-Coronado Bridge
6. Richmond-San Rafael Bridge
7. San Francisco-Oakland Bay Bridge
  - ◆ East Span Replacement
  - ◆ West Span Retrofit
  - ◆ West Approach Replacement

Seismic retrofit of these complex structures presents an extremely difficult engineering challenge. Nowhere in the world has a bridge seismic safety program of this size been undertaken.

As shown in *Table 1-TBSRP Project Status*, a significant portion of the TBSRP is complete. Only the east span of the SFOBB remains to be seismically retrofitted.

The fourth quarter 2008 forecast indicates that the TBSRP projects will be completed within the overall current TBPOC approved program budget. *Tables 2 and 3* on the following pages provide a summary of the cost, schedule and status of all the TBSRP projects.

The Dumbarton and Antioch bridges were not originally included in the TBSRP. Further seismic vulnerability studies were completed and retrofit strategies with project costs and schedule estimates have been proposed for both bridges. (See discussion on pages 28 and 29).

**Table 1-TBSRP Project Status**

Toll Bridge Seismic Retrofit Projects	Seismic Safety Status
San Francisco-Oakland Bay Bridge East Span Replacement	Construction
San Francisco-Oakland Bay Bridge West Approach Replacement	Complete
San Francisco-Oakland Bay Bridge West Span Seismic Retrofit	Complete
San Mateo-Hayward Bridge Seismic Retrofit	Complete
Richmond-San Rafael Bridge Seismic Retrofit	Complete
Carquinez Bridge Eastbound Seismic Retrofit	Complete
Benicia-Martinez Bridge Seismic Retrofit	Complete
San Diego-Coronado Bridge Seismic Retrofit	Complete
Vincent Thomas Bridge Seismic Retrofit	Complete

**Table 2-Toll Bridge Seismic Retrofit Program—Cost Summary (\$ Millions)**

Project	Work Status	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (12/2008)	Cost To Date (12/2008)	Cost Forecast*	At-Completion Variance	Cost Status
a	b	c	d	e = c + d	f	g	h = g - e	i
<b>SFOBB East Span Replacement Project</b>								
Capital Outlay Support		959.3	-	959.3	675.2	977.1	17.8	●
Capital Outlay Construction								
Skyway	Complete	1,293.0	(38.9)	1,254.1	1,236.7	1,254.1	-	●
SAS E2/T1 Foundations	Complete	313.5	(32.6)	280.9	275.0	280.9	-	●
SAS Superstructure	Construction	1,753.7	-	1,753.7	606.8	1,767.4	13.7	●
YBI Detour	Design/Const	132.0	310.2	442.2	265.5	461.2	19.0	●
YBI Transition Structures		299.3	(23.2)	276.1	-	276.1	-	●
* YBITS Contract No. 1	Design				-	214.3		
* YBITS Contract No. 2	Design				-	58.5		
* YBITS Contract No. 3 - Landscape	Design				-	3.3		
Oakland Touchdown (OTD)		283.8	-	283.8	143.4	302.5	18.7	
* OTD Submarine Cable	Complete				7.9	9.6		●
* OTD No. 1 (Westbound)	Construction				135.5	226.5		●
* OTD No. 2 (Eastbound)	Design				-	62.0		●
* OTD Electrical Systems	Design				-	4.4		●
Existing Bridge Demolition	Design	239.2	-	239.2	-	222.0	(17.2)	●
Stormwater Treatment Measures	Complete	15.0	3.3	18.3	16.6	18.3	-	●
East Span Completed Projects		90.3	-	90.3	89.2	90.3	-	
Right-of-Way and Environmental Mitigation		72.4	-	72.4	39.1	72.4	-	●
Other Budgeted Capital		35.1	(3.3)	31.8	0.7	7.7	(24.1)	
<b>Total SFOBB East Span Replacement Project</b>		<b>5,486.6</b>	<b>215.5</b>	<b>5,702.1</b>	<b>3,348.2</b>	<b>5,730.0</b>	<b>27.9</b>	
<b>SFOBB West Approach Replacement</b>								
	Construction							●
Capital Outlay Support		120.0	-	120.0	112.6	120.0	-	
Capital Outlay Construction		309.0	41.7	350.7	304.6	350.7	-	●
<b>Total SFOBB West Approach Replacement</b>		<b>429.0</b>	<b>41.7</b>	<b>470.7</b>	<b>417.2</b>	<b>470.7</b>	-	
<b>Richmond-San Rafael Bridge Retrofit</b>								
	Complete							●
Capital Outlay Support		134.0	(7.0)	127.0	126.7	127.0	-	
Capital Outlay Construction & Right-of-Way		780.0	(90.5)	689.5	668.1	689.5	-	
<b>Total Richmond-San Rafael Bridge Retrofit</b>		<b>914.0</b>	<b>(97.5)</b>	<b>816.5</b>	<b>794.8</b>	<b>816.5</b>	-	
<b>Program Completed Projects</b>								
	Complete							
Capital Outlay Support		219.8	-	219.8	219.4	219.8	-	
Capital Outlay Construction		705.6	-	705.6	699.0	705.6	-	
<b>Total Program Completed Projects</b>		<b>925.4</b>	-	<b>925.4</b>	<b>918.4</b>	<b>925.4</b>	-	
<b>Miscellaneous Program Costs</b>								
		30.0	-	30.0	24.7	30.0	-	
<b>Program Contingency</b>		<b>900.0</b>	<b>(159.7)</b>	<b>740.3</b>	-	<b>712.4</b>	<b>(27.9)</b>	
<b>Total Toll Bridge Seismic Retrofit Program</b>		<b>8,685.0</b>	-	<b>8,685.0</b>	<b>5,503.3</b>	<b>8,685.0</b>	-	

● Within Approved Schedule and Budget  
 ● Potential Cost and Schedule Impacts: Likely future need for Program Contingency Allocation  
 ● Known Cost and Schedule Impacts: Request for Program Contingency Allocation forthcoming  
 Note: Details may not sum to totals due to rounding effects.

**Table 3-Toll Bridge Seismic Retrofit Program—Schedule Summary**

Project	AB 144 / SB 66 Project Complete Baseline (07/2005)	Approved Changes (Months)	Project Complete Current Approved Schedule (12/2008)	Project Complete Schedule Forecast (12/2008)	Schedule Variance (Months)	Schedule Status	Remarks
a	b	c	d = b + c	e	f = e - d	g	h
SFOBB East Span Replacement Project Skyway	Apr 07	8	Dec 07	Dec 07	-	●	
SAS E2/T1 Foundations	Jun 08	(3)	Mar 08	Jan 08	(2)	●	
SAS Superstructure	Mar 12	12	Mar 13	Mar 13	-	●	See Note. Go to Page 24, Risk Management Program, for more information.
YBI Detour	Jul 07	36	Jun 10	Jun 10	-	●	
YBI Transition Structures	Nov 13	12	Nov 14	Nov 14	-	●	
Oakland Touchdown (OTD)	Nov 13	12	Nov 14	Nov 14	-	●	
• OTD Submarine Cable	n/a		Jan 08	Jan 08	-	●	
• OTD Westbound	n/a		May 10	May 10	-	●	
• OTD Eastbound	n/a		Nov 14	Nov 14	-	●	See Note.
Existing Bridge Demolition	Sep 14	12	Sep 15	Sep 15	-	●	See Note.
Stormwater Treatment Measures	Mar 08	-	Mar 08	Mar 08	-	●	
Open-to-Traffic Date: Westbound	Sep 11	12	Sep 12	Sep 12	-	●	See Note.
Open-to-Traffic Date: Eastbound	Sep 12	12	Sep 13	Sep 13	-	●	See Note.
SFOBB West Approach Replacement	Aug 09	(6)	Feb 2009	Feb 2009	-	●	Seismic retrofit completed December 22, 2008
• Open-to-Traffic Date: Mainline		-		April 2008			Open To Traffic.
Richmond-San Rafael Bridge		-					
• Seismic Retrofit	Aug 05	-	Aug 05	Oct 05	2	●	Seismic retrofit completed July 29, 2005. Formal acceptance of contract October 28, 2005.
• Public Access Project	n/a	-	May 07	Sept 07	4	●	

Note: Schedules for selected projects and the Open-to-Traffic dates were extended by 12 months from the AB 144/SB 66 baseline schedule due to Addenda #5 and #7 on the SAS Superstructure contract in response to bidder inquiries and to reduce costs.

- Within Approved Schedule and Budget
  - Potential Cost and Schedule Impacts: Likely future need for Program Contingency Allocation
  - Known Cost and Schedule Impacts: Request for Program Contingency Allocation forthcoming
- Note: Details may not sum to totals due to rounding effects.



## Program Costs

### Baseline and Projected Budget

The 2005 AB 144/SB 66 budget is \$7.785 billion for Capital Outlay (CO) and Capital Outlay Support (COS) plus \$900 million in program contingency for a total baseline budget of \$8.685 billion. The fourth quarter 2008 forecast for the program remains steady at the \$8.685 billion budget. The fourth quarter 2008 forecast for the SFOBB East Span Project is \$5.730 billion and is based on revised construction estimates, current project management information and the risk management effort.

Additional cost estimate and expenditure details for the TBSRP are included in Appendices A-1 and A-2. The details of the cost estimates and expenditures for the SFOBB East Span are shown in Appendix B.



*E2 Support Structure Concrete Pour*

**Table 4-Toll Bridge Seismic Retrofit Program Cost (\$ Millions)**

Contracts	AB 144 / SB 66 Baseline Budget	Approved Changes	Current Approved Budget	4th Quarter 2008 Forecast	Difference from Current Approved Budget
<b>Completed Projects</b>					
Benicia-Martinez	177.8	-	177.8	177.8	-
Carquinez	114.2	-	114.2	114.2	-
San Mateo-Hayward	163.5	-	163.5	163.5	-
Vincent Thomas	58.5	-	58.5	58.5	-
San Diego-Coronado	103.5	-	103.5	103.5	-
SFOBB West Span	307.9	-	307.9	307.9	-
<b>Ongoing Projects</b>					
Richmond-San Rafael	914.0	(97.5)	816.5	816.5	-
SFOBB West Approach	429.0	41.7	470.7	470.7	-
SFOBB East Span	5,486.6	215.5	5,702.1	5,730.0	27.9
Miscellaneous Program Costs	30.0	-	30.0	30.0	-
<b>Subtotal</b>	<b>7,785.0</b>	<b>159.7</b>	<b>7,944.7</b>	<b>7,972.6</b>	<b>27.9</b>
Program Contingency	900.0	(159.7)	740.3	712.4	(27.9)
<b>Total Program</b>	<b>8,685.0</b>	<b>-</b>	<b>8,685.0</b>	<b>8,685.0</b>	<b>-</b>

# Program Schedule

## Baseline and Projected Schedule

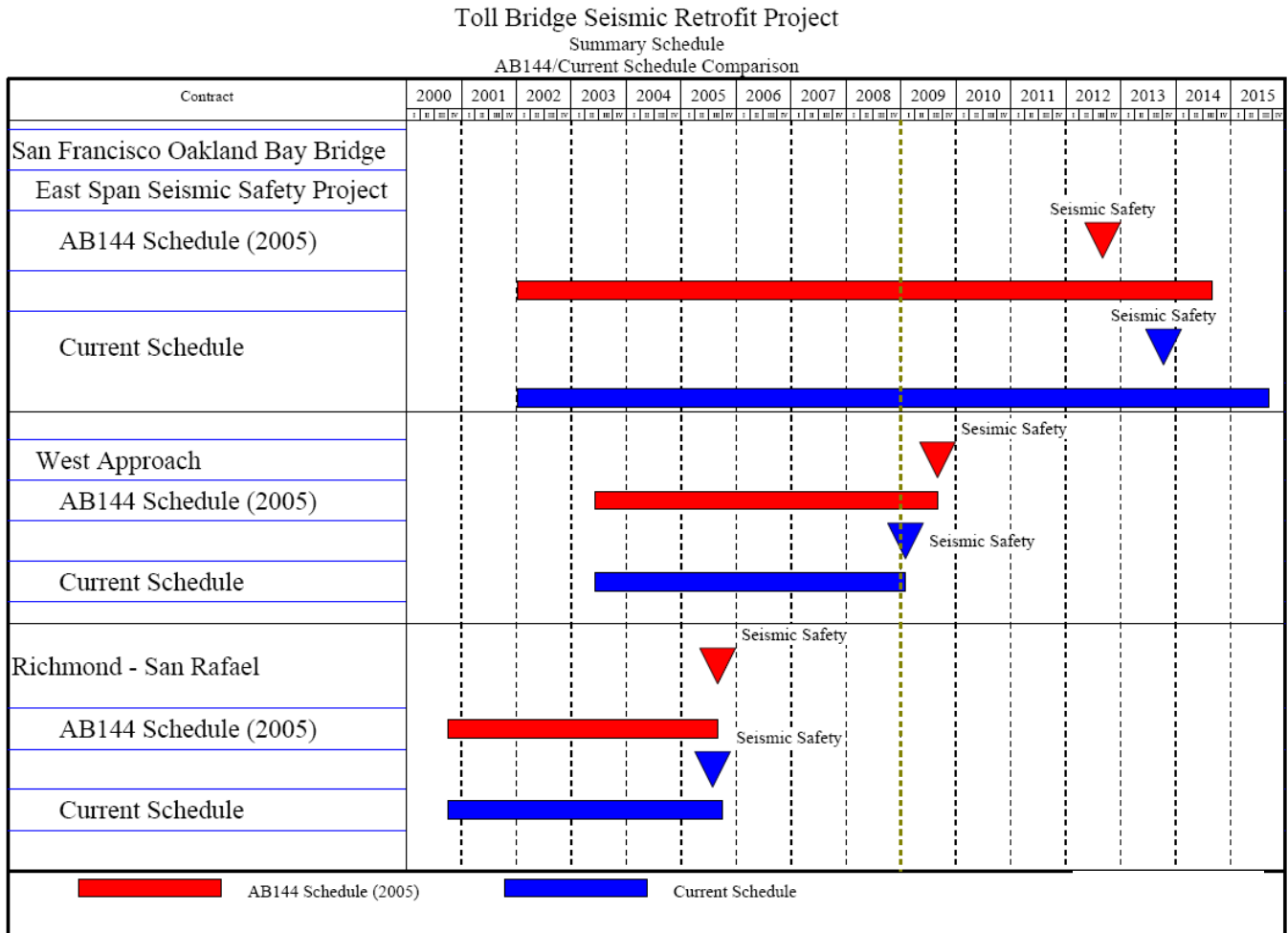
Seismic retrofit of six of the seven toll bridges in the TBSRP is complete. These structures include the Benicia-Martinez, Carquinez, Richmond-San Rafael, San Mateo-Hayward, Vincent Thomas and San Diego-Coronado bridges.

While the west spans and west approach of the San Francisco-Oakland Bay Bridge have been retrofitted, east span construction continues. The new east span is forecast to open in the

westbound direction in September 2012 and in the eastbound direction in September 2013.

It is estimated that all construction activities for the SFOBB East Span Seismic Replacement project will be completed by 2015, marked by the planned demolition of the existing SFOBB East Span. *Chart 1-Schedule of Remaining Projects* shows the Baseline AB 144/SB 66 project schedule versus the projected completion schedules for the TBSRP projects currently under construction.

**Chart 1-Schedule of Remaining Projects**





## Program Funding and Financing

AB 144 established a funding level of \$8.685 billion for the TBSRP. The bill specifies program funding sources, as shown in *Table 5-Program Budget*.

**Table 5-Program Budget  
as of December 31, 2008 (\$ Millions)**

	Budgeted	Funding Available & Contributions
<b>Financing</b>		
Seismic Surcharge Revenue AB 1171	2,282.0	2,282.0
Seismic Surcharge Revenue AB 144	2,150.0	2,150.0
BATA Consolidation	820.0	820.0
<b>Subtotal - Financing</b>	<b>5,252.0</b>	<b>5,252.0</b>
<b>Contributions</b>		
Proposition 192	790.0	789.0
San Diego Coronado Toll Bridge Revenue Fund	33.0	33.0
Vincent Thomas Bridge	15.0	6.9
State Highway Account <sup>(1)(2)</sup>	745.0	745.0
Public Transportation Account <sup>(1)(3)</sup>	130.0	130.0
ITIP/SHOPP/Federal Contingency	448.0	-
Federal Highway Bridge Replacement and Rehabilitation (HBRR)	642.0	642.0
SHA - East Span Demolition	300.0	
SHA - "Efficiency Savings" <sup>(4)</sup>	130.0	10.0
Redirect Spillover	125.0	125.0
Motor Vehicle Account	75.0	75.0
<b>Subtotal - Contributions</b>	<b>3,433.0</b>	<b>2,555.9</b>
<b>Total Funding</b>	<b>8,685.0</b>	<b>7,807.9</b>
<b>Allocated to date</b>		<b>7,002.6</b>
<b>Remaining Unallocated</b>		<b>805.3</b>
<p><sup>(1)</sup> The California Transportation Commission adopted a new schedule and changed the PTA/SHA split on December 15, 2005.</p> <p><sup>(2)</sup> To date, \$645 million has been transferred from the SHA to the TBSRP, including the full \$290 million transfer scheduled by the CTC to occur in 2005-06. An additional \$100 million has been expended directly from the account.</p> <p><sup>(3)</sup> To date, \$130 million has been transferred from the PTA to the TBSRP, including the full amount of all transfers scheduled by the CTC.</p> <p><sup>(4)</sup> To date, \$10 million has been transferred from the SHA to the TBSRP, representing the commitment of "Efficiency Savings" identified under AB 144. Approximately \$120 million remains to be distributed as scheduled by the CTC.</p> <p><b>Notes:</b> Program budget includes \$900 million program contingency.</p>		

## Funding Status

The program's financial status of revenues and expenditures is summarized in the table below, *Table 6-Toll Bridge Seismic Retrofit Program Financial Status*. The figures include the surcharge revenues collected, transfers from the SHA and the PTA, and expenditures from the Toll Bridge Seismic Retrofit Account (TBSRA) and the Seismic Retrofit Bond Act of 1996 (Proposition 192).

**Table 6-Toll Bridge Seismic Retrofit Program Financial Status as of December 31, 2008 (\$ Millions)**

<b>Revenues:</b>	
Toll Surcharge <sup>(1)</sup>	687.9
SMIF Interest	97.9
Bond Revenue (Seismic Bond of 1996)	789.0
Bond Revenue (Toll Revenue Bonds)	1,062.0
Commercial Paper <sup>(2)</sup>	80.0
SANDAG	33.0
Vincent Thomas <sup>(3)</sup>	6.9
Federal Highway Bridge Replacement and Rehabilitation	642.0
<b>Transfers to TBSRA:</b>	
Motor Vehicle Account	75.0
State Highway Account <sup>(4)</sup>	745.0
Public Transportation Account <sup>(5)</sup>	130.0
State Highway Account "Efficiency Savings" <sup>(6)</sup>	10.0
Total Revenues and Transfers	<b>4,358.7</b>
<b>Expenditures :</b>	
Capital Outlay	4,344.7
State Operations	1,158.5
Total Expenditures	<b>5,503.2</b>
<b>Encumbrances:</b>	
Capital Outlay	1,490.1
State Operations	9.3
Total Encumbrances	<b>1,499.4</b>
<b>Total Expenditures and Encumbrances</b>	<b>7,002.6</b>
<p>(1) The Toll Surcharge is dedicated to repayment of bonds beginning September 1, 2003. Toll Surcharge shown here is only toll revenue collected prior to that date.</p> <p>(2) \$80 Million in Commercial Paper issued on or about April 5, 2005.</p> <p>(3) No additional funding is expected from the Vincent Thomas Toll Revenue Account.</p> <p>(4) To date, \$645 million has been transferred from the SHA to the TBSRP, including the full \$290 million transfer scheduled by the CTC to occur in 2005-06. An additional \$100 million has been expended directly from the account.</p> <p>(5) To date, \$130 million has been transferred from the PTA to the TBSRP, including the full amount of all transfers scheduled by the CTC.</p> <p>(6) To date, \$10 million has been transferred from the SHA to the TBSRP, representing the commitment of "Efficiency Savings" identified under AB 144. Approximately \$120 million remains to be distributed as scheduled by the CTC.</p>	

## Program Financing

As discussed on the previous page, 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 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 program, including:

- administrative responsibility for collection and accounting of all toll revenues
- authorization to increase tolls on the state-owned bridges by \$1.00, effective January 1, 2007
- project level toll-setting authority as necessary to cover additional cost increases beyond the funded program contingency in order to complete the TBSRP
- 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 (I-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 the following discussion concerning the California Transportation Commission (CTC) funding schedule).
- locking in current interest rates to the extent possible in order to improve the likelihood that the entire toll program construction and the operations and maintenance can be delivered within the \$4.00 auto toll level.

In March 2006, BATA approved the issuance of \$1.2 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 that began on January 1, 2007 on the state-owned toll bridges in the Bay Area. BATA approved the toll increase on January 25, 2006.

Pursuant to AB 144, on September 29, 2005, the CTC adopted a schedule, revised in December 2005, for the transfer of state funds to BATA to fund the TBSRP. The schedule contains the timing and sources of the state contributions, which began in Fiscal Year (FY) 2005-06, and distributes the contributions over the years of project construction to ensure a timely balance between state sources and the contributions from toll funds. In December 2005, the CTC re-adopted the schedule to reflect opportunities maximizing the use of available PTA funds and correct prior transfer transactions. The CTC's December 2005 revised schedule for the transfer of funds allows BATA to pledge the state fund contribution to the financing of the TBSRP per BATA's adopted finance plan. The CTC schedule is included in Appendix C.

In June 2008, BATA refunded \$500 million of the Series 2006 XL Capital auction rate bonds and variable rate demand notes. In July 2008, BATA was requested to approve the refunding of \$715 million in Ambac-insured bonds. The bonds were reissued as uninsured fixed rate bonds. The BATA total debt portfolio is approximately \$5.2 billion.



## Project Status

### Ongoing Construction Projects

#### SFOBB West Approach

The SFOBB West Approach Seismic Retrofit Project will remove and replace the west approach to the SFOBB, which includes all of the westbound mainline and most of the eastbound mainline from 4<sup>th</sup> Street to the SFOBB west anchorage, and all of the connecting entrances and exit ramps in downtown San Francisco. Upon completion of the retrofit project, the west approach mainline and ramps will have the same number of traffic lanes as before, but with improved highway geometrics. The mainline eastbound and westbound structures will be adjacent to each other at 4<sup>th</sup> Street and transition to a double-deck configuration with their own independent support system from Rincon Hill to the anchorage in order to tie into the existing SFOBB.

#### **Milestones Achieved**

Caltrans certified seismic safety for the West Approach structures ahead of schedule on December 22, 2008. Caltrans and its contractor will be completing final closeout and punchlist work on the contract through the first quarter of 2009. The Sterling Street eastbound on ramp opened on its final alignment in November 2008 and the Harrison Street westbound off ramp will be reopened on February 9, 2009.

The TBPOC revised the overall project budget to \$470.7 million during the fourth quarter of 2008 to cover final project closeout costs and costs associated with achieving early project completion, while minimizing impacts to the public and remaining construction risks. Savings from the sale of excess project right-of-way upon project completion will be available later to offset program costs.

The overall project budget and forecast remains within the overall TBSRP program contingency

capacity and will result in no change to the overall program budget. (See *Table 7- Current West Approach Project Budget and Forecast*).



*The West Approach Aerial View*

**Table 7-Current West Approach Project Budget and Forecast (\$ Millions)**

	Current Approved Budget	4th Quarter 2008 Forecast	Difference
COS	120.0	120.0	-
CO	350.7	350.7	-
<b>Total</b>	<b>470.7</b>	<b>470.7</b>	<b>-</b>

## **SFOBB East Span Seismic Replacement**

The east span of the San Francisco-Oakland Bay Bridge (SFOBB) will be seismically retrofitted through the complete replacement of the existing span. The project is split into four distinct elements; the Oakland Touchdown Approach Structures (OTD), Skyway Structures, Self-Anchored Suspension Span (SAS), and Yerba Buena Island Transition Structures (YBITS).

To facilitate construction flow and acceleration of work off the critical path for project completion, the OTD, SAS, and YBITS elements have been split into multiple contracts.

Including contracts for the interim retrofit and final demolition of the existing east span, the SFOBB East Span Seismic Safety Project now consists of 21 contracts.

Twelve contracts are **complete**:

- Interim Retrofit (Existing Bridge)
- East Span Retrofit (Existing 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 Measure

Three contracts are under **construction**:

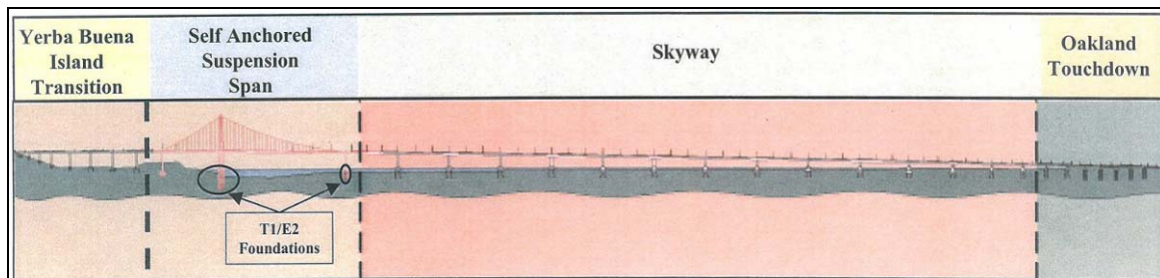
- YBID (including advanced YBITS)
- SAS Superstructure
- OTD #1

Six contracts are in **design**:

- YBITS #1: The contract has been advertised
- YBITS #2: (design 80 percent complete to date)
- YBITS #3 landscaping contract
- OTD #2 contract: The contract is planned to be advertised in summer 2010
- OTD Electrical Contract: The project team explored different options to connect and test the mechanical/electrical/plumbing systems of the east span project, including performing this work as a stand-alone contract or by contract change order on an existing contract. The current plan is to have the SAS contractor complete the work by change order.
- OTD existing bridge demolition.

The forecast completion date as compared to the AB 144/SB 66 baseline completion date for each of the major components of the SFOBB East Span Seismic Replacement project is shown in *Table 8-SFOBB East Span Seismic Replacement Project Schedule Summary* on the following page.

The approved east span opening date has been extended by 12 months by the TBPOC through an addendum issued on the SAS contract based on bidder inquiries received during advertisement.



*SFOBB East Span Replacement Project*

The current approved schedule does not include the potential for schedule reduction based on an early completion incentive on the SAS contract of six months that was also included in the addendum.

Similarly, the schedule for the YBID contract was extended to take into account the 12-month change to the SAS contract schedule and the incorporation of additional work scope from the YBITS contract. This extension is not expected to affect the new east span open-to-traffic date.



Orthotropic Box Girder (OBG) Side Panel Grinding

**Table 8-SFOBB East Span Seismic Replacement Project Schedule Summary**

Contract	AB 144/SB 66 Baseline Pro	Approved Changes	Current Approved Schedule	4th Quarter 2008 Forecast Project Completion Date	Variance (Months)
Skyway	April 2007	8	December 2007	December 2007	-
YBI Detour*	July 2007	36	June 2010	June 2010	-
Stormwater Treatment	March 2008	-	March 2008	March 2008	-
SAS E2/T1 Foundations	June 2008	(3)	March 2008	January 2008	(2)
Open to Traffic: Westbound	September 2011	12	September 2012	September 2012	-
SAS Superstructure	March 2012	12	March 2013	March 2013	-
Open to Traffic: Eastbound	September 2012	12	September 2013	September 2013	-
Oakland Touchdown (OTD)	December 2013	12	December 2014	December 2014	-
OTD Submarine Cable	n/a		January 2008	January 2008	-
OTD No. 1 (Westbound)	n/a		May 2010	May 2010	-
OTD No. 2 (Eastbound)	n/a		November 2014	November 2014	-
YBI Transition Structure*	December 2013	12	November 2014	November 2014	-
Existing Bridge Demolition*	September 2014	12	September 2015	September 2015	-

*Note: The new east span forecast to be fully open to traffic in September 2013. Construction activities will continue beyond that date to complete the project, including demolition of the existing structure.*

## Milestones Achieved – East Span Contracts

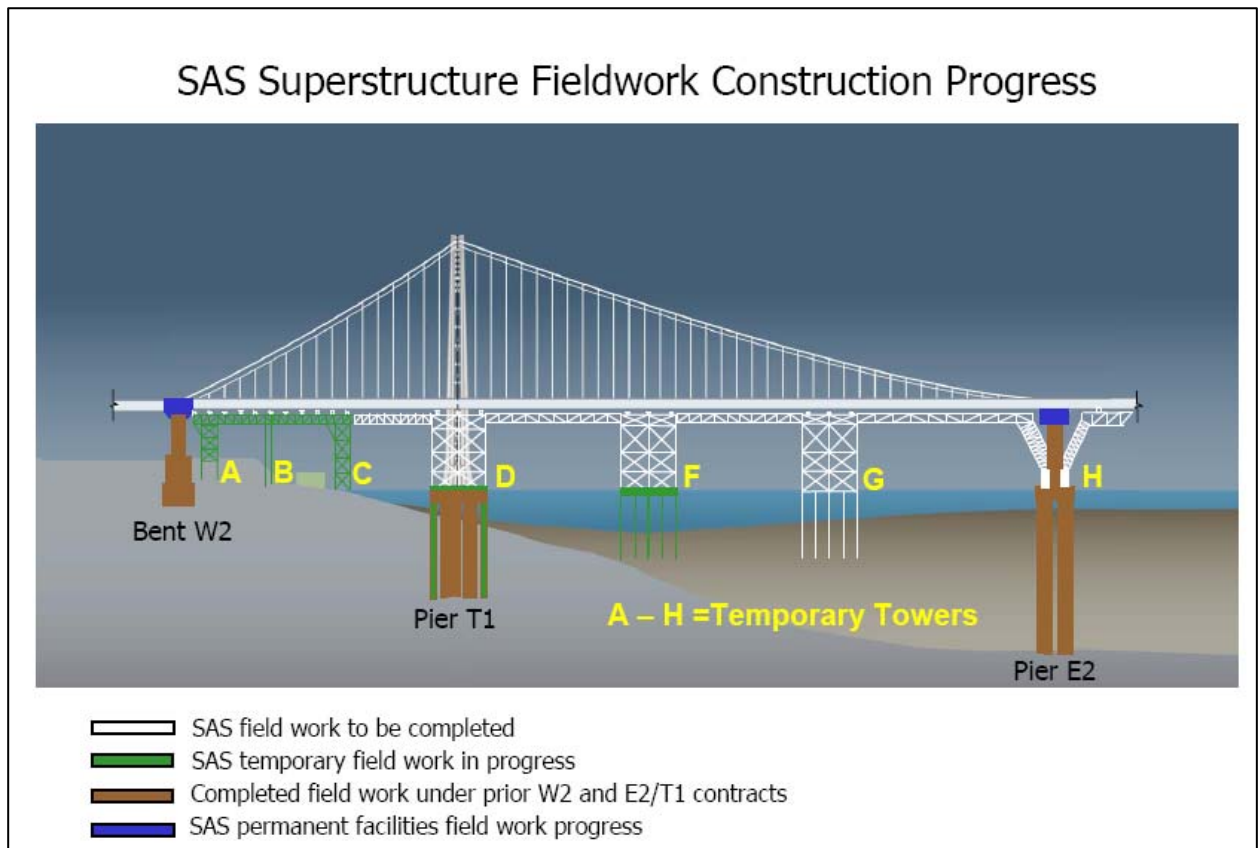
### Skyway Contract

- The Skyway Contract constructed a pair of 1.3-mile long pre-cast segmental concrete bridges that will each carry five lanes of traffic with shoulders. The eastbound structure (to the south) also features a pedestrian/bike path. Substantially completed by the end of 2007, Caltrans accepted the contract on March 24, 2008 upon completion of final punchlist items. The TBPOC has revised the contract budget to close out with \$38.9 million in project savings at a final budget of \$1,254.1 million.

### Self-Anchored Suspension Bridge Contracts

- The Self-Anchored Suspension span is being constructed under three separate contracts. The foundations to the span were constructed by the W2 Land and E2/T1 Marine contracts. Both contracts are now complete. American Bridge/Fluor (ABF) is constructing the SAS span, which features a single 525-foot steel tower supporting two parallel steel roadway decks over the shipping channel, under a single contract.
- The SFOBB East Span Seismic Replacement Project SAS Superstructure contract is 38 percent complete based on payments to the contractor as of December 2008.

Ongoing field and marine work includes; the construction of the permanent bent caps at W2



with the last concrete pour in February 2009; the crossbeam concrete pour for pier E2 completed in December; and erection of the temporary structures (see the SAS progress diagram on page 15) that will support the steel bridge deck of the SAS structure during construction.

A labor dispute arose in December 2008 involving the off-loading of the temporary structures from a ship while tied off to the job site dock. Multiple labor unions claimed jurisdiction over the work and Caltrans resolved the dispute by off-loading the shipment in the middle of the bay. The contractor and the TBPOC are working to resolve the dispute for future shipments.

Various portions of the bridge are under fabrication around the world. Zhenhua Port Machinery Company (ZPMC), of Shanghai, China, has been subcontracted by American Bridge/Fluor (ABF) to supply and fabricate the steel deck and tower elements of the SAS. Caltrans has audited the ZPMC facilities and has organized quality assurance resources in China that will ensure an effective owner's presence in the steel fabrication shops.

While significant progress has been made on the decks and towers, the SAS contractor has stated that the fabrication schedule for the roadway boxes is behind schedule. This delay may increase and result in additional cross-impacts to the corridor schedule. (See "Risk Management Program" on page 25 for more information.)

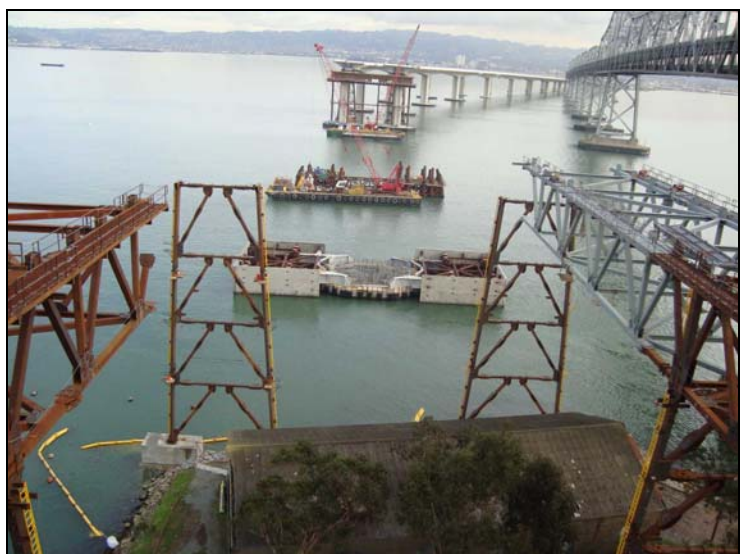
The contractor and TBPOC have negotiated a tentative agreement to mitigate fabrication delays. The agreement is expected to be finalized in the first quarter of 2009. The cost for this agreement is within the contract contingency set aside for these types of issues and should not affect the program contingency or budget

A large barge-mounted crane needed to erect the new bridge has been completed and will arrive in the Bay Area in March 2009.

There have been recent news reports concerning the fabrication challenges on the SAS. These include questions about the quality of the welds on steel being fabricated for the new span. As the TBPOC has reported in past quarterly reports, the SAS contractor has reported some fabrication challenges that have been addressed and resolved by Caltrans and the TBPOC.

Caltrans has already instituted inspection protocols approved by engineering professionals from around the world and placed a number of qualified construction and inspection staff at the fabrication facilities to ensure quality. Furthermore, the TBPOC is negotiating directly with the SAS contractor to mitigate any schedule delays. No part of the new bridge will be shipped unless it is fit to be installed and all efforts will be made to keep the project on schedule and on budget. No additional funds beyond those already budgeted for the program are needed to resolve these issues, and the bridge is scheduled to open as planned in 2012 westbound and 2013 eastbound.

All permanent foundations for the SAS were completed in January 2008 with the acceptance of the E2/T1 SAS Marine Foundation contract. The E2/T1 contract completed the main tower foundation at T1 and the foundations and columns at the first pier east of main tower at E2. The TBPOC has revised the contract budget to close out at \$32.6 million in project savings that can be returned to the program.



*Temporary Tower Erection*

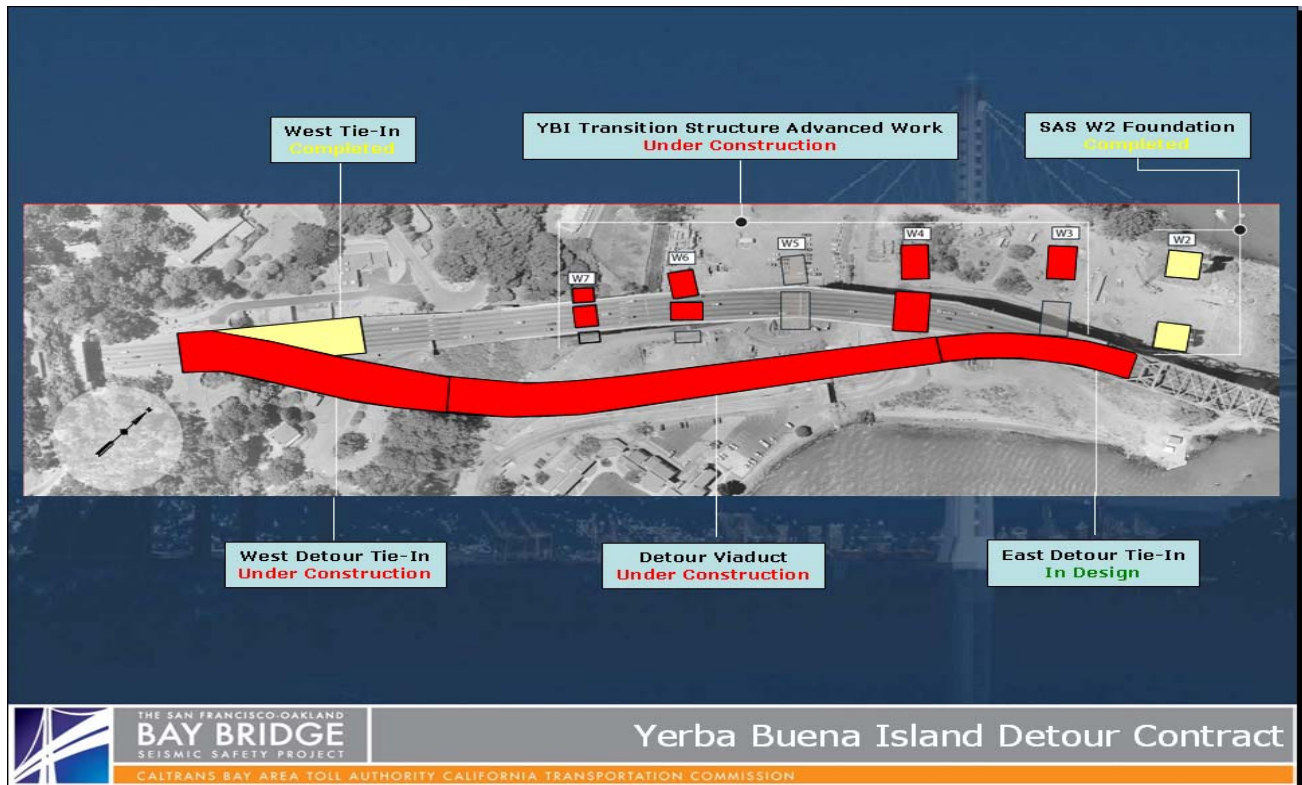


## Yerba Buena Island Contracts

- The Yerba Buena Island contract involves constructing a temporary detour from the tunnel to the existing east span to be followed by the construction of new transition approach structures from the SAS to the YBI tunnel. The work is being constructed under four separate contracts: YBI Detour (YBID), YBI Transition Structures (YBITS) #1 Mainline Structures, YBITS #2 Post Traffic Switch, and YBITS #3, Landscaping.
- The YBI Detour (YBID) contract was awarded in early 2004 to CC Myers to construct a temporary detour structure providing for, at that time, the SAS to open in 2006. Due to the re-advertisement of the SAS superstructure contract in 2005, the bridge opening was rescheduled to 2013, which necessitated a temporary suspension of the YBI Detour contract and significant design changes. The required suspension of work and design revisions have resulted in increased costs for the YBID contract.

In 2006, the TBPOC approved a plan to pace work on the YBID, to have Caltrans assume design responsibility over the east and west tie-ins, and to make changes to the detour structures to allow it to stand in place alone for a longer duration than originally intended. The YBID contract is now forecast to be completed in 2010 consistent with the planned westbound opening date of 2012 for the new bridge.

For the detour viaduct, CC Myers, has completed the foundations for it and is currently completing the viaduct truss. Foundations for the west tie-in phase II have been completed and the work is ongoing for the reinforced concrete bridge superstructure. On the detour's east tie-in, CC Myers is erecting the steel support structures that will hold up the roll-out section of the existing bridge and roll-in section of new detour truss. Fabrication of the roll-in structures, including the skid beams and truss, continues in Arizona and Washington.

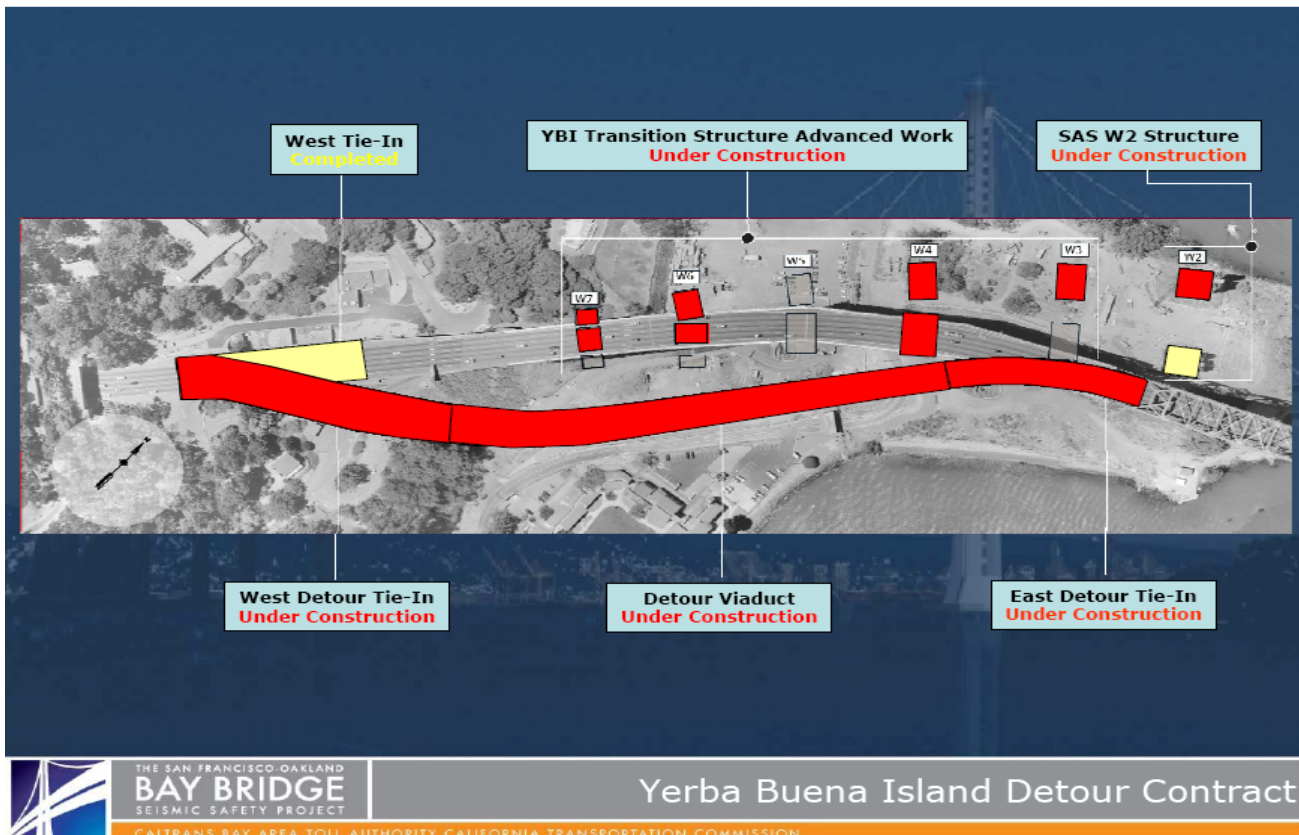


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In addition to the aforementioned changes, the TBPOC moved selected bridge foundation work from YBITS #1 contract to be advanced by the detour contract. Advancing the work reduced potential risks from construction delays on bridge foundations and better utilized the extended schedule of the detour contract. Currently, as part of the advanced work, the contractor, CC Myers, has completed a number of the foundations and columns at piers W3, W4 and W6 for the advanced YBITS locations.

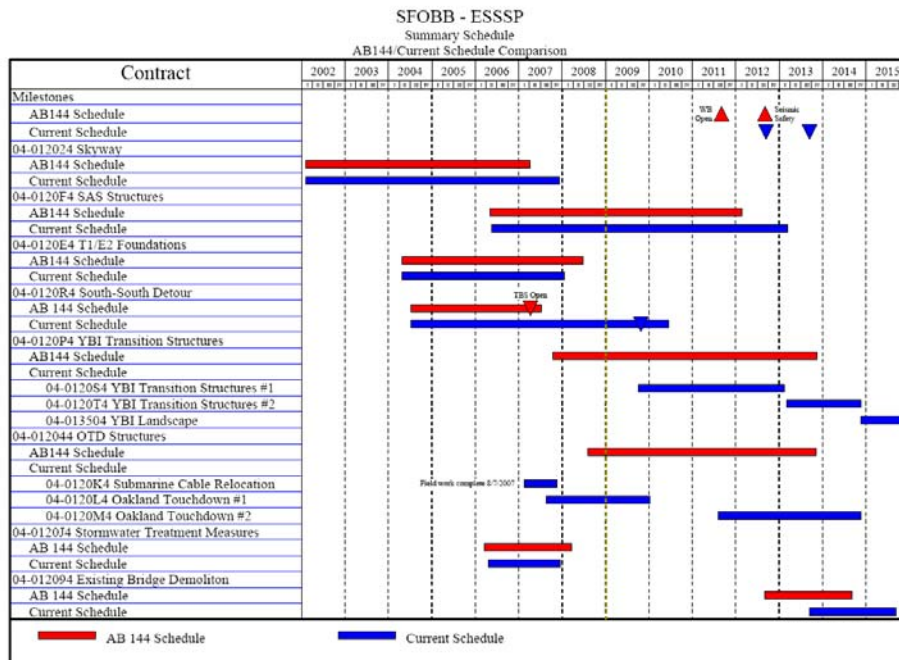
minimize schedule and construction risk, the TBPOC approved the option to accelerate portions of YBITS #1 work by shifting critical foundation work to the CC Myers. The remaining YBITS #1 contract was advertised in August 2008. Caltrans held a contractors’ outreach for the contract in September 2008. An addendum was issued on October 24, 2008 to change the bid opening date from January 13, 2009 to July 14, 2009.

Significant construction risks have been identified that required additional funds to be budgeted for the project. In June 2008, the TBPOC approved a revised project budget of \$442.2 million for the project that is \$107.8 million higher than the previously approved budget. The revised forecast for the project is \$461.2 million, which includes additional contingencies to cover the potential project risks. The budget change will be funded from the TBSRP program contingency and redirected project savings from other contracts.

- The YBITS #1 contract will construct the approach structures necessary to connect the new SAS to the existing YBI tunnel. To

- The YBITS #2 contract includes demolition of the YBID temporary structure, completion of the new eastbound on-ramp, completion of the bike path section on YBI and reconstruction of local and affected facilities at YBI. The majority of the design work is complete. Preparation of detailed plans and quantity calculations is in progress.
- The YBITS #3 contract is for landscaping, and includes slope restoration, vegetation restoration and plant maintenance for the areas affected by YBI construction. A planting concept and preliminary plans have been developed for a majority of the area.

**Chart 2-San Francisco-Oakland Bay Bridge East Span Corridor Schedule Baseline AB 144/SB 66 vs. Current Projected**



## Oakland Touchdown Contracts

- The Oakland Touchdown (OTD) contracts will construct the twin approach structures from just west of the metering lights at the toll plaza to the Skyway. The work is being constructed under two separate contracts – OTD #1 and OTD #2.

The OTD #1 will construct the complete northern westbound approach structure and most of the substructure to the southern eastbound approach structure. The completion of the eastbound structure will not occur until the westbound traffic is switched to the SAS in 2012 due to the existing structure overlapping the new eastbound alignment. The eastbound structure will be completed as part of the OTD #2 contract.

- Caltrans awarded the OTD #1 contract to MCM Construction on July 17, 2007. The work started on the contract on August 22, 2007.

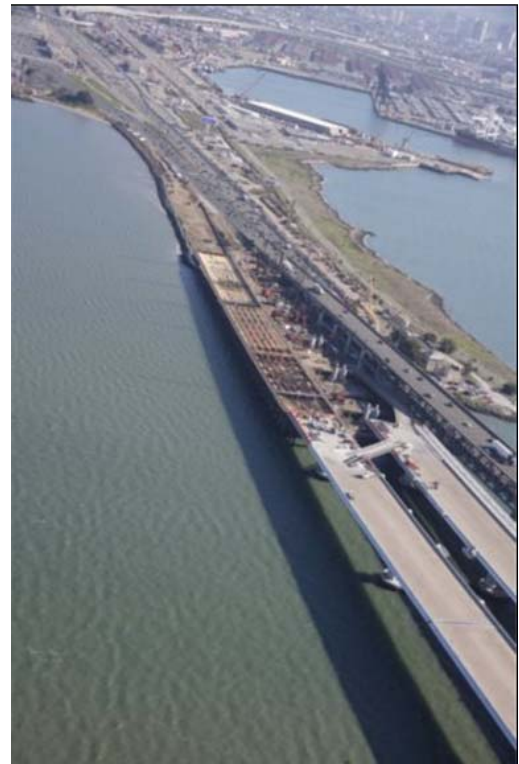
The project is approximately 68 percent complete based on expended value of the contract as of December 20, 2008. On the westbound approach bridge, the contractor has completed all foundation work and is now proceeding on the superstructure. Installation of reinforcing steel on the deck is ongoing, with the first concrete pour completed in December 2008.

The detailed progress status of the project can be viewed on the OTD #1 progress diagram on page 39, Appendix E.

- The OTD #2 contract involves constructing the remaining eastbound bridge section from the new Skyway to the roadway west of the Oakland Toll Plaza. This work will occur once the westbound traffic is shifted onto the new SAS. Design work for the structures portion of the OTD #2 contract is substantially complete. Design work on the roadway portion is ongoing.

## Other Major Ongoing Contracts

- Design of the Existing Bridge Demolition contract is 10 percent complete, though design work has been temporarily suspended to assign engineering resources to higher priority tasks, and will resume at a later time. The contract schedule completion date has been extended by 12 months due to a 12-month SAS contract extension. The \$17.2 million decrease in construction costs for the Existing Bridge Demolition contract is due to a re-evaluation of cost escalation rates for the contract.



*Aerial View of Oakland Touchdown*

## Project Funding

The AB 144/SB 66 baseline budget for the SFOBB East Span is \$5.487 billion. The current approved budget for SFOBB East Span is \$5.702 billion. See *Table 9-SFOBB East Span Replacement Cost Summary*.

The TBPOC reevaluates project and contract cost forecasts on a continual basis. The current fourth quarter 2008 forecast of \$5.730 billion for the project, based upon the risk management effort and other project information, includes the following revisions:

- A budgeted \$38.9 million decrease for the Skyway contract from project savings after contract closeout.
- A budgeted \$32.6 million decrease for the SAS E2/T1 Foundations contract from project savings after contract closeout.
- A budgeted \$310.2 million and a forecasted \$19 million increase for the YBID contract for construction risks and contingencies identified for the contract based on the fourth quarter 2007 risk management effort. These risks are focused on higher construction costs to tie in the detour viaduct to the existing east spans and schedule risks.
- A forecast increase in the cost of Capital Outlay Support (COS) to \$17.8 million, as a result of a detailed staffing and consultant contract cost forecast review.
- A forecast \$13.7 million increase for the SAS superstructure contract to cover some delay risks and other challenges as identified in the second quarter 2008 risk management effort.

The SAS Superstructure contractor has submitted a schedule update that shows fabrication of the deck and tower to be about six months behind schedule. Caltrans and the contractor are developing options to mitigate the fabrication delays. If mitigation of the SAS delays does not occur, the 6-month delay

reported by the SAS Contractor may increase and result in additional cross-impacts to the corridor schedule. This issue has been incorporated in the risk register and is likely to result in additional risks being identified in upcoming quarters. This potential cost and schedule risks have not yet been incorporated into the project forecast pending further risk mitigation evaluation. The cost of this risk is significant and could have cross-impacts other contracts.

- A forecast \$17.2 million decrease for the Bridge Demolition Contract due to a reevaluation of the cost escalation rates for the project.
- All of the variances discussed above can be funded from a combination of other budgeted capital and Toll Bridge Seismic Retrofit Program Contingency.

## Project Schedule

The current schedule calls for achieving seismic safety and opening the SFOBB new east span to traffic in 2013. The 12 months of schedule extension from the AB144 baseline schedule was granted by addenda to the SFOBB East Span Seismic Replacement Project SAS contract based on bidder inquiries received during advertisements.

While the 12-month schedule extension for the SAS has also extended the schedules for YBITS and OTD contracts accordingly, the TBPOC is scheduling the contracts to accommodate the possibility of opening the SAS earlier than currently forecast.

It is estimated that all of the construction activities for the SFOBB East Span Seismic Replacement project will be completed by 2015.

The comparison of the AB 144/SB 66 baseline schedule and the current projected schedule is shown in *Chart 2-SFOBB East Span Corridor Schedule Baseline AB 144/SB 66 vs. Current Projected* on page 18. It should be noted that the schedules shown in *Chart 2* do not at this time

account for the potential risks that may affect the schedule identified in the SFOBB East Span Seismic Retrofit Project Risk Register.

## Major Risk Issues

### SFOBB East Span Project Replacement Risk Management Plan

Caltrans continues to implement comprehensive risk management on all SFOBB East Span Seismic Replacement Project contracts in accordance with AB 144. Currently, Caltrans, BATA, and CTC have embarked on an initiative to manage risk jointly.

Risk response efforts continue to focus on encouraging responsive bids for future contracts and mitigating the estimated cost/schedule impact of identified risks. (See “Risk Management Program” on page 25 for more information).



*Aerial View of the East Span of the SFOBB from Yerba Buena Island*

**Table 9-SFOBB East Span Replacement Cost Summary (\$ Millions)**

Contract	AB 144/SB 66 Budget	Approved Changes	Current Approved Budget	Cost To Date (12/2008)	4thQuarter 2008 Forecast	Variance
a	b	c	d = b + c	e	f	g = f - d
Capital Outlay Support	959.3	-	959.3	675.2	977.1	17.8
Capital Outlay	-	-	-	-	-	-
Skyway	1,293.0	(38.9)	1,254.1	1,236.7	1,254.1	-
SAS E2/T1 Foundations	313.5	(32.6)	280.9	275.0	280.9	-
SAS Superstructure	1,753.7	-	1,753.7	606.8	1,767.4	13.7
YBI Detour	132.0	310.2	442.2	265.5	461.2	19.0
YBI Transition Structures	299.3	(23.2)	276.1	-	276.1	-
* YBITS 1				-	214.3	
* YBITS 2				-	58.5	
* YBITS 3 - Landscape				-	3.3	
Oakland Touchdown	283.8	-	283.8	143.4	302.5	18.7
* OTD Submarine Cable				7.9	9.6	
* OTD Westbound				135.5	226.5	
* OTD Eastbound				-	62.0	
* OTD Electrical Systems				-	4.4	
Existing Bridge Demolition	239.2	-	239.2	-	222.0	(17.2)
Stormwater Treatment Measures	15.0	3.3	18.3	16.6	18.3	-
East Span Completed Projects	90.3	-	90.3	89.2	90.3	-
Right-of-Way and Environmental	72.4	-	72.4	39.1	72.4	-
Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
<b>TOTAL</b>	<b>5,486.6</b>	<b>215.5</b>	<b>5,702.1</b>	<b>3,348.2</b>	<b>5,730.0</b>	<b>27.9</b>



*The Endangered Peregrine Falcon*

- Marine mammal, hydro-acoustic and bird predation monitoring was conducted at Temporary Tower F for the SAS contract.
- Amendment 22, for construction of a temporary crane runway platform for the YBID was approved by the Bay Conservation and Development Commission (BCDC) on October 31, 2008.
- Caltrans took a proactive approach discussing pile driving and potential impacts to fish and marine mammals at the November 18, 2008 interagency meeting.
- Amendment No. 23, for the installation of a goose fence, was submitted to BCDC on December 15, 2008.

## Quarterly Environmental Compliance Highlights

Overall environmental compliance for the SFOBB East Span project has been a success. All weekly, monthly and annual compliance reports to resource agencies have been delivered on time. There are no comments from receiving agencies. The tasks for the current quarters are focused on mitigation monitoring. Key successes in this quarter are as follows:

- Bird monitoring was conducted weekly in the active construction areas. Peregrine falcon monitoring for the 2009 nesting season started the first week of December 2008.
- Turbidity monitoring was conducted without incident during pier construction at the Oakland Touchdown and during coffer cell removal at Temporary Tower C.



*East Tie-in Temporary Crane Runway Platform*

**Completed Projects**

Seismic retrofits and project closeout have been completed on the Richmond-San Rafael, Benicia-Martinez, Carquinez, San Mateo-Hayward, Vincent Thomas, San Diego-Coronado toll bridges and on the west span of the SFOBB. (See Table 10-Cost Comparison AB 144/SB 66, Fourth Quarter 2008 Forecast and Expenditures through December 2008 for Completed Projects below.)



The Completed Richmond-San Rafael Bridge

**Table 10-Cost Comparison AB 144/SB 66, Fourth Quarter 2008 Forecast and Expenditures through December 31, 2008 for Completed Projects (\$ Millions)**

Project	AB 144/ SB 66 Budget	Approved Changes	Current Approved	Cost To Date (12/2008)	4th Quarter Forecast	Variance
a	b	c	d = b + c	e	f	g = f - d
San Francisco-Oakland Bay Bridge West Span Seismic Retrofit Project	307.9	-	307.9	302.0	307.9	-
Carquinez Bridge Retrofit Project	114.2	-	114.2	114.2	114.2	-
Benicia-Martinez Bridge Retrofit Project	177.8	-	177.8	177.8	177.8	-
San Mateo-Hayward Bridge Retrofit Project	163.5	-	163.5	163.4	163.5	-
Richmond-San Rafael Bridge Retrofit Project	914.0	(97.5)	816.5	794.8	816.5	-
Vincent Thomas Bridge Retrofit Project	58.5	-	58.5	58.4	58.5	-
San Diego-Coronado Bridge Retrofit Project	103.5	-	103.5	102.6	103.5	-
<b>TOTAL</b>	<b>1,839.4</b>	<b>(97.5)</b>	<b>1,741.9</b>	<b>1,713.2</b>	<b>1,741.9</b>	<b>-</b>

*Note: Details may not sum to totals due to rounding effects. Capital Outlay Support and Capital Outlay have been combined. Although seismic retrofit of the Richmond-San Rafael and San Diego-Coronado bridges are complete, environmental mitigation/monitoring work is ongoing.*



## Risk Management Program

AB144 states that Caltrans must “regularly reassess its reserves for potential claims and unknown risks, incorporating information related to risks identified and quantified through its risk assessment processes.” AB 144 set a \$900 million program reserve (also referred to as the program contingency). The program contingency is currently at \$757.3 million according to the TBPOC approved budget, unchanged from the previous quarter.

### What Risk Management Does and Does Not Include

Risk management of a project addresses risks that may affect its defined objectives of cost, time, scope and quality. Given a project plan, risk management generally looks at ways in which the project may not go according to plan. Risk management focuses on the defined project scope and objectives, and therefore does not include:

1. Risks or possible decisions that may kill the project. If the project ceases to exist, there are no risks to manage.

For example, risk management does not include risks such as the loss of funding, natural disaster that destroys all or part of the construction or acts of governments.

2. Risks or possible decisions that may materially change the project. If the project objectives are changed substantially, risk management will start afresh on the “new” project.

For example, the YBI Detour contract was materially changed by the YBID Implementation Strategy Memorandum. The risk of such a decision was not in the risk register of the original contract.

In a nutshell, risk management is confined to quantifying risks that are intended to be covered by project and program contingency.

### About “Risk” and “Opportunity”

The concept of risk can include both upside as well as downside impacts. This means that the word “risk” can be used to describe uncertainties, which if they occurred, would have a negative or harmful effect, and the same word can also describe uncertainties, which if they occurred, would be helpful. In short, there are two sides to risk: threats and opportunities.

A risk that has no threat is a “pure opportunity”. It is simply an unplanned good thing which might happen. For example, a new design method might be released, which we can apply to benefit our project.

Opportunity is the inverse of threat if a risk has both threat and opportunity. Where a risk variable exists on a continuous scale and there is uncertainty over the eventual outcome, instead of just defining the risk as the downside it might also be possible to consider upside potential. For example, if we have included escalation at 5% in our budget for future contracts and this rate could range from say 3% to 7% depending on economic conditions at the time of advertisement, we have an opportunity in the 3%-5% range and a threat in the 5%-7% range. Opportunity and threat exist in the one risk. If the budget were based on 7% escalation we would have only opportunity. If based on 3% we would have only threat.

Threat and opportunity can also depend on how we define the risk. For example, if the risk is that an external agency may relax its requirements and this saves us money relative to what we have budgeted currently in our plan, this is an opportunity. If the risk is defined as the agency may tighten its requirements and this adds to our costs, this is a threat. We can only separate the opportunity and threat if we are certain that the agency may act only one way and not the other. If the risk is that the agency may change its requirements, we could have impacts that range from positive to negative. We would have both opportunity and threat in the same risk, and the

degree of each would depend on what we have budgeted in our plan.

Uncertainty in the cost of major CCOs is another example of opportunity. If we enter an estimate into the CCO log and the final outcome could range from less than the estimate to more than the estimate, we have both an opportunity and a threat. The degree of opportunity and threat depends on where the estimate lies within the range.

### **Projects in Design**

Projects in design have the greatest potential for opportunities, because the project is still open to changes. Risk reduction and avoidance are opportunities, as are value analysis, constructability reviews and innovations in design, construction methods and materials.

### **Projects in Construction**

Once a project enters construction, the project objectives (scope, time and cost) are fixed contractually. Any changes are made using a contract change order (CCO). The only opportunity to save money or time is from a negative CCO such as resulting from a Cost Reduction Incentive Proposal (CRIP) by a contractor. Otherwise, CCOs add cost and/or time to the project. So, the prime opportunity during construction is to reduce or eliminate risks.

## **Developments in the Third Quarter**

### **SAS Contract**

Some of the main risk management accomplishments on the SAS contract during the third Quarter 2008 were:

- a) MEP (mechanical/electrical/piping systems): The MEP focus team developed several risk responses in the third quarter. The MEP team proposes to integrate the planned MEP contract work into the SAS contract as a contract change order. This will mitigate schedule risk to the opening of the new span

and will enhance system compatibility throughout the structure.

- b) “Green Tag” Process: Quality Assurance of the fabrication of the SAS is a priority and necessary for the structure to achieve its life-line designation and the stipulated 150-year design life. Tracking and documenting the quality control of each fabricated piece through the fabrication process is a more efficient method to ensure the quality of the work than the original periodic quality control reporting. Team China implemented the new Green Tagging Procedures in the 3rd quarter. The new procedures will mitigate future fabrication schedule risk and achieve a quality product.
- c) Acceptance of the Criteria Contract Change Order (CCO): There had been continuing discussion with the contractor about the interpretation of contractual criteria for accepting welding work in China. The criteria were clarified by the CCO and implemented by Team China.
- d) Tack Weld Issue: Resolved by engaging the contractor, industry experts and Team China. Caltrans instituted inspection protocols approved by engineering professionals from around the world and placed a number of qualified construction and inspection staff at the fabrication facilities to ensure quality. Furthermore, the TBPOC is negotiating directly with the SAS contractor to mitigate any schedule delays.
- e) Cable Issues: The Cable Engineering Risk Management (CERM) team continued to engage international experts to help resolve the complex cable engineering and geometry issues. The SAS main cable geometry depends on the weight of the Orthotropic Box Girder (OBG) and the suspender loads. The CERM team has recommended that additional cables bands and cable brackets be procured to cover all potential geometry variations that may occur where the cable interacts with the deck.

### **Yerba Buena Island Detour (YBID) Contract**

Some of the main risk management developments in the third quarter on the YBI Detour contract are:

- a) East Tie-In: The addition of a second fabricator removes the truss fabrication from the schedule critical path and mitigates schedule risk to the traffic shift planned for the fall of 2009.
- b) East Tie-In: The procurement of the crane trestle on the YBI shoreline allows flexibility in construction going forward and reduces schedule risk during the critical weeks before the traffic switch.
- c) East Tie-In: Collaborative on-site meetings between Caltrans Construction, Design and the contractor have resolved many issues in design and fabrication processes and reduced schedule risk (e.g. truss camber).
- d) West Tie-Incentive/disincentive provisions will assist in keeping this portion of the work off the critical schedule path.
- e) West Tie-In: Developing high performance concrete to accelerate the closure pour will help insure that the Bay Bridge can be returned to service as soon as possible during the traffic switch.
- f) YBI Transition Structure Advance Work: Elimination of the mass concrete requirement has resulted in cost savings to the contract.
- g) Demolition: The contract team is assessing a new strategy to allow demolition work to proceed on all spans after the traffic switch instead of demolishing the bridge one span at a time. The new approach uses falsework and the contractor's jacking system to help protect the access road to the Coastguard station while the demolition work is in progress.

### **Oakland Touchdown Westbound (OTD #1) Contract**

Some of the main risk management developments on the OTD1 contract during the third quarter 2008 were:

- a) Caltrans is engaging the contractor to commence the Integrated Shop Drawings (ISD) preparation earlier for the eastbound bridge.
- b) Caltrans is assessing the option to procure additional falsework to help mitigate potential delays.
- c) Caltrans safety and SWPPP personnel have been engaged to help interact with OSHA and other permitting agencies to mitigate schedule risk.
- d) Adopting successful risk management practices from the Skyway and E2-T1 contracts, Caltrans is aggressively managing claims to achieve early settlements.



*Aerial View of Yerba Buena Island Transition Structures (YBITS)*

**YBI Transition Structure (YBITS#1) Contract**

Some of the main risk management developments on the YBITS #1 contract during the third quarter 2008 were:

- a) The contract specifications team began work on refining the integrated shop drawing specification and process.
- b) The contract specifications team is recommending that a “working campus” specification be added to help resolve future congestion and conflict issues.
- c) The focus group addressing Hinge K risks delivered its recommendations during the third quarter.

**West Approach Contract**

Some of the main risk management developments on the West Approach project during the third quarter 2008 were:

- a) The ongoing claims resolution will allow the contractor to close out without any claims.
- b) Community liaisons are working proactively with neighbors to help prevent damage claims from occurring.
- c) Weekly meetings of contract, city and contractor staff have been ongoing with an anticipated closeout of the project during the first quarter of 2009.

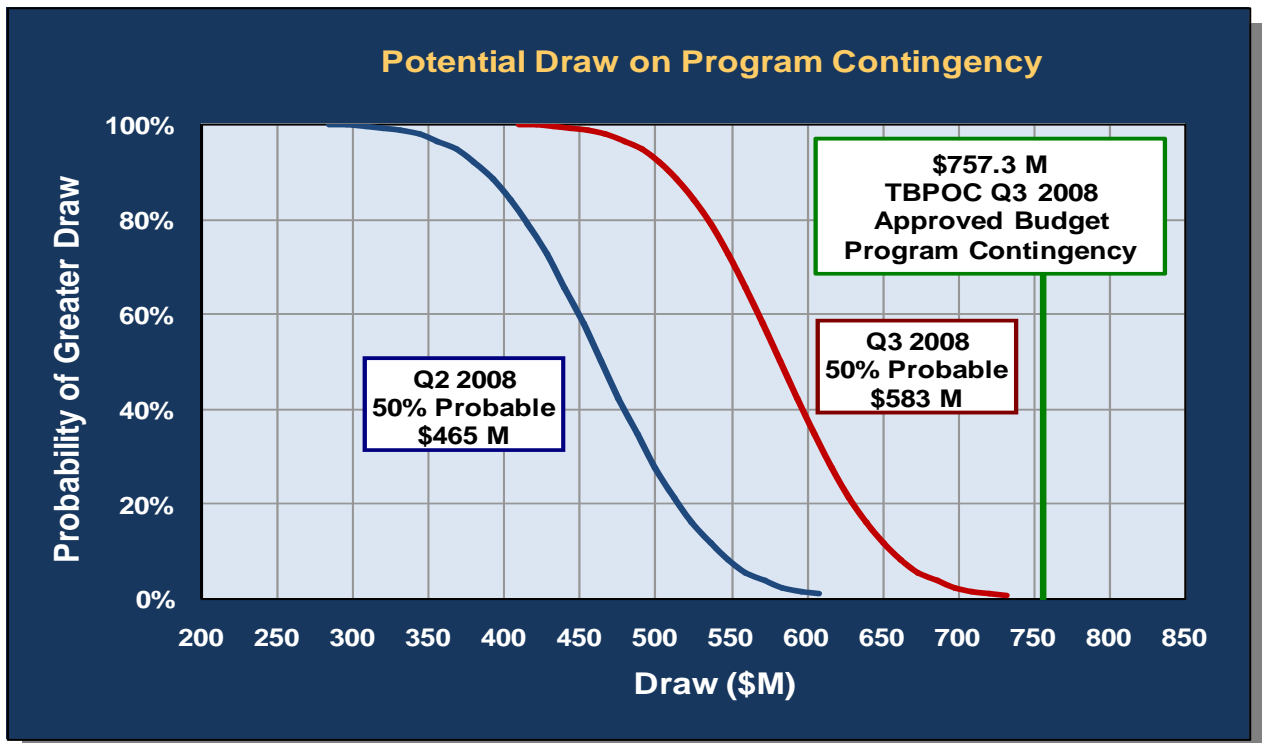


Figure 1 – potential draw on program contingency

The curve in Figure 1 can be used to directly read off the probability of exceeding any value of cost. For example, there is a 20% chance of exceeding \$625M. Note that although the curve appears to reach a zero probability of overrun at about \$730M, there is still less than a 1% chance of some cost greater than \$730M. None of the probabilities above \$730M are zero; they are just very small, much less than 1%. Note that the curve does not include risks or possible decisions that may kill or materially change the project.

The \$740.3 M TBPOC Q4 2008 Approved Budget Program Contingency is sufficient to cover identified risks. Ongoing risk mitigation actions will continue to be developed and implemented to reduce the potential draw on the Program Contingency.

## Other Toll Bridges

### The Dumbarton Bridge

State Route 84 crosses the southern region of San Francisco Bay between the cities of Newark to the east and East Palo Alto to the west. (The route consists of three lanes in each direction and an eight-foot bicycle/pedestrian lane. The annual average daily traffic (AADT) of the route is near 60,000. The bridge is over 2 km in length and is positioned in an approximately normal geometry between two seismic faults. The United States Geological Survey (USGS) reports that the San Andreas Fault, some 15 km to the west of the bridge, and the Hayward Fault, some 13 km to the east of the bridge, pose most of the significant seismic threat to the San Francisco Bay Area.

### The Antioch Bridge

State Route 160 crosses the San Joaquin River between the city of Antioch and Sherman Island (leading to Rio Vista) via the Antioch Bridge. The bridge carries a single lane of traffic in each direction. The AADT for the route is slightly over 10,000 vehicles per day. This bridge is threatened by the Bird's Landing Seismic Zone, Coast Range/Sierra Nevada Boundary Zone and the San Andreas Fault.

### History

In late 2004, Caltrans initiated limited vulnerability studies of the Antioch Bridge and the Dumbarton Bridge. These studies were completed in May 2005. Based on the vulnerability studies and a follow-up sensitivity analysis, Caltrans and BATA developed a work plan to refine the seismic analysis and to assess the required performance levels of each structure, including new geotechnical analysis. In June 2006, BATA approved \$17.8 million in toll

bridge rehabilitation funding to proceed with the comprehensive seismic analysis of the bridges. In September 2006, BATA entered into a consultant contract to conduct geotechnical and geophysical investigations, which have been ongoing since December 2006. Based on the analysis, Caltrans determined that the Dumbarton and Antioch bridges require seismic retrofit.. A strategy meeting took place on August 22, 2008 for both projects and consensus by the project teams recommended retrofit strategies for both bridges. Both the Dumbarton and Antioch Bridge seismic retrofit strategies include installation of isolation bearings and strengthening of the piers above the water line. The Dumbarton Bridge retrofit strategy also includes superstructure and deck modifications and additional strengthening of the over-land approach slab structures. The Antioch Bridge retrofit strategy includes relatively minor modifications to the approach structure on Sherman Island. It was concluded at this meeting that foundation retrofit is not required for either bridge. The design teams presented their proposed strategy schemes and the results of their analysis to the Toll Bridge Seismic Safety Peer Review Panel on September 24, 2008.

### Progress This Quarter

At the December 17, 2008 BATA meeting, a presentation was made updating the Authority on the Dumbarton and Antioch seismic retrofit evaluations and included the most recent schedules and cost projections. A total cost estimate of \$950 million for both projects was presented with construction contracts for both bridges scheduled to be awarded in 2010 and completed in 2012 (Antioch) and 2013 (Dumbarton). (See the table on the following page).

Full funding for the project has not yet been identified, but will likely come from a combination of sources, such as toll increases or other federal funds.

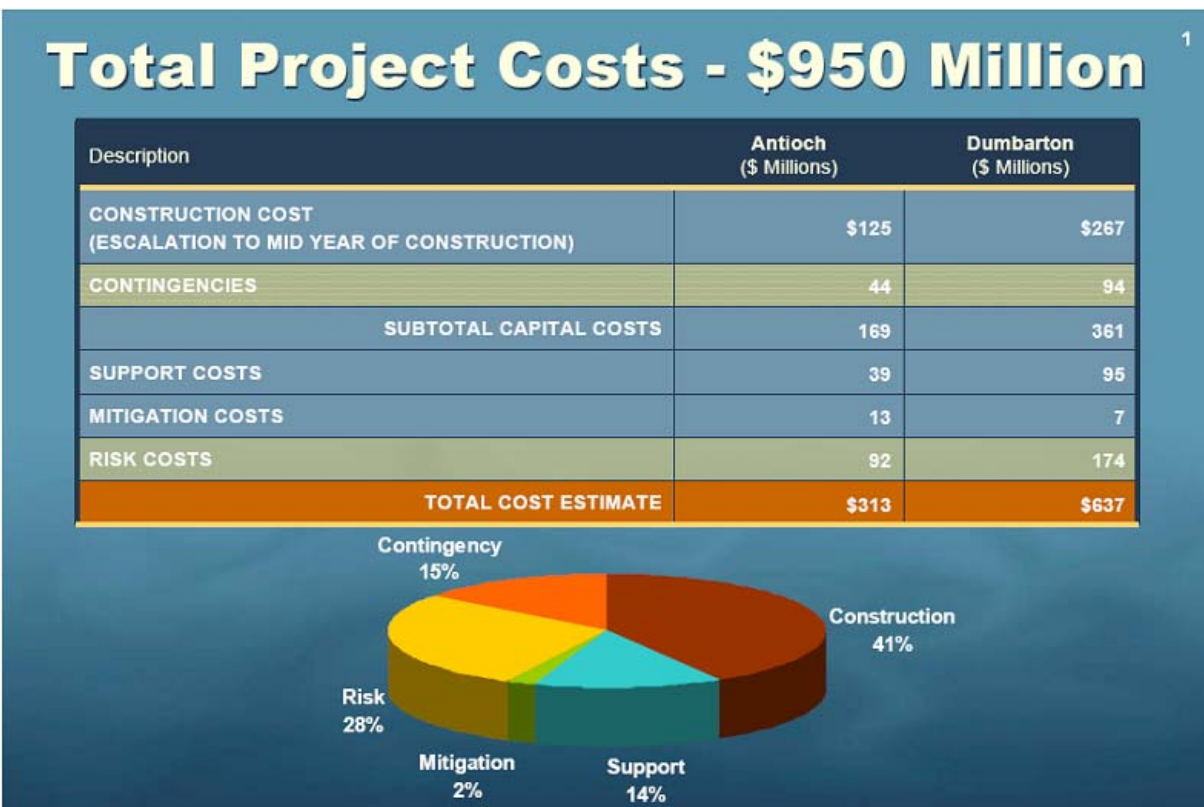
The design teams are continuing their work on the design plans for the projects. Risk management meetings were held in December 2008 and January 2009 to discuss the risks associated with the retrofit strategy for each bridge. The design teams are continuing to meet with the appropriate regulatory agencies to discuss the scope of work and the schedules, as well as the environmental issues affecting both bridges.

Project specific design criteria for the Dumbarton Bridge retrofit project was supported by laboratory testing of a large scale mock-up (1/3 actual size (see photo to the right).

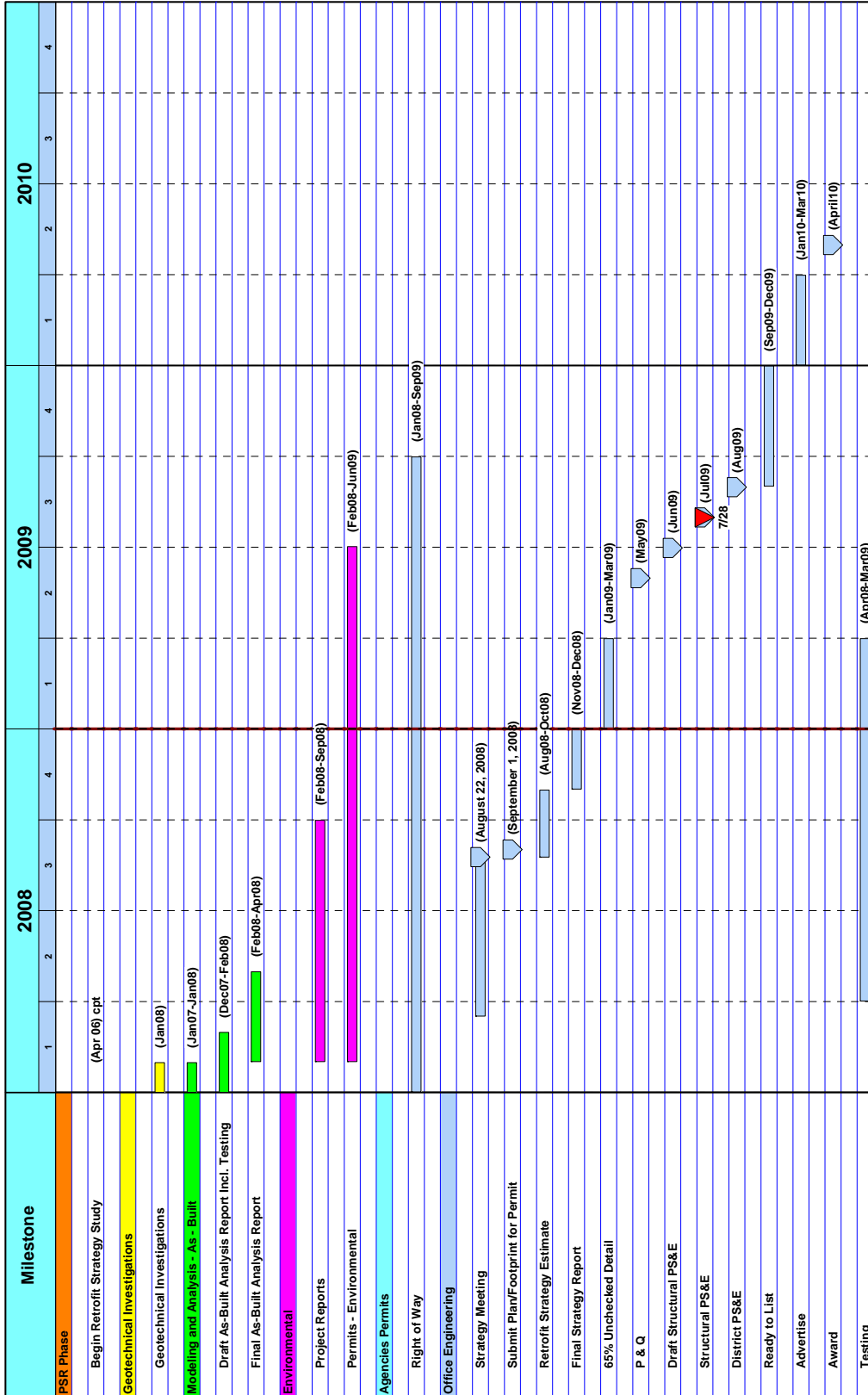
The environmental process is continuing for both projects, and once the design/retrofit strategy is completed, all the permit applications will be submitted to the appropriate agencies for approval.



Dumbarton Specimen at Testing Laboratory



**Chart 3 – Dumbarton and Antioch Bridges  
Summary Schedule as of December 2008**



**Summary of TBPOC Expenses**

Pursuant to Streets and Highways Code Section 30952.1 (d), expenses incurred by Caltrans, BATA, and the California Transportation Commission (CTC) for costs directly related to the duties associated with the TBPOC are to be reimbursed by toll revenues. *Table 11-Toll Bridge Program Oversight Committee Estimated Expenses: July 1, 2005 through December 31, 2008* shows expenses through December 31, 2008 for TBPOC functioning, support, and monthly and quarterly reporting.

Table 11 awaiting data

**Table 11-Toll Bridge Program Oversight Committee****Estimated Expenses: July 1, 2005 through December 31, 2008 (\$ Millions)**

<b>Agency/Program Activity</b>	<b>Expenses</b>
<b>BATA</b>	0.6
<b>Caltrans</b>	1.4
<b>CTC</b>	0.7
<b>Reporting</b>	2.5
<b>Total Program</b>	5.2



## **Appendices**

- A. TBSRP All Bridges AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures through December 31, 2008 (A-1 and A-2)
- B. TBSRP East Span Only AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures through December 31, 2008
- C. CTC Fourth Quarter Schedule
- D. SFOBB Seismic Retrofit Project YBITS Progress Diagram
- E. SFOBB Seismic Retrofit Project Oakland Touchdown #1
- F. Project/Contract Photographs, Diagrams and Artist Renderings
- G. Antioch and Dumbarton Bridges Seismic Retrofit Diagrams

**Appendix A-1.**

<b>Toll Bridge Seismic Retrofit Program</b>							
<b>AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through December 31, 2008</b>							
(\$ millions)							
<b>Bridge</b>	<b>AB 144/SB 66 Baseline</b>	<b>TBPOC Current Approved Budget</b>	<b>Third Quarter 2008 Forecast</b>	<b>Fourth Quarter 2008 Forecast</b>	<b>Variance ( 4th Q08 -3rd Q08)</b>	<b>Expenditures Through Dec 2008</b>	
<b>Benicia-Martinez</b>							
Capital Outlay Support	38.1	38.1	38.1	38.1	-	38.1	
Capital Outlay	139.7	139.7	139.7	139.7	-	139.7	
Total	177.8	177.8	177.8	177.8	-	177.8	
<b>Carquinez</b>							
Capital Outlay Support	28.7	28.7	28.7	28.7	-	28.8	
Capital Outlay	85.5	85.5	85.5	85.5	-	85.4	
Total	114.2	114.2	114.2	114.2	-	114.2	
<b>San Mateo-Hayward</b>							
Capital Outlay Support	28.1	28.1	28.1	28.1	-	28.1	
Capital Outlay	135.4	135.4	135.4	135.4	-	135.3	
Total	163.5	163.5	163.5	163.5	-	163.4	
<b>Vincent Thomas</b>							
Capital Outlay Support	16.4	16.4	16.4	16.4	-	16.4	
Capital Outlay	42.1	42.1	42.1	42.1	-	42.0	
Total	58.5	58.5	58.5	58.5	-	58.4	
<b>San Diego-Coronado</b>							
Capital Outlay Support	33.5	33.5	33.5	33.5	-	33.2	
Capital Outlay	70.0	70.0	70.0	70.0	-	69.4	
Total	103.5	103.5	103.5	103.5	-	102.6	
<b>Richmond-San Rafael</b>							
Capital Outlay Support	134.0	127.0	127.0	127.0	-	126.7	
Capital Outlay	780.0	689.5	689.5	689.5	-	668.1 *	
Total	914.0	816.5	816.5	816.5	-	794.8	
<b>West Span Retrofit</b>							
Capital Outlay Support	75.0	75.0	75.0	75.0	-	74.8	
Capital Outlay	232.9	232.9	232.9	232.9	-	227.2	
Total	307.9	307.9	307.9	307.9	-	302.0	
<b>West Approach</b>							
Capital Outlay Support	120.0	120.0	120.0	120.0	-	112.6	
Capital Outlay	309.0	350.7	350.7	350.7	-	304.6	
Total	429.0	470.7	470.7	470.7	-	417.2	
<b>SFOBB East Span</b>							
Capital Outlay Support	959.3	959.3	977.1	977.1	-	675.2	
Capital Outlay	4,492.2	4,711.0	4,745.2	4,745.2	-	2,672.3	
Other Budgeted Capital	35.1	31.8	7.7	7.7	-	0.7	
Total	5,486.6	5,702.1	5,730.0	5,730.0	-	3,348.2	
Miscellaneous Program Costs	30.0	30.0	30.0	30.0	-	24.7	
Subtotal Capital Outlay Support	1,463.1	1,456.1	1,473.9	1,473.9	-	1,158.6	
Subtotal Capital Outlay	6,321.9	6,488.6	6,498.7	6,498.7	-	4,344.7	
Subtotal Toll Seismic Retrofit	7,785.0	7,944.7	7,972.6	7,972.6	-	5,503.3	
Program Contingency	900.0	740.3	712.4	712.4	-	-	
<b>Total Toll Seismic Retrofit Program</b>	<b>8,685.0</b>	<b>8,685.0</b>	<b>8,685.0</b>	<b>8,685.0</b>	<b>-</b>	<b>5,503.3</b>	

Notes: \* Budget for Richmond-San Rafael Bridge include \$16.9 million of deck joint rehabilitation work that's considered to be eligible for seismic retrofit program funding. (Due to the rounding of numbers, the totals above are shown within \$0.1).

**Appendix A-2.**

<b>Toll Bridge Seismic Retrofit Program</b>						
<b>AB 144 Baseline Budget, Forecasts and Expenditures Through December 31, 2008</b>						
(\$ in millions)						
<b>Bridge</b>	<b>AB 144 Baseline Budget</b>	<b>TBPOC Current Approved Budget</b>	<b>Expenditures to date and Encumbrances as of Dec 2008</b> See Note (1)	<b>Estimated Costs not yet Spent or Encumbered as of Dec 2008</b>	<b>Total Forecast as of Dec 2008</b>	
						(Columns C +D)
<b>Other Completed Projects</b>						
Capital Outlay Support	144.9	144.9	144.6	0.3	144.9	
Capital Outlay	472.6	472.6	472.6	0.1	472.7	
Total	617.5	617.5	617.2	0.4	617.6	
<b>Richmond-San Rafael</b>						
Capital Outlay Support	134.0	127.0	126.7	0.3	127.0	
Capital Outlay	698.0	689.5	674.8	14.7	689.5	
Project Reserves	82.0	-	-	-	-	
Total	914.0	816.5	801.5	15.0	816.5	
<b>West Span Retrofit</b>						
Capital Outlay Support	75.0	75.0	74.8	0.2	75.0	
Capital Outlay	232.9	232.9	232.7	0.2	232.9	
Total	307.9	307.9	307.5	0.4	307.9	
<b>West Approach</b>						
Capital Outlay Support	120.0	120.0	113.9	6.1	120.0	
Capital Outlay	309.0	350.7	325.4	25.3	350.7	
Total	429.0	470.7	439.3	31.4	470.7	
<b>SFOBB East Span -Skyway</b>						
Capital Outlay Support	197.0	181.0	181.6	(0.6)	181.0	
Capital Outlay	1,293.0	1,254.1	1,401.3	(147.2)	1,254.1	
Total	1,490.0	1,435.1	-	1,435.1	1,435.1	
<b>SFOBB East Span -SAS- Superstructure</b>						
Capital Outlay Support	214.6	214.6	125.6	89.0	214.6	
Capital Outlay	1,753.7	1,753.7	1,649.6	117.8	1,767.4	
Total	1,968.3	1,968.3	1,775.2	206.8	1,982.0	
<b>SFOBB East Span -SAS- Foundations</b>						
Capital Outlay Support	62.5	41.0	37.6	3.4	41.0	
Capital Outlay	339.9	307.3	308.7	(1.4)	307.3	
Total	402.4	348.3	346.3	2.0	348.3	
<b>Small YBI Projects</b>						
Capital Outlay Support	10.6	10.6	10.2	0.4	10.6	
Capital Outlay	15.6	15.6	16.2	(0.5)	15.7	
Total	26.2	26.2	26.4	(0.1)	26.3	
<b>YBI Detour</b>						
Capital Outlay Support	29.5	66.0	56.0	10.0	66.0	
Capital Outlay	131.9	442.2	442.3	18.9	461.2	
Total	161.4	508.2	498.3	28.9	527.2	
<b>YBI - Transition Structures</b>						
Capital Outlay Support	78.7	78.7	16.4	62.3	78.7	
Capital Outlay	299.4	276.1	0.1	276.0	276.1	
Total	378.1	354.8	16.5	338.3	354.8	
<b>Oakland Touchdown</b>						
Capital Outlay Support	74.4	74.4	50.3	41.8	92.1	
Capital Outlay	283.8	283.8	218.0	84.5	302.5	
Total	358.2	358.2	268.3	126.3	394.6	
<b>East Span Other Small Project</b>						
Capital Outlay Support	212.3	213.3	204.1	9.2	213.3	
Capital Outlay	170.8	170.8	93.1	53.5	146.6	
Total	383.1	384.1	297.2	62.7	359.9	
<b>Existing Bridge Demolition</b>						
Capital Outlay Support	79.7	79.7	0.4	79.3	79.7	
Capital Outlay	239.2	239.2	-	222.0	222.0	
Total	318.9	318.9	0.4	301.3	301.7	
<b>Miscellaneous Program Costs</b>						
Capital Outlay Support (2)	30.0	30.0	25.6	4.4	30.0	
Total Capital Outlay Support (2)	1,463.2	1,456.2	1,167.8	306.1	1,473.9	
Total Capital Outlay	6,321.8	6,488.5	5,834.8	663.9	6,498.7	
<b>Program Total</b>	<b>7,785.0</b>	<b>7,944.7</b>	<b>7,002.6</b>	<b>970.0</b>	<b>7,972.6</b>	

(1). Funds allocated to project or contract for Capital Outlay and Support needs includes Capital Outlay Support total allocation for FY 06/07.

(2). Total Capital Outlay Support includes program indirect costs.

(Due to the rounding of numbers, the totals above are shown within \$0.1).

**Appendix B.**

**Toll Bridge Seismic Retrofit Program - SFOBB East Span Only**  
**AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through December 31, 2008**

(\$ millions)						
East Span Contract	AB 144/SB 66 Baseline	TBOC Current Approved Budget See Note (1)	Third Quarter 2008 Forecast	Fourth Quarter 2008 Forecast	Variance (4th Q08 - 3rd Q08)	Expenditures Through Dec 2008
<b>SFOBB East Span -Skyway</b>						
Capital Outlay Support	197.0	181.0	181.0	181.0	-	181.0
Capital Outlay	1,293.0	1,254.1	1,254.1	1,254.1	-	1,236.7
Total	1,490.0	1,435.1	1,435.1	1,435.1	-	1,417.7
<b>SFOBB East Span -SAS- E2/T1 Foundations</b>						
Capital Outlay Support	52.5	31.0	31.0	31.0	-	28.4
Capital Outlay	313.5	280.9	280.9	280.9	-	275.0
Total	366.0	311.9	311.9	311.9	-	303.4
<b>SFOBB East Span -SAS- Superstructure</b>						
Capital Outlay Support	214.6	214.6	214.6	214.6	-	122.4
Capital Outlay	1,753.7	1,753.7	1,767.4	1,767.4	-	606.8
Total	1,968.3	1,968.3	1,982.0	1,982.0	-	729.2
<b>SFOBB East Span -SAS- W2 Foundations</b>						
Capital Outlay Support	10.0	10.0	10.0	10.0	-	9.2
Capital Outlay	26.4	26.4	26.4	26.4	-	25.8
Total	36.4	36.4	36.4	36.4	-	35.0
<b>YBI Detour</b>						
Capital Outlay Support	29.4	66.0	66.0	66.0	-	54.2
Capital Outlay	132.0	442.2	461.2	461.2	-	265.5
Total	161.4	508.2	527.2	527.2	-	319.7
<b>YBI - Transition Structures (Total, including the following split contracts and prior-to-split expenses)</b>						
Capital Outlay Support	78.7	78.7	78.7	78.7	-	22.8
Capital Outlay	299.3	276.1	276.1	276.1	-	-
Total	378.0	354.8	354.8	354.8	-	22.8
<b>YBI - Transition Structures Contract No. 1</b>						
Capital Outlay Support			45.0	45.0		4.0
Capital Outlay			214.3	214.3		-
Total			259.3	259.3		4.0
<b>YBI - Transition Structures Contract No. 2</b>						
Capital Outlay Support			16.0	16.0		2.4
Capital Outlay			58.5	58.5		-
Total			74.5	74.5		2.4
<b>YBI - Transition Structures Contract No. 3 - Landscape</b>						
Capital Outlay Support			1.0	1.0		-
Capital Outlay			3.3	3.3		-
Total			4.3	4.3		-
<b>Oakland Touchdown (Total, including the following split contracts and prior-to-split expenses)</b>						
Capital Outlay Support	74.4	74.4	92.1	92.1	-	49.0
Capital Outlay	283.8	283.8	302.5	302.5	-	143.4
Total	358.2	358.2	394.6	394.6	-	192.4
<b>Oakland Touchdown Contract - Submarine Cable</b>						
Capital Outlay Support	-	-	3.0	3.0	-	0.9
Capital Outlay	-	-	9.6	9.6	-	7.9
Total	-	-	12.6	12.6	-	8.8
<b>Oakland Touchdown Contract No. 1 (Westbound)</b>						
Capital Outlay Support	-	-	49.9	49.9	-	25.6
Capital Outlay	-	-	226.5	226.5	-	135.5
Total	-	-	276.4	276.4	-	161.1
<b>Oakland Touchdown Contract No. 2 (Eastbound)</b>						
Capital Outlay Support	-	-	15.8	15.8	-	1.9
Capital Outlay	-	-	62.0	62.0	-	-
Total	-	-	77.8	77.8	-	1.9
<b>Oakland Touchdown Contract - Electrical Systems</b>						
Capital Outlay Support	-	-	1.4	1.4	-	0.6
Capital Outlay	-	-	4.4	4.4	-	-
Total	-	-	5.8	5.8	-	0.6

**Appendix B. (Cont'd.)**

<b>Toll Bridge Seismic Retrofit Program - SFOBB East Span Only</b>						
<b>AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through December 31, 2008</b>						
(\$ millions)						
East Span Contract	AB 144/SB 66 Baseline	TBOC Current Approved Budget See Note (1)	Third Quarter 2008 Forecast	Fourth Quarter 2008 Forecast	Variance (4th Q08 - 3rd Q08)	Expenditures Through Dec 2008
<b>YBI/SAS (Archeology)</b>						
Capital Outlay Support	1.1	1.1	1.1	1.1	-	1.1
Capital Outlay	1.1	1.1	1.1	1.1	-	1.1
Total	2.2	2.2	2.2	2.2	-	2.2
<b>YBI - USCG Rd Relocation</b>						
Capital Outlay Support	3.0	3.0	3.0	3.0	-	2.7
Capital Outlay	3.0	3.0	3.0	3.0	-	2.8
Total	6.0	6.0	6.0	6.0	-	5.5
<b>YBI - Substation and Viaduct</b>						
Capital Outlay Support	6.5	6.5	6.5	6.5	-	6.4
Capital Outlay	11.6	11.6	11.6	11.6	-	11.3
Total	18.1	18.1	18.1	18.1	-	17.7
<b>Oakland Geofill</b>						
Capital Outlay Support	2.5	2.5	2.5	2.5	-	2.5
Capital Outlay	8.2	8.2	8.2	8.2	-	8.2
Total	10.7	10.7	10.7	10.7	-	10.7
<b>Pile Installation Demonstration Project</b>						
Capital Outlay Support	1.8	1.8	1.8	1.8	-	1.8
Capital Outlay	9.2	9.2	9.2	9.2	-	9.2
Total	11.0	11.0	11.0	11.0	-	11.0
<b>Existing Bridge Demolition</b>						
Capital Outlay Support	79.7	79.7	79.7	79.7	-	0.4
Capital Outlay	239.2	239.2	222.0	222.0	-	-
Total	318.9	318.9	301.7	301.7	-	0.4
<b>Stormwater Treatment Measures</b>						
Capital Outlay Support	6.0	8.0	8.0	8.0	-	8.0
Capital Outlay	15.0	18.3	18.3	18.3	-	16.6
Total	21.0	26.3	26.3	26.3	-	24.6
<b>Right-of-way and Environmental Mitigation</b>						
Capital Outlay Support	-	-	-	-	-	-
Capital Outlay	72.4	72.4	72.4	72.4	-	39.1
Total	72.4	72.4	72.4	72.4	-	39.1
<b>Sunk Cost - Existing East Span Retrofit</b>						
Capital Outlay Support	39.5	39.5	39.5	39.5	-	39.5
Capital Outlay	30.8	30.8	30.8	30.8	-	30.8
Total	70.3	70.3	70.3	70.3	-	70.3
<b>Environmental Phase (Expended)</b>						
Capital Outlay Support	97.7	97.7	97.7	97.7	-	97.7
<b>Project Expenditures, Pre-splits</b>						
Capital Outlay Support	44.9	44.9	44.9	44.9	-	44.9
<b>Non-project Specific Costs</b>						
Capital Outlay Support	20.0	19.0	19.0	19.0	-	3.2
Subtotal East Span Capital Outlay Support	959.3	959.3	977.1	977.1	-	675.2
Subtotal East Span Capital Outlay and Sunk Costs	4,492.2	4,711.0	4,745.2	4,745.2	-	2,672.3
Other Budgeted Capital	35.1	31.8	7.7	7.7	-	0.7
<b>Total SFOBB East Span</b>	<b>5,486.6</b>	<b>5,702.1</b>	<b>5,730.0</b>	<b>5,730.0</b>	<b>-</b>	<b>3,348.2</b>

(1) Current contract allotment to install two submarine electrical cables is \$11.5 million. Additional non-program funding to support this allocation beyond the \$9.6 million of available programs funds has been made available by the Treasure Island Development Authority.  
(Due to the rounding of numbers, the totals above are shown within \$0.1).

**Appendix C.****CTC TBSRP Contributions  
Adopted December 2005****Schedule of Contributions to the Toll Bridge Seismic Retrofit Program (\$ Millions)**

Source	Description	2005-06 (Actual)	2006-07 (Actual)	2007-08 (Actual)	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	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
	<b>Total</b>	547	273	100	43	99	153	150	165	300	1830

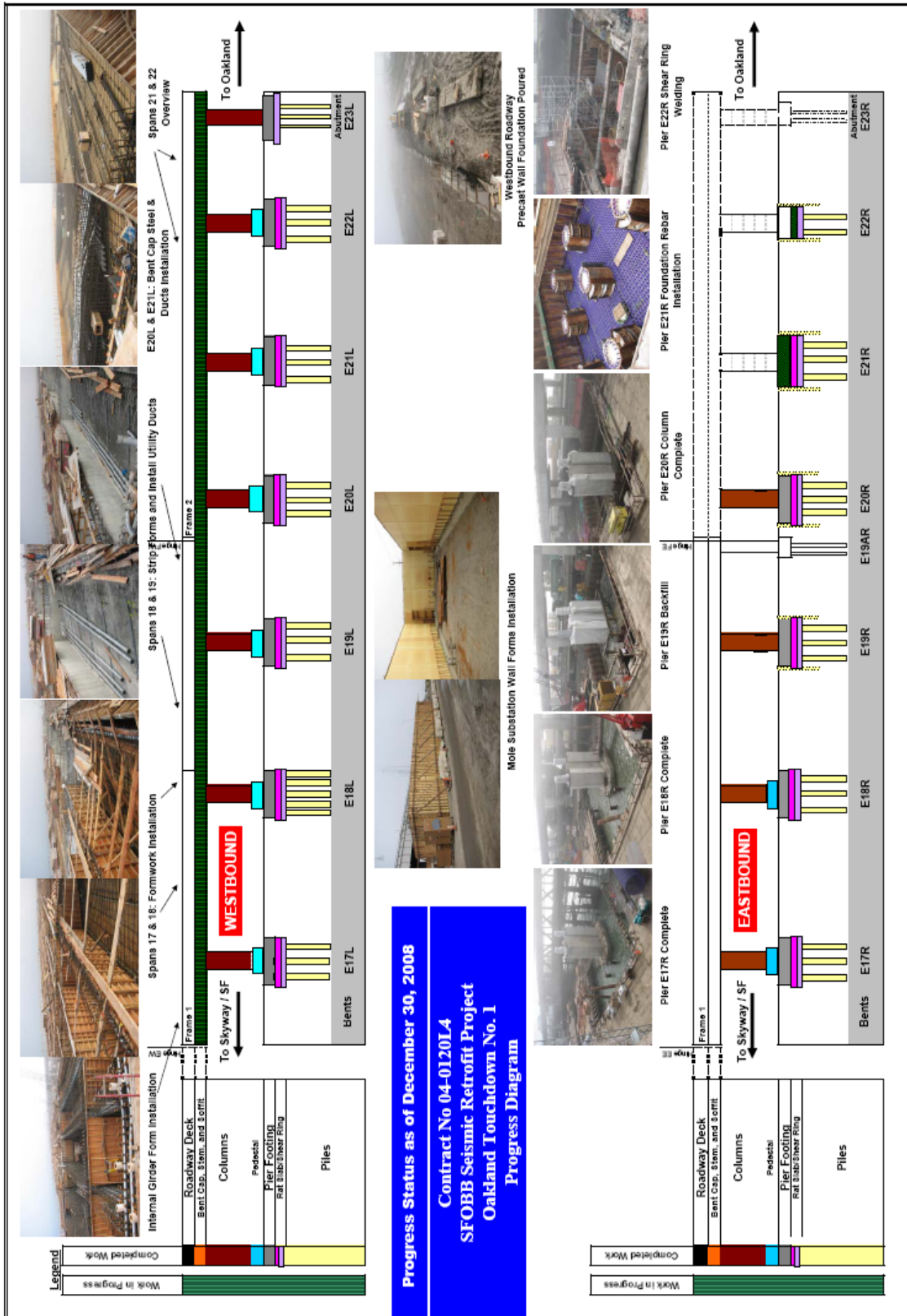
\* Caltrans Efficiency Savings

\*\* SFOBB East Span Demolition Cost



**Appendix E.**

**SFOBB Seismic Retrofit Project Oakland Touchdown #1 Progress Diagram**





**Appendix F. Project/Contract Photographs/Diagrams**

**SFOBB East Span Replacement Project**



*Yerba Buena Island Detour*



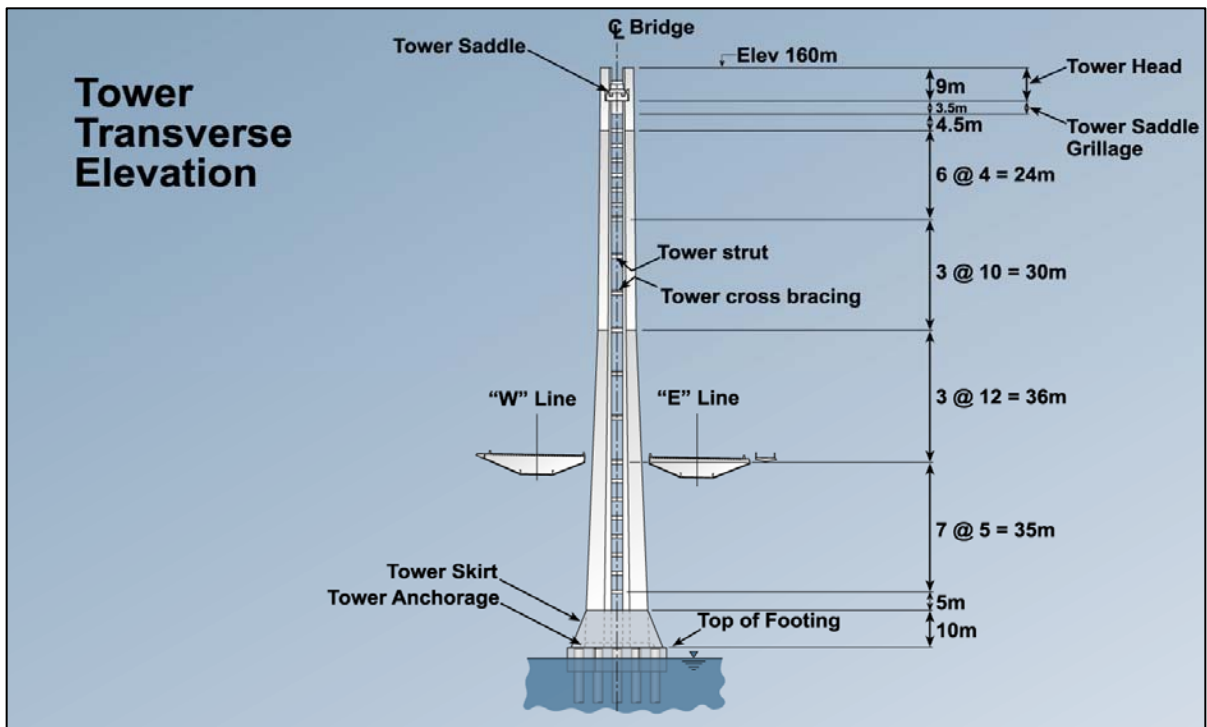
*Yerba Buena Island Transition Structures (YBITS) on the Left and Yerba Buena Island Detour (YBID) on the Right.*

**Appendix F. Project/Contract Photographs/Diagrams(cont.)**

**SAS Superstructure Contract**



Rendering of the Completed San Francisco Oakland Bay Bridge



**Appendix F. Project/Contract Photographs/Diagrams (cont.)**

**SAS Contract Photographs from Changxing Island, China SAS Superstructure Contract**



*Temporary Tower Truss Fabrication at ZPMC*



*Tower Lift Shaft Fabrication*

**Appendix F. Project/Contract Photographs/Diagrams (cont.)**

**SAS Superstructure Contract (Cont'd.)**



*Main Tower Diaphragm Plate Cutting*



*Welding Doublers Plates onto Tower Lift 1 North Shaft Skin A*



*Tower Lift 1 South Shaft*



*Tower Exterior Stiffener Welding*



*Tower Diaphragm to Skin Plate Welding and Fit-Lug Welding*



*Tower Double Diaphragm Outline Beveled after Machine Milling*

**Appendix F. Project/Contract Photographs/Diagrams (cont.)**

**SAS E2/T1 Foundations Contract**



*T1 = Foundation for the 530-foot steel tower  
E2 = Eastern Support of the suspension roadway  
W2 = Western Support of the suspension roadway*



*E2 Support Structure*

**Appendix F. Project/Contract Photographs (cont.)**

**Aerial View of East Span Projects**



*East Tie-In (ETI) Skid Bent System Erection*



*W2 Support Structure*

**Appendix F. Project/Contract Photographs (cont.)**

**SFOBB West Approach Replacement Project**



*First Street Retaining Wall*



*First Essex Bus On Ramps*



*Sterling On Ramp*



*I-80 Eastbound*



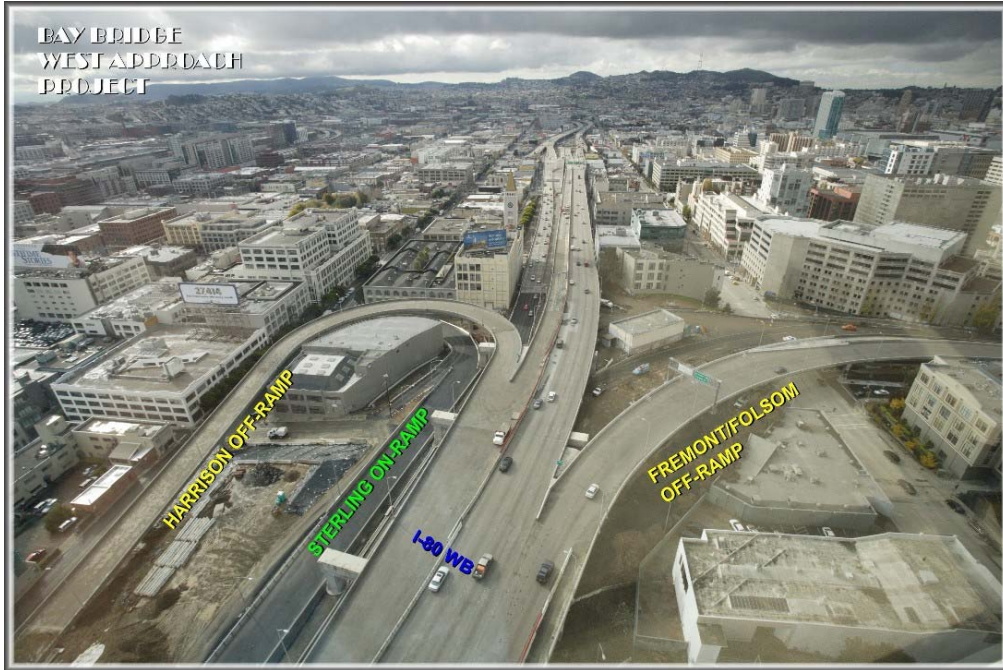
*Harrison Street off Ramp and Sterling On Ramp*



*Infill Wall and Shear Walls under I-80 Eastbound*

**Appendix F. Project/Contract Photographs/Diagrams (cont.)**

**SFOBB West Approach Replacement Project (cont.)**



*West Approach Replacement Project Aerial View*



*West Approach Replacement Project Aerial View*



**Appendix G. Antioch and Dumbarton Bridges Seismic Retrofit Diagrams**

**Antioch Bridge Seismic Retrofit Project**



**Appendix G. Antioch and Dumbarton Bridges Seismic Retrofit Diagrams (cont.)**

**Dumbarton Bridge Seismic Retrofit Project**

