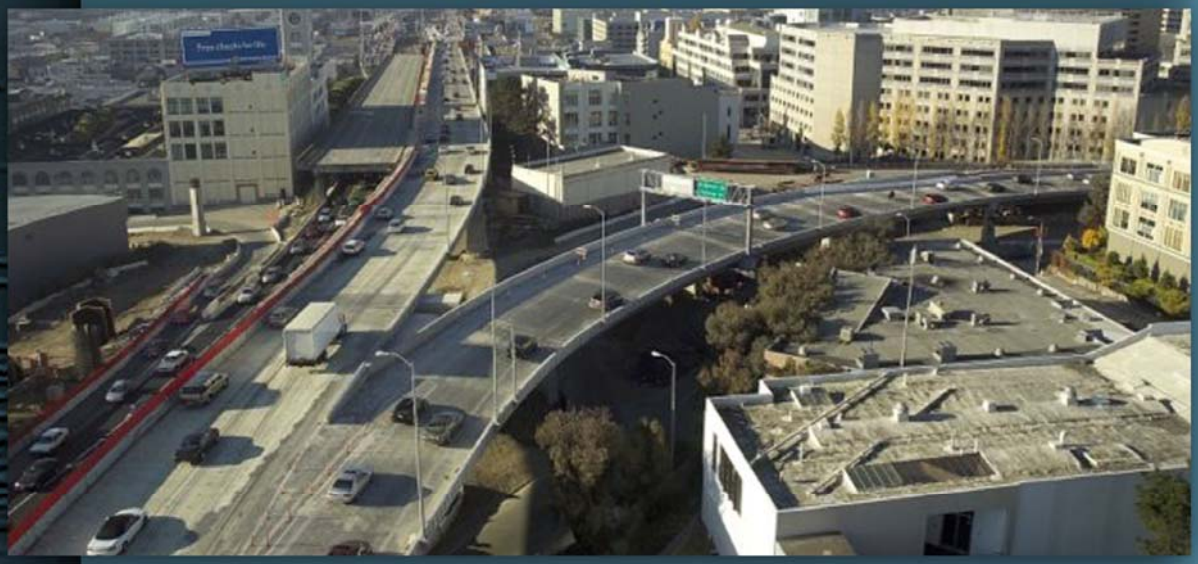
Toll Bridge Seismic Retrofit Program Report

TOLL BRIDGE PROGRAM
OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION



Fourth Quarter Report

December 31, 2006

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Executive Summary

The Toll Bridge Program Oversight Committee (TBPOC) submits the 2006 Fourth Quarter Report ending December 31, 2006, 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 2006 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 Milestones During the Fourth Quarter 2006

Significant progress on the completion of the seismic retrofit projects continued during this past quarter. Appendix D includes a gallery of photos of construction activities on the bridge projects. Only one of the seven toll bridges in the TBSRP remains to be retrofitted. The major milestones achieved during the quarter include:

- The San Francisco-Oakland Bay Bridge (SFOBB) West Approach Project is 75 percent complete and is on schedule to finish in August 2009. Seismic retrofit construction continued on the next phase of foundation piles for the permanent westbound I-80 mainline structures, the 5th Street and Harrison Street ramps, and the interim eastbound detour. Caltrans is currently reworking the planned alignment of the eastbound Interstate 80 detour (ST6D) to mitigate identified potential impacts to traffic

- The SFOBB East Span Seismic Replacement Project Skyway contract is on schedule to be completed in December 2007. On December 7, 2006, the last pre-cast concrete segments were lifted into place. Remaining work includes fabrication and installation of the remaining hinge pipe beams, post-tensioning of the bridge segments and spans, installation of bicycle/pedestrian pathway, and other finish and punchlist work.

- The SFOBB East Span Seismic Replacement Project Self-Anchored Suspension (SAS) Marine Foundation East Pier and Tower Pier (E2/T1) contract is on schedule to be completed by March 2008. At the East Pier (E2), foundation pile driving has been completed. E2 footing frames are now being welded to the piles. At the Tower Pier (T1), all steel foundation casings have been fabricated. Work is now progressing on installation of the casings and rock sockets.

- For the SFOBB East Span Seismic Replacement Project SAS Superstructure contract, the Contractor is mobilizing staff to the field office at Pier 7 in Oakland. Development of various administrative and design submittals is continuing. A final baseline schedule is being

SFOBB Skyway – West End

developed by the Contractor. The Contractor is finalizing agreements with manufacturers, fabricators, suppliers and subcontractors. A contract with Zhenhua Port Machinery Company (ZPMC), of Shanghai, China, to supply and fabricate all the major steel structures in SAS including the tower, orthotropic box girders, and bike paths, was executed on July 18, 2006.

Pile Driving at East Pier

- For the SFOBB East Span Seismic Replacement Project Yerba Buena Island South-South Detour (SSD) contract, Caltrans is designing the East and West tie-ins from the existing bridge and tunnel to the detour structure. The construction of the tie-ins are being managed by Caltrans to be completed in conjunction with the SAS schedule to minimize impacts to the traveling public.

- The SFOBB East Span Seismic Replacement Project Oakland Touchdown (OTD) Submarine Cable contract to replace the existing submerged electrical cable from Oakland to Treasure Island, was readvertised on November 27, 2006 after a single bid received from the prior advertisement could not be awarded by Caltrans. Multiple bids for the subsequent advertisement were opened on December 18, 2006 with the apparent low bid being under the engineer's estimate for the contract. Caltrans plans to award the contract in early January 2007 to the lowest responsive bidder. (See picture next page.)

Pump Station 1B Valve Vault: Stormwater Treatment Measure Contract

- The SFOBB East Span Seismic Replacement Project OTD #1 contract includes construction of all the marine foundations, and the westbound bridge section and roadway approach for the section that connects the new Skyway portion to the roadway west of the Oakland Toll Plaza. Design work is complete. The advertisement of this contract is scheduled for early 2007 and contract completion is scheduled for October 2009. (See picture below.)

- In September 2006, BATA contracted with a geotechnical firm to proceed with a comprehensive seismic analysis of the Dumbarton and Antioch Bridges. Field work included on this contract commenced in December 2006.

- In October 2006, the TBPOC approved a budget change for the Richmond-San Rafael Bridge Seismic Retrofit project to transfer of $89 million in project cost savings to the Toll Bridge Seismic Retrofit Program Contingency.

- As shown on *Table 2-Toll Bridge Seismic Retrofit Program—Cost Summary* (see page 8), the program contingency for the total seismic retrofit program is $940.7 million. The revised program contingency continues to exceed the original contingency budgeted in the AB 144/SB 66 program.

Submarine Cable Relocation

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. SFOBB (west span, west approach replacement, and east span replacement).

Seismic retrofit of these complex structures presents an extremely difficult engineering challenge and nowhere in the world has a bridge seismic safety program of this size been undertaken. Although the Dumbarton and the Antioch bridges were not included in the program, Caltrans is continuing to work on seismic vulnerability studies to assess the potential for necessary retrofit work on these structures. See discussion on page 29.

As shown in *Table 1-TBSRP Project Status*, a significant portion of the TBSRP is complete. Cost savings of $89 million from the project cost included in the AB 144/SB 66 baseline budget on the completed Richmond-San Rafael Bridge has been transferred to the Toll Bridge Seismic Retrofit Program Contingency, as directed by the TBPOC.

The SFOBB west approach and new east span seismic replacement projects are currently under construction. The Fourth Quarter 2006 forecast for those projects indicates that they will be completed within the current TBPOC approved cost and schedule estimates.

Tables 2 and 3 provide a summary of the cost, schedule, and status of all the TBSRP projects.

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	Construction
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

Risk Management

The following is a summary of risk management activities during the Fourth Quarter of 2006.

Developments During this Quarter

- Corridor Schedule Risk Analysis: The project schedules have been integrated into a draft corridor schedule for schedule risk analysis. The draft risk analysis schedule will be revised upon receipt of a SAS schedule acceptable to Caltrans. The schedule risk analysis is on-going with the participation of the Corridor Schedule Team.

- Corridor Schedule Team: Caltrans has formed a team to review, assess and mitigate corridor schedule risks for the East Span. The team integrates and coordinates schedules with the project schedule teams, reviews opportunities to enhance the schedule and provides recommendations to management regarding schedule decisions and risk mitigation.

- Capital Outlay Support Risks: A draft risk register has been developed for Capital Outlay Support (COS) costs. The COS risk register contains risks that affect all projects and incorporates risks that have a COS impact from the project risk registers. The major risks are due to the 12-month extension of the SAS contract (Addenda 5 and 7), the recent and forecast changes to state overhead and wage rates, and to the additional costs for SAS staff and expenses in China

- Program-level Risks: A draft program-level risk register was completed this quarter. It captures risks that are common to all projects, and the cost of potential delays arising from one project delaying another. The cross-delay risk is currently being analyzed using the integrated East Span corridor schedule and the potential for delay within each project.

- Corridor Contingency: Corridor contingency is the sum of the contingency allowance remaining on the projects. It is intended to cover project risks. On-going quantitative risk analysis assesses the adequacy of the corridor contingency, and any potential need to increase it.

- Adequacy of Reserves: AB144 requires Caltrans to regularly assess its reserves for risks and potential claims. Currently, there is a $989 million Program Reserve. Quantitative risk analysis is on-going to assess the combined effect of corridor contingency, COS risks and program-level risks, and determine the potential need to draw on the Reserve.

Risk Management Achievements on Contracts

- Skyway Contract: The project team is carrying out detailed reviews of the Contractor's submitted costs for USI's Orthotropic Box Girder issues and significant progress has been made in defining the extent of exposure on these issues.

- West Approach: The project team spent considerable effort in addressing constructability issues associated with the ST6D detour and is planning on implementing a revised ST6D detour to help mitigate the risks. The proposed new lane alignment will eliminate constructability issues associated with the temporary on-ramps and the potential for significant traffic operations difficulties.

- E2-T1 Foundations Contract: A number of risks have been reduced or retired as the work has progressed past the risks. Rock sockets – one of the major risk issues – are well underway with little adverse impact to date.

- South-South Detour Contract: The risks associated with the Contractor designing the East and West tie-in structures have been mitigated because Caltrans has assumed management of the design, with input from the

Contactor regarding constructability issues. Caltrans is exploring acceleration of portions of the YBI Transition Structure substructure and foundation work into the South-South Detour contract to mitigate risk to the East Span corridor schedule while minimizing time traffic will be on the detour.

- SAS Contract: The Contractor is continuing to ramp up operations. Caltrans is responding rapidly to requests for information and is studying the coordination of work among the contracts at YBI and other ways to accelerate the work

- Submarine Cable Relocation Contract: Caltrans quickly re-advertised the contract using an innovative bid concept to facilitate competition and to avoid potential delay to the corridor schedule. Multiple bids were received under the engineer's estimate.

Near-Term Risk Management Actions

The anticipated risk management activities over the next two quarters will focus on:

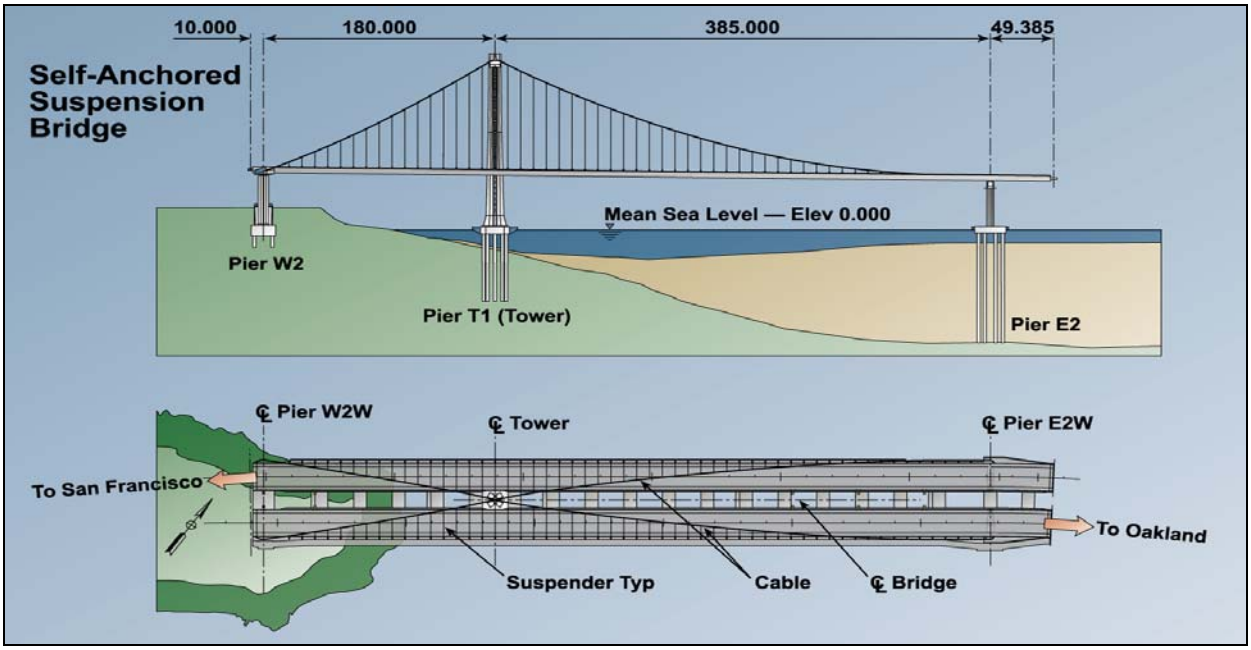
- Continuing the development and execution of appropriate and effective risk responses for all projects.

- Assessing COS, program-level, and corridor schedule risks.

- Evaluating potential draws on the Program Reserve.

- Further refining risk management procedures and processes.

Forecast near-term risk management activities are based on what is known and anticipated at this time. They remain subject to change as conditions, events, and priorities dictate.



SFOBB East Span SAS Project

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 (12/2006)	Actual Cost To Date (12/2006)	4th Quarter 2006 Forecast	At-Completion Variance	Cost Status
a	b	c	d	e = c + d	f	g	h = g - e	i
SFOBB East Span Replacement Project								
Capital Outlay Support		959.4	-	959.4	466.7	977.1	17.7	Yellow
Capital Outlay Construction								
Skyway	Construction	1,293.0	-	1,293.0	1,114.4	1,293.0	-	Green
SAS E2/T1 Foundations	Construction	313.5	-	313.5	194.3	313.5	-	Green
SAS Superstructure	Construction	1,753.7	-	1,753.7	215.6	1,767.4	13.7	Yellow
YBI South/South Detour	Design/ Const	131.9	-	131.9	37.2	152.2	20.3	Yellow
YBI Transition Structures	Design	299.3	-	299.3	-	318.5	19.2	Yellow
Oakland Touchdown (OTD)		283.8	-	283.8	-	302.5	18.7	
* OTD Submarine Cable	Pending Award				-	9.6	-	Green
* OTD No. 1 (Westbound)	Design				-	226.5	-	Yellow
* OTD No. 2 (Eastbound)	Design				-	62.0	-	Green
* OTD Electrical Systems	Design				-	4.4	-	Green
Existing Bridge Demolition	Design	239.2	-	239.2	-	222.0	(17.2)	Green
Stormwater Treatment Measures	Construction	15.0	-	15.0	6.4	15.0	-	Green
East Span Completed Projects		90.3	-	90.3	88.6	90.3	-	
Right-of-Way and Environmental Mitigation		72.4	-	72.4	38.8	72.4	-	Green
Other Budgeted Capital		35.1	-	35.1	0.6	11.0	(24.1)	
Total SFOBB East Span Replacement Project		5,486.6	-	5,486.6	2,162.6	5,534.9	48.3	
SFOBB West Approach Replacement	Construction							Green
Capital Outlay Support		120.0	-	120.0	86.9	120.0	-	
Capital Outlay Construction		309.0	-	309.0	224.7	309.0	-	
Total SFOBB West Approach Replacement		429.0	-	429.0	311.6	429.0	-	
Richmond-San Rafael Bridge Retrofit	Construction							Green
Capital Outlay Support		134.0	(7.0)	127.0	125.7	127.0	-	
Capital Outlay Construction & Right-of-Way		780.0	(82.0)	698.0	665.6	698.0	-	
Total Richmond-San Rafael Bridge Retrofit		914.0	(89.0)	825.0	791.3	825.0	-	
Program Completed Projects	Complete							
Capital Outlay Support		219.8	-	219.8	219.4	219.8	-	
Capital Outlay Construction		705.6	-	705.6	698.1	705.6	-	
Total Program Completed Projects		925.4	-	925.4	917.5	925.4	-	
Miscellaneous Program Costs		30.0	-	30.0	24.7	30.0	-	
Program Contingency		900.0	89.0	989.0	-	940.7	(48.3)	
Total Toll Bridge Seismic Retrofit Program		8,685.0	-	8,685.0	4,207.7	8,685.0	-	

- Green: *Within Approved Schedule and Budget*
- Yellow: *Potential Cost and Schedule Impacts: Likely future need for Program Contingency Allocation*
- Red: *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 (12/2006)	Project Complete Schedule Forecast (12/2006)	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	-		A schedule extension due to hinge pipe beam fabrication, service platforms electrical appurtenances, polyester concrete, etc., has been approved by the TBPOC.
SAS E2/T1 Foundations	Jun 08	(3)	Mar 08	Mar 08	-		
SAS Superstructure	Mar 12	12	Mar 13	Mar 13	-		Contract executed on May 3, 2006. See Note.
YBI South/South Detour	Jul 07	36	Jun 10	Jun 10	-		
YBI Transition Structures	Nov 13	12	Nov 14	Nov 14	-		In March 2006, the TBPOC approved the split of the YBI contract into three contracts. Schedules and estimates for the split contracts are being developed.
Oakland Touchdown (OTD)	Nov 13	12	Nov 14	Nov 14	-		
• OTD Submarine Cable	n/a		Jan 08	Jan 08	-		Bids were opened on a readvertisment on December 18, 2006. The apparent low bidder was less than the engineer's estimate.
• OTD Westbound	n/a		Jul 09	Oct 09	3		Advertise date postponed to provide additional time for utility coordination and contract formation.
• 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	Jun 07	(9)		Forecast based on actual award date and duration in Contractor's A+B bid.
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	-	Aug 09	Aug 09	-		
Richmond-San Rafael Bridge							
• Seismic Retrofit	Aug 05	-	Aug 05	Oct 05	2		Seismic retrofit completed July 29, 2005. Formal acceptance of this contract on October 28, 2005. $89 million has been transferred to Program Contingency.
• Public Access Project	n/a	-	May 07	May 07	-		Bids to be opened November 1, 2006.

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.

Program Costs

Baseline and Projected Budget

The 2005 AB 144/SB 66 baseline budget is $7.785 billion for CO and COS plus $900 million in program contingency, for a total baseline budget of $8.685 billion. The Fourth Quarter 2006 forecast for the program remains within the $8.685 billion budget. The $89 million cost savings on the Richmond-San Rafael Bridge project has been transferred to the Toll Bridge Seismic Retrofit Program Contingency, as directed by the TBPOC. The Fourth Quarter forecast for the SFOBB East Span Project has increased to $5.535 billion due to a revised construction cost estimate on the OTD #1 and YBI SSD contracts.

Additional cost estimate and expenditure detail 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.

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 5-Toll Bridge Program Oversight Committee Actual Expenses: July 1, 2005 through December 31, 2006* shows actual expenses through December 31, 2006, for TBPOC functioning, support, and monthly and quarterly reporting.

Table 4-Toll Bridge Seismic Retrofit Program Baseline (AB 144/SB 66) And Forecasts ($ million)

Contracts	AB 144 / SB 66 Baseline Budget	Approved Changes	Current Approved Budget	4th Quarter 2006 Forecast	Difference from Current Approved Budget
Completed Projects					
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	-
Ongoing Projects					
Richmond-San Rafael	914.0	(89.0)	825.0	825.0	-
SFOBB West Approach	429.0	-	429.0	429.0	-
SFOBB East Span	5,486.6	-	5,486.6	5,534.9	(48.3)
Miscellaneous Program Costs	30.0	-	30.0	30.0	-
Subtotal	7,785.0	(89.0)	7,696.0	7,744.3	(48.3)
Program Contingency	900.0	89.0	989.0	940.7	48.3
Total Program	8,685.0	-	8,685.0	8,685.0	-

Table 5-Toll Bridge Program Oversight Committee

Actual Expenses: July 1, 2005 through December 31, 2006 ($ Millions)

Agency/Program Activity	FY 2005 - 2006 Actual Costs
BATA	0.2
Caltrans	0.4
CTC	0.1
Reporting	1.1
Total Program	1.8

Aerial view of Skyway construction

Aerial view of Bay Bridge East Span and new Skyway

Program Schedule

Baseline and Projected Schedule

Seismic retrofit on 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. Seismic retrofitting of the SFOBB west span was completed in June 2004. The SFOBB West Approach and East Span Seismic Replacement projects are currently under construction. The current December 2006 schedule calls for achieving seismic safety and opening to traffic the SFOBB new east span in 2013.

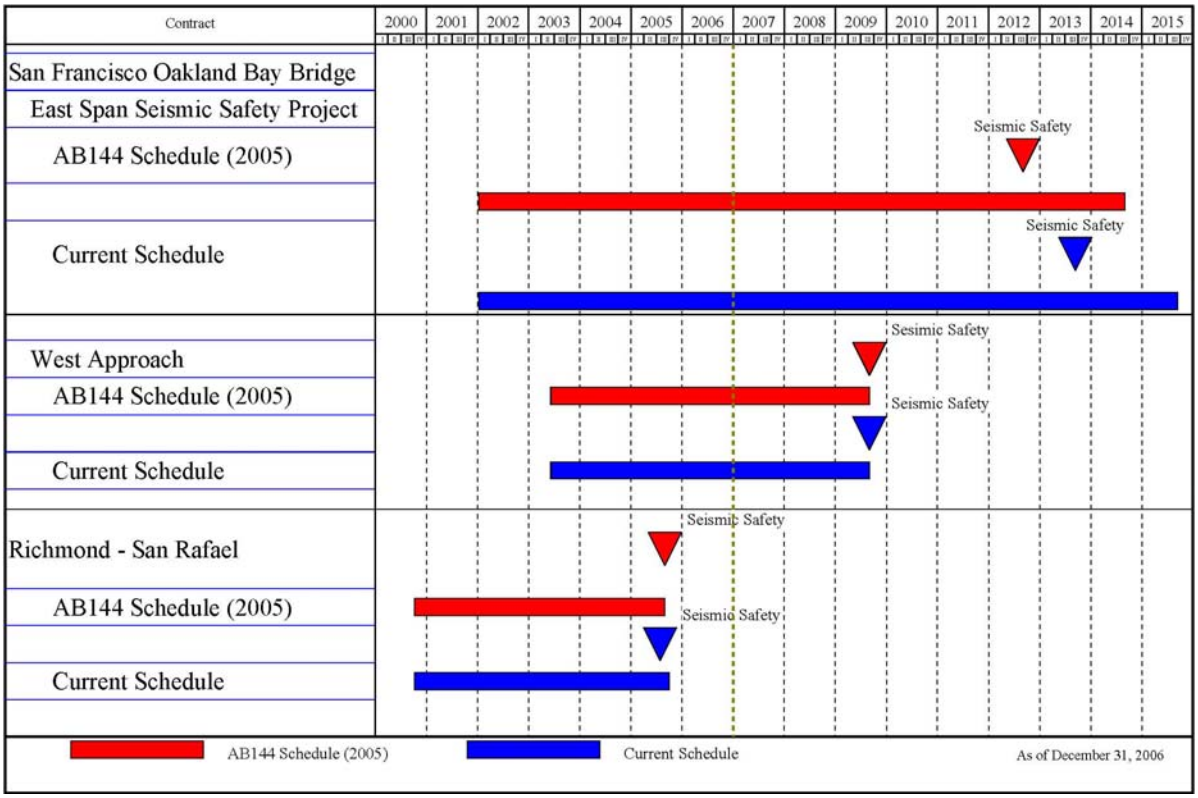
The 12 months of schedule extension was granted by addendum to the SFOBB East Span Seismic Replacement Project SAS contract based on bidder inquiries received during advertisements. While the 12 month schedule extension for the SAS has also extended the schedules for YBITS and OTD contracts accordingly, Caltrans is scheduling the contracts to accommodate the possibility of an early SAS completion based incentives also included by the SAS addendum.

For the SSD contract, the amount of delay to this contract is yet to be determined and is subject to analysis by Caltrans and negotiation with the Contractor. This delay is not expected to impact the open-to-traffic for the new east span.

It is estimated that all of the 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-Toll Bridge Seismic Retrofit Program Schedule*, shows the baseline, AB 144/ SB 66 project schedule versus the projected completion schedules for the TBSRP projects under construction.

Chart 1-Toll Bridge Seismic Retrofit Program Schedule

Baseline AB 144/SB 66 vs. Projected Schedule



Program Funding and Financing

AB 144 established a funding level of $8.685 billion for the TBSRP. The bill specifies funding sources for the program, as shown in *Table 6-Program Budget*.

Table 6-Program Budget as of December 31, 2006 ($ Millions)

	Budgeted	Funding Available & Contributions
Financing		
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
Subtotal - Financing	**5,252.0**	**5,252.0**
Contributions		
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[(1)(2)]	745.0	745.0
Public Transportation Account[(1)(3)]	130.0	90.0
ITIP/SHOPP/Federal Contingency	448.0	-
Federal Highway Bridge Replacement and Rehabilitation (HBRR)	642.0	500.0
SHA - East Span Demolition	300.0	
SHA - "Efficiency Savings"[(4)]	130.0	2.0
Redirect Spillover	125.0	
Motor Vehicle Account	75.0	75.0
Subtotal - Contributions	**3,433.0**	**2,240.9**
Total Funding	**8,685.0**	**7,492.9**
Allocated to date		**6,013.3**
Remaining Unallocated		**1,479.6**

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

(2) 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.

(3) To date, $90 million has been transferred from the PTA to the TBSRP, including the full $80 million transfer scheduled by the CTC to occur in 2005-06. Approximately $40 million remains to be transferred. Caltrans anticipates transfer of such balance in Fiscal Year 2006-07 as directed by the California Transportation Commission.

(4) To date, $2 million has been transferred from the SHA to the TBSRP, representing the commitment of "Efficiency Savings" for 2005-06 identifed under AB 144. Approximately $128 million remains to be distributed as scheduled by the CTC.

Notes: Program budget includes $900 million program contingency.

Funding Status

The program's financial status of revenues and expenditures is summarized in the table below, *Table 7-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). Through September 2005, $789 million provided by Proposition 192 has been allocated by the CTC.

Table 7-Toll Bridge Seismic Retrofit Program Financial Status as of December 31, 2006 ($ Millions)

Revenues:	
Toll Surcharge[1]	687.9
SMIF Interest	97.9
Bond Revenue (Seismic Bond of 1996)	789.0
Bond Revenue (Toll Revenue Bonds)	1,062.0
Commercial Paper[2]	80.0
SANDAG	33.0
Vincent Thomas[3]	6.9
Federal Highway Bridge Replacement and Rehabilitation	500.0
Transfers to TBSRA:	
Motor Vehicle Account	75.0
State Highway Account[4]	745.0
Public Transportation Account[5]	90.0
State Highway Account "Efficiency Savings"[6]	2.0
Total Revenues and Transfers	**4,168.7**
Expenditures :	
Capital Outlay	3,284.3
State Operations	923.4
Total Expenditures	**4,207.7**
Encumbrances:	
Capital Outlay	1,796.2
State Operations	9.4
Total Encumbrances	**1,805.6**
Total Expenditures and Encumbrances	**6,013.3**

(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.

(2) $80 Million in Commercial Paper issued on or about April 5, 2005.

(3) No additional funding is expected from the Vincent Thomas Toll Revenue Account.

(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.

(5) To date, $90 million has been transferred from the PTA to the TBSRP, including the full $80 million transfer scheduled by the CTC to occur in 2005-06. Approximately $40 million remains to be transferred. Caltrans anticipates transfer of such balance in 2006-07 as directed by the California Transportation Commission.

(6) To date, $2 million has been transferred from the SHA to the TBSRP, representing the commitment of "Efficiency Savings" for 2005-06 identifed under AB 144. Approximately $128 million remains to be distributed as scheduled by the CTC.

Program Financing

As discussed above, 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 no sooner than 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 bonds and commercial paper.
- Increasing tolls on the state-owned bridges by $1.00, (from $3.00 to $4.00 for two-axle vehicles), effective January 1, 2007.
- Securing the maximum amount of state funding early in the construction schedule to most efficiently use toll funds (see discussion below concerning the CTC funding schedule).
- Locking in current interest rates to the extent possible in order to improve the chances that the entire toll program construction and the operations and maintenance can be delivered within the $4.00 auto toll level.

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

Furthermore, 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 beginning 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 begin 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 to maximize 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 July 2006, BATA approved the establishment of a Joint Power Authority (JPA) consisting of the Metropolitan Transportation Commission (MTC) and BATA for the financing of the payment contributions from the CTC schedule. The JPA is named the Bay Area Infrastructure Financing Authority (BAIFA). In September 2006, the BAIFA approved the issuance of $1.1 billion in State Payment Acceleration Notes (SPAN) to finance the state contributions as outlined in the CTC schedule included in Appendix C to this report.

In December 2006, BATA issued $972.3 million in notes secured by state funds in accordance with the schedule adopted by the CTC in 2005. The note proceeds will provide cash flow to fund the TBSRP.

Project Status

Completed Projects

Seismic retrofit and project close-out has been completed on the Benicia-Martinez, Carquinez, San Mateo-Hayward, Vincent Thomas, San Diego-Coronado toll bridges and on the west span of the SFOBB. See *Table 8-Cost Comparison AB 144/SB 66, Fourth Quarter 2006 Forecast and Expenditures through December 2006 for Completed Bridges.* The Richmond-San Rafael Bridge project expenditures have not been completely closed because Caltrans is in discussions with regulatory agencies regarding potential mitigations for impacts on fish in the project area.

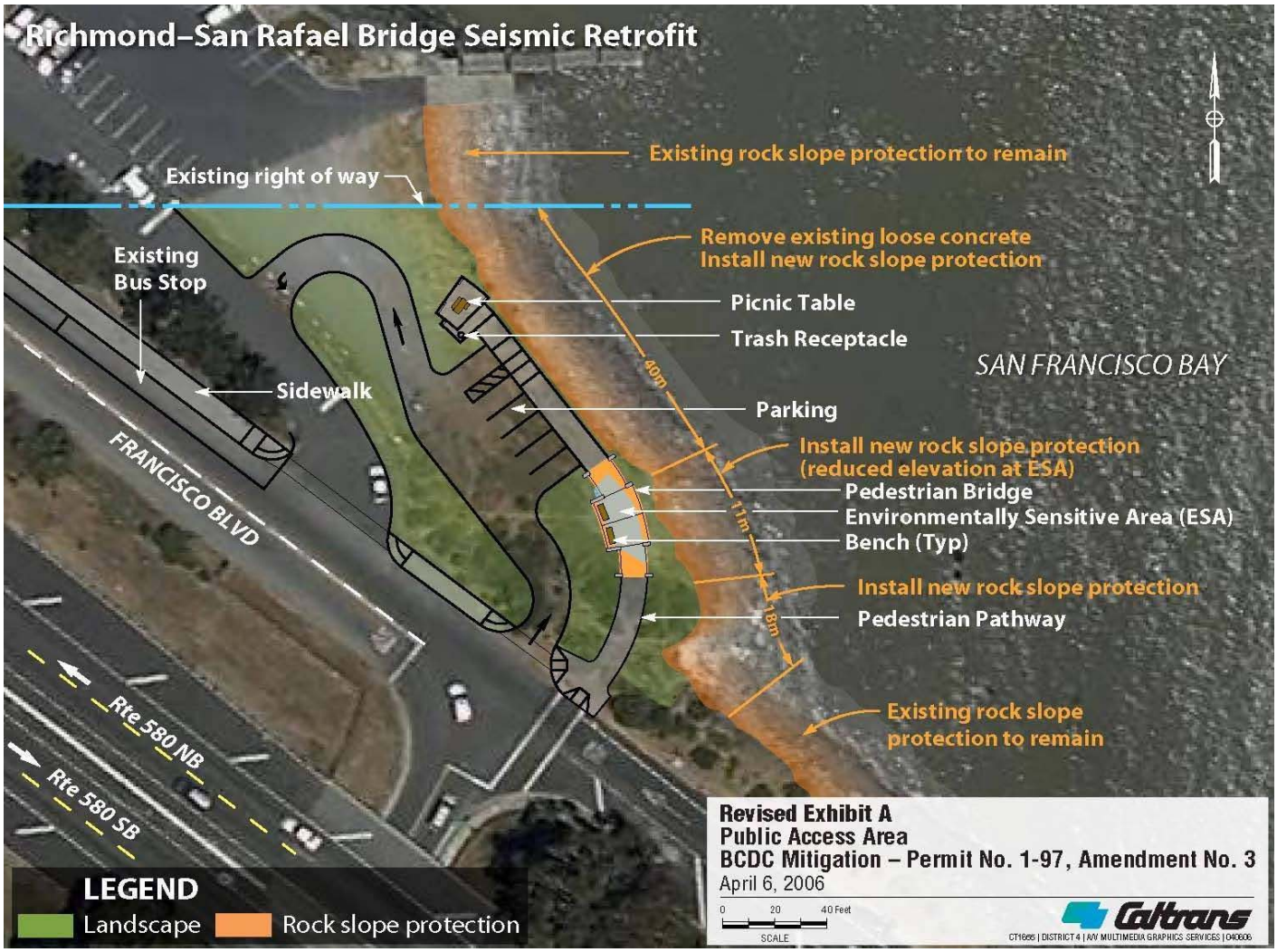
Table 8-Cost Comparison AB 144/SB 66, Fourth Quarter 2006 Forecast and Expenditures through December 31, 2006 for Completed Bridges ($ million)

Project	AB 144/ SB 66 Budget	Approved Changes	Current Approved Budget	Cost To Date (12/2006)	4th Quarter 2006 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	301.1	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	(89.0)	825.0	791.3	825.0	-
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	-
TOTAL	1,839.4	(89.0)	1,750.4	1,706.8	1,750.4	-

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 still ongoing.

Caltrans has issued for advertisement the project plans and specifications for a public access lot on the Marin side of the Richmond-San Rafael Bridge to comply with a Bay Conservation and Development Commission (BCDC) permit condition. The Richmond-San Rafael Public Access Project will provide public access to the Bay shoreline at the north end of the Richmond-San Rafael Bridge in Marin County. Bids for the project were opened on November 1, 2006, with the lowest apparent bidder being less than the engineer's estimate. Caltrans awarded the contract on November 11, 2006.

To close out the Richmond-San Rafael Seismic Retrofit Project, Caltrans faces potential exposures concerning the environmental mitigation for negative impacts on fish, which is currently being discussed with regulatory agencies. Final savings for the Richmond-San Rafael Bridge project will be based on the resolution of pending negotiations with environmental permitting agencies regarding the cost of pile driving mitigation. Initial project cost savings in the amount of $89 million have been transferred to the Toll Bridge Seismic Retrofit Program Contingency, as directed by the TBPOC.

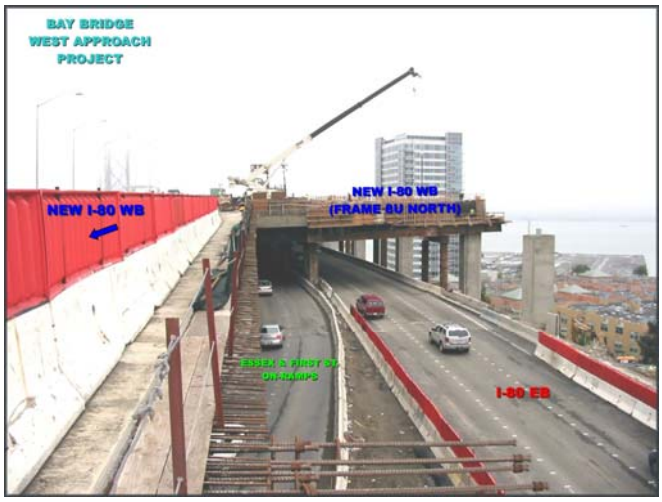


Ongoing Construction Projects

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 4th Street to the SFOBB west anchorage, and all of the connecting entrance and exit ramps in downtown San Francisco. The construction work, which began in June 2003, is approximately 75 percent complete. Completion of this project is scheduled for 2009.

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 4th 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.



West Approach Progress

Milestones Achieved

Seismic retrofit construction continued throughout the project during the reporting period. Major ongoing work included the continuation of work on the next phase of piles for the permanent westbound I-80 mainline structures, the 5th Street and Harrison Street ramps, and the interim eastbound detour (the "ST6D" alignment). The superstructure concrete placement work for Frame 8U (South) near the anchorage of the west spans was completed, and will be stressed in January 2007, leading to the achievement of the seismic safety milestone for the entire Frame 8U. Beale Street was opened to vehicular traffic on October 30, 2006, and security enhancement work continued on Beale Street.

As part of the continuing effort to effectively manage traffic in the project area, two contract change orders (CCO's) are being developed and negotiated that, together, will mitigate traffic risks associated with the as-planned eastbound detour alignment(ST6D). The detour will shift eastbound Interstate 80 traffic to the north under the newly constructed westbound structure to allow for the demolition and reconstruction of the existing eastbound structure. Caltrans will be presenting the CCO's to the TBPOC for approval in early 2007.

Project Funding

The AB 144/SB 66 baseline budget totals $429 million for the project with $309 million for CO and $120 million for COS. See *Table 9-Baseline and Estimated Budget Need for SFOBB West Approach*

Table 9-Baseline and Estimated Budget Need for SFOBB West Approach ($ million)

	AB 144/ SB 66 Budget	4th Quarter 2006 Forecast	Difference
COS	120.0	120.0	-
CO	309.0	309.0	-
Total	429.0	429.0	-

Major Risk Issues

Caltrans' west approach Risk Response Team is continuing with its efforts to manage project risks. Updated risk assessments have been regularly performed during the Fourth Quarter as a standard project management practice.

Lessons learned to this point in the project continue to be important aspects of the implementation plans designed to mitigate risk:

- The aggressive informational campaigns have proven successful in keeping the public fully informed of upcoming demolition operations that would affect traffic, thereby mitigating adverse public perception. Regional and local information campaigns will be launched during spring 2007 to proactively address public concerns related to upcoming work on the interim eastbound detour and subsequent demolition work.
- Equipment and labor resources were increased during low traffic times such as nights and weekends. This strategy reduced inconveniences to the surrounding residents and businesses and minimized impact to the regional motorists while maintaining the level of production required for the project to remain on the target schedule.
- A high-priority risk issue currently being addressed by Caltrans concerns investigation and testing for the identification of pile anomalies that must be completed timely so as to avoid construction impact. To respond to this risk, Caltrans Construction staff coordinates closely with Structure Design and Caltrans Material Engineering and Testing Service (METS) staff daily on pile investigation and testing issues, and proactively monitors this effort. Tracking of the testing effort is done at the individual pile level of detail. Team participation in Risk Management meetings has proven to be valuable in addressing this issue.

West Approach Traffic Overview

SFOBB East Span Seismic Replacement

The SFOBB East Span Seismic Replacement project will be seismically retrofitted through the complete replacement of the existing span. The project includes construction of the Skyway portion of the bridge (See *SFOBB East Span Replacement Project* picture below), which consists of two parallel concrete structures, each approximately 1.3 miles in length; an SAS bridge consisting of a 510-foot tower supporting a bridge deck connecting the Skyway bridge to YBI, transition structures on YBI and on the east end of the bridge connecting to the toll plaza area, and demolition of the existing east span. The SFOBB east span project now consists of 19 contracts. Note that the east end connection to the toll plaza, also known as the OTD contract, was split into four contracts by the TBPOC to facilitate construction flow. Splitting this contract will remove elements of the OTD construction from the critical path for completion of the new east span. Also, the YBITS contract will be split in the future into three contracts for reasons discussed below.

The current 19 SFOBB east span contracts are identified below:

Eight contracts are **complete**:

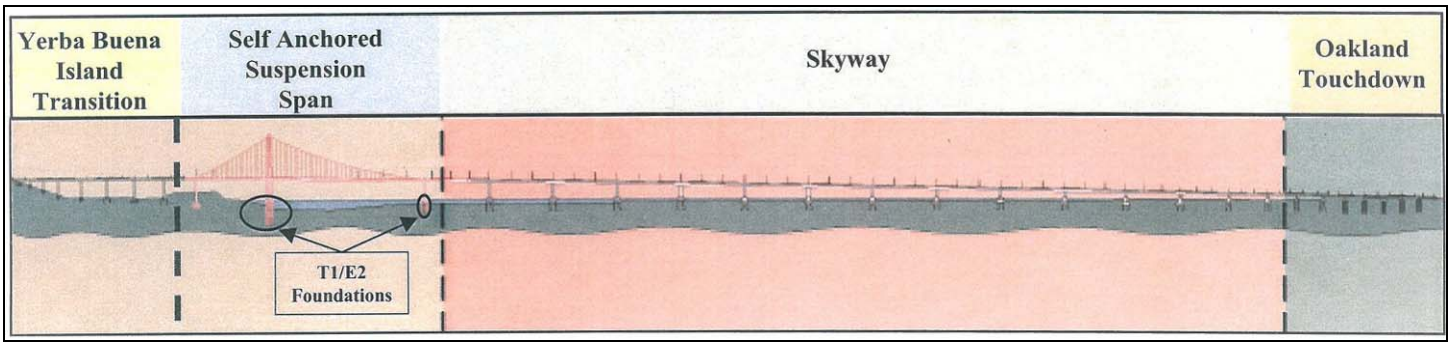
- Interim Retrofit (Existing Bridge)
- East Span Retrofit (Existing Bridge)
- Pile Installation Demonstration
- OTD Geofill
- YBI Archaeology
- United States Coast Guard (USCG) Road Relocation on YBI
- SAS Land Foundations (W2)
- YBI Electrical Substation

Five contracts are under **construction**: Note that percent complete figures for construction contracts are based on actual payments made divided by the contract amount.

- Skyway contract (94 percent complete)
- South/South Detour (40 percent complete)
- SAS Marine Foundations (E2/T1) (61 percent complete)
- SAS (15 percent complete)
- Stormwater Treatment Measures (45 percent complete)

One contract is in **bid evaluation**:

- OTD Submarine Cable Relocation contract: A contract to relocate the existing submerged electrical cable from Oakland to Treasure Island was originally advertised in July 2006. In September 2006, a single bid over the engineer's estimate was opened and rejected as non-responsive. Contracts for a single and a double cable replacement were readvertised in November 2006 followed by bid opening on December 18, 2006. Caltrans received five bids each for the contracts with the apparent low bid under the engineer's estimate. The award of the contract is scheduled for early January 2007.



SFOBB East Span Replacement Project

Seven contracts are in **design**:

- OTD #1 contract: The contract is planned to be advertised in early 2007.
- OTD #2 contract: The contract is planned to be advertised in summer 2010.
- OTD portions of the corridor electrical contract: This scope may be executed as a separate contract, or alternatively, may be included within OTD #2 contract and/or the other contracts within the east span corridor.
- YBITS #1 (design 80 percent complete to date)
- YBITS #2 (design 80 percent complete to date)
- YBITS #3 contract
- Existing Bridge Demolition design (ten percent complete to date)

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 10-SFOBB East Span Seismic Replacement Project Schedule Summary* below.

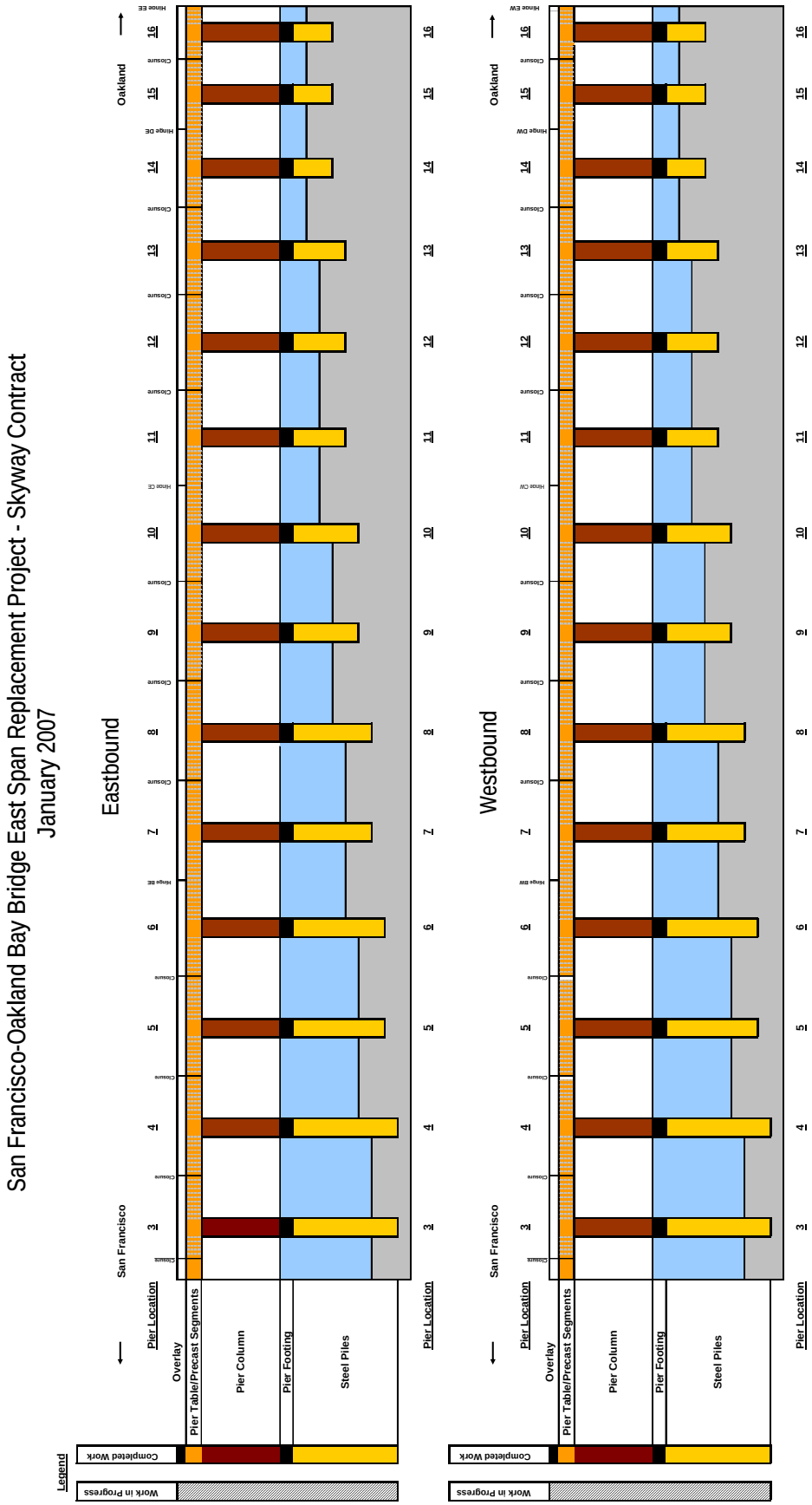
The approved east span opening date has been extended by 12 months by the TBPOC through addendum issued on the SAS contract based on bidder inquiries received during advertisement. The current approved schedule does not include the potential for schedule reduction based on an early completion incentive on the SAS contract of six months that was also included in the addendum.

The completion of the Skyway contract has been revised from April 2007 to December 2007 as approved by the TBPOC due to a Contract Change Order executed with the Contractor that resolves a variety of construction issues. This change in this contract's completion date will not delay the open-to-traffic for the new east span. The schedule for the YBI SSD contract has been affected by the 12-month change to the SAS contract schedule. This delay is not expected to impact the new east span open-to-traffic date.

Table 10-SFOBB East Span Seismic Replacement Project Schedule Summary

Contract	AB 144/SB 66 Baseline Pro	Approved Changes	Current Approved Schedule	4th Quarter 2006 Forecast Project Completion Date	Variance (Months)
Skyway	April 2007	8	December 2007	December 2007	-
YBI South / South Detour*	July 2007	36	June 2010	June 2010	-
Stormwater Treatment Measures	March 2008	-	March 2008	June 2007	(9)
SAS E2/T1 Foundations	June 2008	(3)	March 2008	March 2008	-
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		July 2009	October 2009	3
* 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.


San Francisco-Oakland Bay Bridge East Span Replacement Project - Skyway Contract
January 2007
Eastbound
Westbound
San Francisco
Oakland
Pier Location
Overlay
Pier Table/Precast Segments
Pier Column
Pier Footing
Steel Piles
Closure
Hinge EE
Hinge DE
Hinge CE
Hinge BE
Hinge EW
Hinge DW
Hinge CW
Hinge BW
Legend
Completed Work
Work In Progress

Milestones Achieved – East Span Contracts

- The Skyway contract is 94 percent complete as of December 2006. The foundation work is complete including the installation of the fenders around six of the pier footings. The eastbound and westbound structures are 100 percent complete with the erection of all 452 segments (refer to diagram on page 23). The final segments were lifted into place on the westbound structure on December 7, 2006 following the delivery and installation of the hinge pipe beams at hinge BW.

- An overall settlement has been reached with the Contractor to resolve all cost and schedule impacts posed by claims related to hinge pipe beam fabrication, service platforms, electrical appurtenances, polyester concrete overlay, modular joints and other tasks to be completed. A time extension of 220 working days, extending the project completion date to December 2007 has been approved by the TBPOC. The change in schedule to the Skyway contract will not delay the open-to-traffic date for the new East Span project, nor will this settlement negatively impact the overall budget for the Skyway contract or the project. Various Notices of Potential Change (NOPC's) have been issued by the Contractor on behalf of their Steel Orthotropic Box Girder (SOBG) fabrication subcontractor concerning issues related to that work scope that has been completed. All of these NOPC's have been recommended to be heard by the Dispute Review Board.

- The E2/T1 contract is 61 percent complete as of December 2006. At the East Pier (E2), foundation pile driving has been completed. E2 footing frames are now being welded to the piles. At the Tower Pier (T1), all steel foundation casings have been fabricated. Work is now progressing on installation of the casings and rock sockets. Fabrication of the T1 footing box continues in Texas and is scheduled to be completed in early 2007.

- Caltrans is addressing risks posed by potentially differing site conditions at the Tower Pier rock socket through lessons-learned at the Benicia-Martinez Bridge. This information has been gained through substantial foundation exploration performed during design, and through the use of a conservative design, which may allow for variations during pile construction. Risks associated with potential differing site conditions at the Tower Pier casings are also being addressed through data gained from foundation exploration, use of a conservative design and flexibility in the casing installation sequence.

- The SFOBB East Span Seismic Replacement Project SAS Superstructure contract is fifteen percent complete, based on payments to the Contractor, as of December 2006. The Contractor is mobilizing staff to the field office on Pier 7 in Oakland. Development of various administrative submittals, including the baseline schedule, is continuing. A final baseline schedule is still pending from the Contractor. The Contractor is finalizing agreements with various manufacturers, fabricators, suppliers and subcontractors, including with Zhenhua Port Machinery Company (ZPMC), of Shanghai, China, to supply and fabricate all the major steel structures in the SAS. Caltrans is working to set up facilities and to organize resources in China that will ensure an effective Owner's presence in the steel fabrication shops operated by ZPMC. Caltrans is also taking risk mitigation measures to address potential issues during construction due to structural steel plate conflicts and welding methods.

Yerba Buena Island Contracts

- For the Yerba Buena Island South-South Detour (SSD) contract, Caltrans and its consultants have assumed design responsibilities from the Contractor for the design the East and West tie-ins from the existing bridge and tunnel to the detour structure. The construction of the tie-ins has been temporarily suspended pending completion of their design and is being managed by Caltrans to be completed in conjunction with the SAS schedule to minimize impacts to the traveling public. The suspension of the tie-in work has necessitated additional design enhancements to the viaduct segment of the detour to allow it to stand in place alone for a longer duration to allow it to be connected to the East tie-in. The viaduct segment is being fabricated in South Korea.

- The YBITS #1 contract will construct structures necessary to connect the new SAS to the existing YBI tunnel. To minimize schedule and construction risk, Caltrans is exploring options to accelerate portions of YBITS #1 work, including shifting critical path work to the SSD contractor. Preparation of final PS&E packages is currently underway. The decision on the accelerated work will impact design work on this contract.

- The YBITS #2 contract includes demolition of the South/South Detour (SSD) 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. Eastbound traffic will be placed on the new structure in this contract. The majority of the design work is complete. Preparation of detailed plans and quantity calculations are in progress. The decision on the accelerated work will impact design work on this contract.

- 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 majority of the area. Determination of the extent of the U.S. Coast Guard area to be landscaped is still pending. Development of the final plans has not been completed.

Oakland Touchdown Contracts

- The OTD Submarine Cable contract will replace the existing submarine electrical cable from Oakland to Treasure Island. The cable relocation contract will place a new electrical cable(s) between the East Bay and Treasure Island because the existing electrical cable providing power to the island is close to foundation work necessary for the construction of the OTD #1 contract, which is expected to advertise in early 2007. This contract was advertised for bids on July 31, 2006. On September 19, 2006, Caltrans received a single bid of $13.1 million for this contract, which was $6.4 million (+97.2%) higher than the $6.6 million engineer's estimate. Two contracts (one for a single 750 kcmil cable and one for two 1000 kcmil cables) were advertised on November 27, 2006 and bids opened on December 18, 2006. Five bids were received for each contract, including one non-responsive bid on each contract, with apparent low bids under the engineer's estimate for each contract. Caltrans plans to award a contract in early January 2007 to the lowest responsive bidder, pending a decision by the City of San Francisco on whether to fund a two cable contract.

- The OTD #1 contract includes construction of all of the marine foundations, westbound bridge section and roadway approach for the section that connects the new Skyway portion to the roadway west of the Oakland Toll Plaza. Design work is complete. PS&E were submitted to the Caltrans Office Engineer on September 1, 2006. The advertisement for bidders for this contract is scheduled for early 2007 and contract completion is scheduled for

October 2009. The contract will include workaround specification language to minimize risks from a delayed submarine cable contract.

- The OTD #2 contract includes construction of the remaining eastbound bridge section and roadway approach for the section that connects the new Skyway portion 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 complete. Design work on the roadway portion is ongoing.

- A fourth contract could incorporate most of the electrical elements from OTD, as well as from other segments of the east span into a single contract and is currently being scoped. The inclusion of this work into another existing contract is also being considered.

Other Contracts

- The Stormwater Treatment Measures contract is 45 percent complete as of December 2006. The Stormwater Project was required as part of the environmental mitigation package for the SFOBB Seismic Safety Project by the Regional Water Quality Control Board. The project will reduce the concentration of stormwater runoff pollutants including industrial chemicals, asbestos from brake pads, hydrocarbons, and heavy metals, from entering into the adjacent Emeryville Crescent. The Emeryville Crescent is a 558-acre tidal marsh and cove that supports up to 14,000 shorebirds and thousands of other birds, including the endangered clapper rail which nests and forages in the vegetative cover of the marsh. This area has been described as supporting the largest number of shorebird species regularly occurring at one place within San Francisco Bay (Bodega Bay Institute, 1978). The project will provide water treatment of at least 85% of the average annual runoff from a 155-acre shed area in the vicinity of the SFOBB Toll Plaza. By removing toxins from the SFOBB runoff, Caltrans will enhance the habitat quality of the Emeryville Crescent and by extension, the San Francisco Bay. Current work continues on the installation of drainage structures, piping and pump stations. Work has also started on planned bioretention basins.

Design on the Existing Bridge Demolition contract is 10 percent complete. 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.

Pump Station 3A Top Slab Pour

Headwall Pour

Project Funding

Baseline and Projected Budget and Schedule

The AB 144/SB 66 baseline budget for the SFOBB east span is $5.486 billion with $4.527 billion for CO and $959.4 million for COS. This amount does not include program contingencies. See *Table 11-SFOBB East Span Replacement Cost Summary*.

The TBPOC re-evaluates project and contract cost forecasts continuously. The estimate-at-completion as of December 31, 2006, includes revised forecasts from AB 144/SB 66 budget, as follows:

- A forecast increase in the cost of COS to $977.1 million as a result of a detailed staffing and consultant contract cost forecast completed as of the end of the First Quarter 2006. This forecast includes considerations of revised and increased construction contract schedules as mentioned elsewhere in this report that require coverage by staff and consultants.
- A forecast $13.7 million increase for the SAS Superstructure contract to cover actions taken to encourage additional bidders for the project, including the bidder's stipend for the lowest three responsive bidders.
- A forecast $19.2 million increase for the YBITS contract due to a higher estimate for electrical work and scheduling.
- A forecast $18.7 million increase in the CO for the OTD contract due to an approved Engineer's

Table 11-SFOBB East Span Replacement Cost Summary ($ Millions)

Contract	AB 144/ SB 66 Budget	Approved Changes	Current Approved Budget	Cost To Date (12/2006)	4th Quarter 2006 Forecast	Variance
a	b	c	d = b + c	e	f	g = f - d
Capital Outlay Support	959.4	-	959.4	466.7	977.1	17.7
Capital Outlay	-	-	-	-	-	-
Skyway	1,293.0	-	1,293.0	1,114.4	1,293.0	-
SAS E2/T1 Foundations	313.5	-	313.5	194.3	313.5	-
SAS Superstructure	1,753.7	-	1,753.7	215.6	1,767.4	13.7
YBI South/South Detour	131.9	-	131.9	37.2	152.2	20.3
YBI Transition Structures	299.3	-	299.3	-	318.5	19.2
Oakland Touchdown	283.8	-	283.8	-	302.5	18.7
♦ OTD Submarine Cable				-	9.6	
♦ OTD Westbound				-	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	-	15.0	6.4	15.0	-
East Span Completed Projects	90.3	-	90.3	88.6	90.3	-
Right-of-Way and Environmental Mitigation	72.4	-	72.4	38.8	72.4	-
Other Budgeted Capital	35.1	-	35.1	0.6	11.0	(24.1)
TOTAL	5,486.6	-	5,486.6	2,162.6	5,534.9	48.3

Note: Details may not sum to totals due to rounding effects.

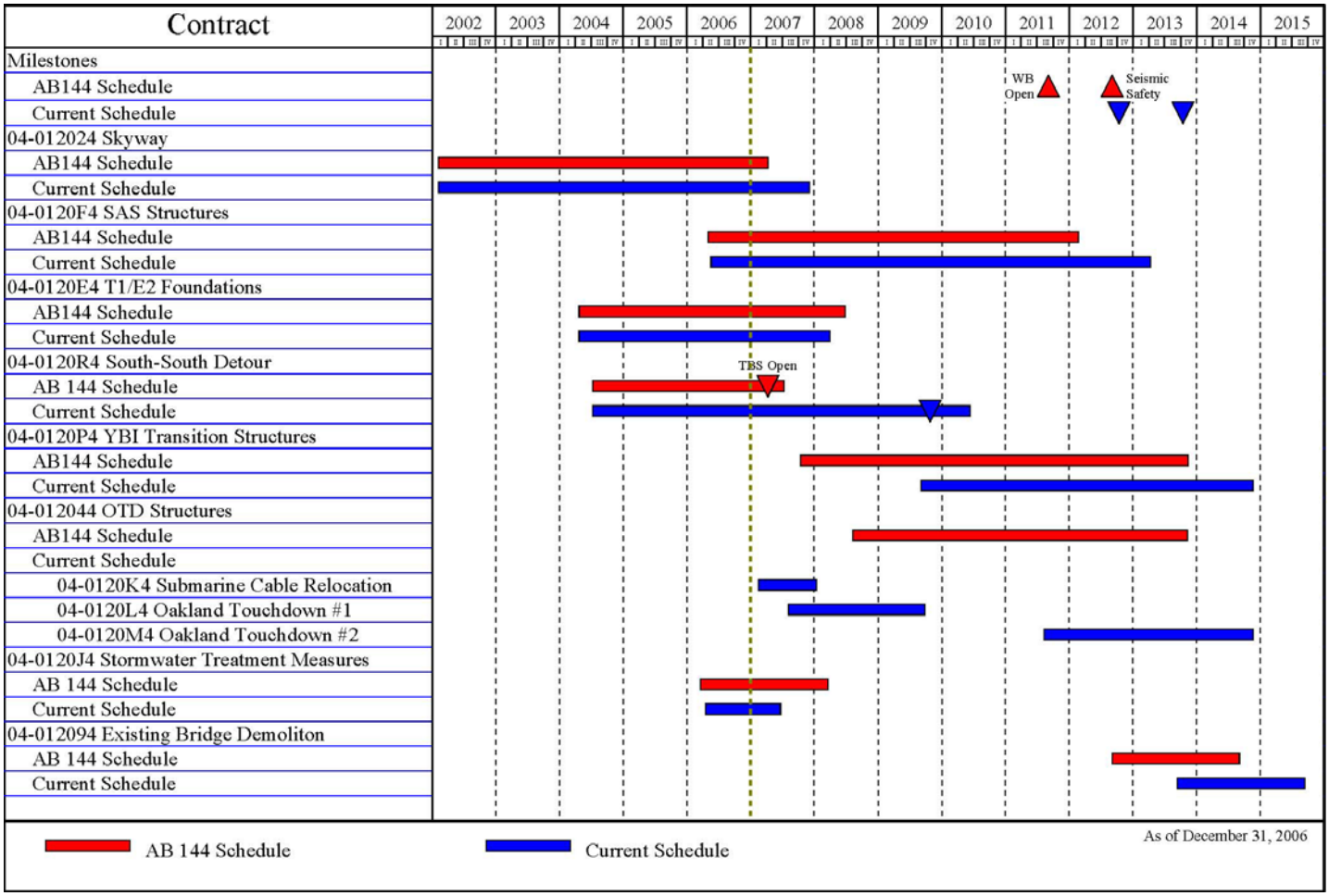
Estimate for the OTD #1contract. The COS for the contract was also increased to cover the additional work to split the contract and to administer four separate contracts over a longer duration rather than the original single contract.

- A cost variance from the Current Approved Budget in the amount of $20.3 million is forecast for the SSD contract due to issues related to a potential extension of the contract schedule to integrate it with the SAS contract schedule; the cost impact of possible risks associated with the roll-out of a portion of the existing bridge structure and the roll-in of a replacement span at the East tie-in; and the impact of potential risks related to the demolition of the existing structure.
- A forecast $17.2 million decrease for the Bridge Demolition Contract due to a re-evaluation 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. The forecast for the SFOBB east span has increased by $48.3 million to $5.535 billion.

The current December 2006 schedule calls for achieving seismic safety and opening to traffic the SFOBB new east span in 2013. The 12 months of schedule extension was granted by addenda to the SFOBB East Span Seismic Replacement Project SAS contract based on bidder inquires received during advertisements.

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



While the 12 month schedule extension for the SAS has also extended the schedules for YBITS and OTD contracts accordingly, Caltrans is scheduling the contracts to accommodate the possibility of an early SAS completion based on incentives also included by the SAS addenda.

For the SSD contract, the amount of delay to this contract is yet to be fully determined and is subject to analysis by Caltrans and negotiation with the Contractor. This delay is not expected to impact the open-to-traffic for the new east span.

It is estimated that all of the 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.

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.* It should be noted that the schedules shown in *Chart 2* do not at this time account for the potential "worst-case" issues that may affect the schedule identified in the SFOBB East Span Seismic Retrofit Project Risk Management Plan.

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 and BATA 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.

Quarterly Environmental Compliance Highlights

SFOBB east span environmental tasks for the current quarter are focused on mitigation monitoring. All weekly, monthly, and annual compliance reports to resource agencies have been delivered on time with no comments from receiving agencies. Key successes this quarter include:

- Bird monitoring was conducted weekly in the active construction areas. American Peregrine falcon and California clapper rail nest monitoring for the 2006/2007 nesting season began mid-December.
- Turbidity monitoring was conducted without incident during drilling and decanting at Pier T1.
- A marine mammal and hydroacoustic monitoring report covering activities during pile-driving at Piers E2 and T1 was submitted to NOAA-Fisheries on December 19, 2006.
- Monitoring for herring spawning activity within the project construction limits began on December and will continue through March 31 each year.
- Monitoring of the one-year eelgrass pilot program at the North Basin site was completed in July. The results of the monitoring were presented to the resources agencies on December 5, 2006. Caltrans is currently addressing issues and questions that came from the interagency meeting. It is hoped that approval will be received by February to conduct an additional year of monitoring before making a decision about the mitigation site.

Other Toll Bridges

Dumbarton and Antioch Bridges

The original design of the Dumbarton and Antioch Bridges were based on design criteria developed after the 1971 San Fernando Earthquake. In the early 1990's, Caltrans determined that these two structures had the seismic resistant features required by the post 1971 codes and were not likely to be vulnerable during a major seismic event. Since that time, Caltrans has pursued an aggressive seismic research program, and based on the results of this program, significantly revised its seismic design practice in the late 1990's. Consistent with recommendations by the Caltrans Seismic Advisory Board, Caltrans regularly reassesses the seismic hazard and performance of its bridges. Due to the tremendous changes in seismic design practice that have occurred since the design of the Dumbarton and Antioch bridges, a comprehensive assessment of the potential need and scope for seismic retrofit based on current knowledge is planned.

Vulnerability Studies

In late 2004, Caltrans initiated vulnerability studies on the Dumbarton and Antioch bridges. The purpose of these studies was to determine if the bridges would meet current seismic performance standards. The studies were essentially completed in May 2005. They were not a complete global analysis, but rather an investigation of selected bents modeled as independent structures. The analysis was limited in scope and based on as-built plans and currently available geotechnical information. The superstructure response was not analyzed.

The Dumbarton and Antioch Bridges have many seismic resistant features, and the results of the vulnerability studies indicate that the bridges should perform well in a moderate seismic event. However, during a major seismic event, potential vulnerabilities (summarized below) become apparent:

- Foundation response generally governs performance. The piles may plunge axially and potentially cause permanent footing rotations.
- Potentially large foundation displacements and rotations may result in deformations that can't be easily repaired.
- The bent cap, pile cap, pile and superstructure are not capacity protected by the ductile columns and, as a result, these elements may be damaged in a major event, especially if the foundation is retrofitted.

Given the limitations of the studies, there was insufficient evidence to conclusively determine the performance of the bridges during a maximum credible earthquake (MCE). While the Dumbarton and Antioch bridges may meet performance standards, a more comprehensive technical study is necessary to understand the performance of these structures during an MCE event. A study of this level is necessary to accurately determine the structures' response and to develop any necessary retrofit strategies. A comprehensive geotechnical study using the latest analysis techniques is likely necessary in order to perform this level of analysis.

Sensitivity Analysis

As a follow-up to the Vulnerability Study, a sensitivity analysis was completed on a single representative bent used in the Vulnerability Study (Bent 23 of the Dumbarton Bridge). The goal of the analysis is to determine the structural response associated with uncertainties in the geotechnical data. An envelope of soil conditions (best-case and worst case scenarios) was used in the analysis. The results of the Sensitivity Analysis will be used to determine the scope and value of conducting further geotechnical studies.

The preliminary results from the sensitivity analysis indicate that the seismic response of the bridge is largely dependant on the soil conditions and that a comprehensive geotechnical investigation is essential for understanding the bridge's

performance during a major seismic event. A work plan was developed to assess the extent of geotechnical work needed for a complete seismic analysis and to assess the required performance levels for each structure. Caltrans has completed the value analysis to scope the geotechnical investigation which will be required to complete the strategy. The final report was issued on July 24, 2006.

Cost and Schedule

A preliminary cost estimate, schedule, and an initial risk analysis have been developed to complete a comprehensive seismic analysis for each bridge. The preliminary estimate and schedule were developed as a baseline assuming a complete geotechnical and geophysical investigation is required at each bridge.

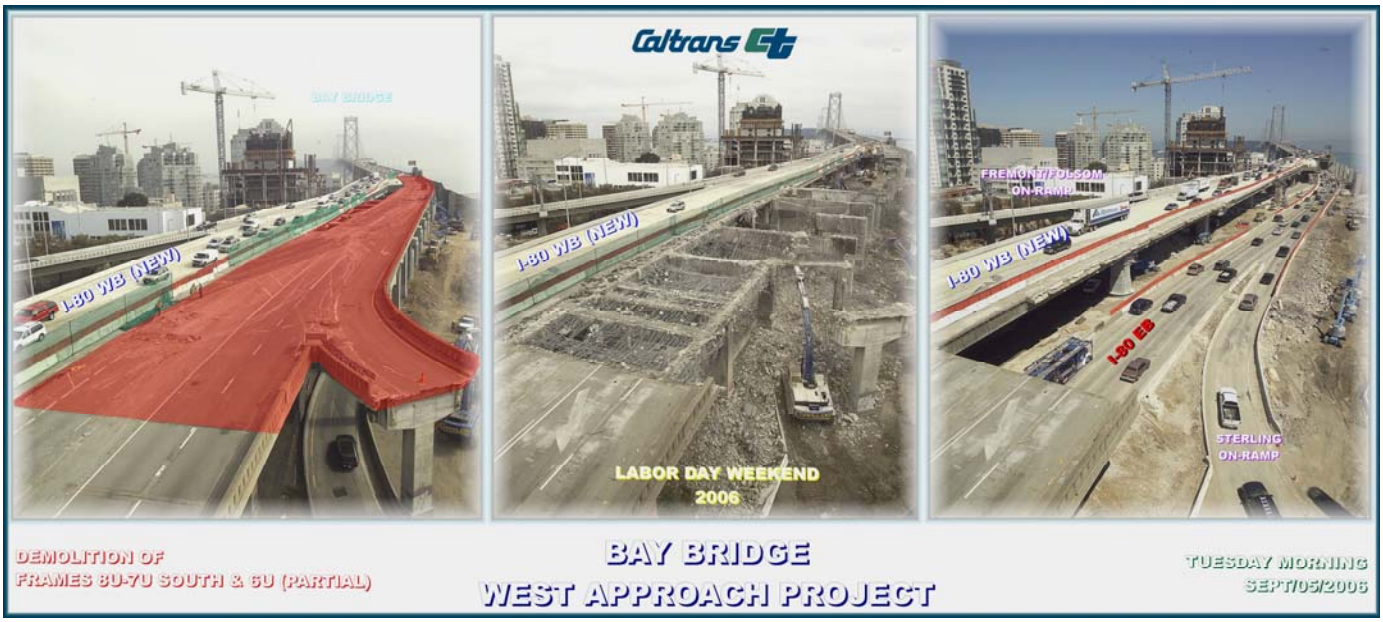
Current Progress

In June 2006, BATA approved $17.8 million in funding to proceed with the comprehensive seismic analysis of the bridges. By September 2006, BATA entered into contract with a geotechnical and geophysical consultant to evaluate the bridges.

- At the Dumbarton Bridge, all on-land drilling operations have been completed. The marine work started on December 11, 2006 and will be completed by late January 2007.

- At the Antioch Bridge, drillings at 28 of 30 on-land drilling locations have been completed. The marine work is scheduled to begin in early February 2007.

Caltrans is currently reviewing the new data and will begin structural analysis to determine the appropriate seismic retrofit strategies for each bridge. Caltrans is working with the Seismic Advisory Peer Review Panel on the project.



West Approach

Appendices

A. TBSRP All Bridges AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures through December 31, 2006 (A-1 and A-2).

B. TBSRP East Span Only AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures through December 31, 2006.

C. CTC First Quarter Schedule.

D. Project/Contract Photographs.

Appendix A-1.

Toll Bridge Seismic Retrofit Program

AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through December 2006

($ millions)

Bridge	AB 144/SB 66 Baseline	TBPOC Current Approved Budget	Third Quarter 2006 Forecast	Fourth Quarter 2006 Forecast	Variance (4th Q06 - 3rd Q06)	Expenditures Through Dec 2006
Benicia-Martinez						
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
Carquinez						
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
San Mateo-Hayward						
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
Vincent Thomas						
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
San Diego-Coronado						
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
Richmond-San Rafael						
Capital Outlay Support	134.0	127.0	127.0	127.0	-	125.7
Capital Outlay	780.0	698.0	698.0	698.0	-	665.6 *
Total	914.0	825.0	825.0	825.0	-	791.3
West Span Retrofit						
Capital Outlay Support	75.0	75.0	75.0	75.0	-	74.8
Capital Outlay	232.9	232.9	232.9	232.9	-	226.3
Total	307.9	307.9	307.9	307.9	-	301.1
West Approach						
Capital Outlay Support	120.0	120.0	120.0	120.0	-	86.9
Capital Outlay	309.0	309.0	309.0	309.0	-	224.7
Total	429.0	429.0	429.0	429.0	-	311.6
SFOBB East Span						
Capital Outlay Support	959.4	959.4	977.1	977.1	-	466.7
Capital Outlay	4,492.1	4,492.1	4,546.8	4,546.8	-	1,695.3
Other Budgeted Capital	35.1	35.1	11.0	11.0	-	0.6
Total	5,486.6	5,486.6	5,534.9	5,534.9	-	2,162.6
Miscellaneous Program Costs	30.0	30.0	30.0	30.0	-	24.7
Subtotal Capital Outlay Support	1,463.2	1,456.2	1,473.9	1,473.9	-	923.4
Subtotal Capital Outlay	6,321.8	6,239.8	6,270.4	6,270.4	-	3,284.3
Subtotal Toll Seismic Retrofit	7,785.0	7,696.0	7,744.3	7,744.3	-	4,207.7
Program Contingency	900.0	989.0	940.7	940.7	-	-
Total Toll Seismic Retrofit Program	**8,685.0**	**8,685.0**	**8,685.0**	**8,685.0**	**-**	**4,207.7**

Notes: * Budget for Richmond-San Rafael Bridge include $16.9 million of deck joint rehabilitation work that considered to be eligible for seismic retrofit program funding.
(Due to the rounding of numbers, the totals above are shown within $0.02).

Appendix A-2.

Toll Bridge Seismic Retrofit Program - SAS Alternative
AB 144 Baseline Budget, Forecasts and Expenditures Through December 2006

($ in millions)

Bridge	AB 144 Baseline Budget	TBPOC Current Approved Budget See Note (3)	Expenditures to date and Encumbrances as of Dec 2006 See Note (1)	Estimated Costs not yet Spent or Encumbered as of Dec 2006	Total Forecast as of Dec 2006 (Columns C +D)
Other Completed Projects					
Capital Outlay Support	144.9	144.9	144.6	0.3	144.9
Capital Outlay	472.6	472.6	473.4	(0.7)	472.7
Total	617.5	617.5	618.0	(0.4)	617.6
Richmond-San Rafael					
Capital Outlay Support	134.0	127.0	125.7	1.3	127.0
Capital Outlay	698.0	698.0	673.1	24.9	698.0
Project Reserves	82.0	-	-	-	-
Total	914.0	825.0	798.8	26.2	825.0
West Span Retrofit					
Capital Outlay Support	75.0	75.0	74.8	0.2	75.0
Capital Outlay	232.9	232.9	234.1	(1.2)	232.9
Total	307.9	307.9	308.9	(1.0)	307.9
West Approach					
Capital Outlay Support	120.0	120.0	88.6	31.4	120.0
Capital Outlay	309.0	309.0	296.0	13.0	309.0
Total	429.0	429.0	384.6	44.4	429.0
SFOBB East Span -Skyway					
Capital Outlay Support	197.0	197.0	155.6	41.4	197.0
Capital Outlay	1,293.0	1,293.0	1,248.7	44.3	1,293.0
Total	1,490.0	1,490.0	1,404.3	85.7	1,490.0
SFOBB East Span -SAS- Superstructure					
Capital Outlay Support	214.6	214.6	31.7	182.9	214.6
Capital Outlay	1,753.7	1,753.7	1,647.6	119.8	1,767.4
Total	1,968.3	1,968.3	1,679.3	302.7	1,982.0
SFOBB East Span -SAS- Foundations					
Capital Outlay Support	62.5	62.5	27.0	35.5	62.5
Capital Outlay	339.9	339.9	304.3	35.6	339.9
Total	402.4	402.4	331.3	71.1	402.4
Small YBI Projects					
Capital Outlay Support	10.6	10.6	10.2	0.4	10.6
Capital Outlay	15.6	15.6	16.6	(0.9)	15.7
Total	26.2	26.2	26.8	(0.5)	26.3
South/South Detour					
Capital Outlay Support	29.5	29.5	18.1	11.4	29.5
Capital Outlay	131.9	131.9	97.0	55.2	152.2
Total	161.4	161.4	115.1	66.6	181.7
YBI - Transition Structures					
Capital Outlay Support	78.7	78.7	12.0	66.7	78.7
Capital Outlay	299.4	299.4	0.1	318.4	318.5
Total	378.1	378.1	12.1	385.1	397.2
Oakland Touchdown					
Capital Outlay Support	74.4	74.4	23.5	68.6	92.1
Capital Outlay	283.8	283.8	0.1	302.4	302.5
Total	358.2	358.2	23.6	371.0	394.6
East Span Other Small Project					
Capital Outlay Support	212.3	212.3	195.6	16.7	212.3
Capital Outlay	170.8	170.8	89.5	57.1	146.6
Total	383.1	383.1	285.1	73.8	358.9
Existing Bridge Demolition					
Capital Outlay Support	79.7	79.7	0.3	79.4	79.7
Capital Outlay	239.2	239.2	-	222.0	222.0
Total	318.9	318.9	0.3	301.4	301.7
Miscellaneous Program Costs	30.0	30.0	25.1	4.9	30.0
Total Capital Outlay Support (3)	1,463.2	1,456.2	932.8	541.1	1,473.9
Total Capital Outlay	6,321.8	6,239.8	5,080.5	1,189.9	6,270.4
Program Total	**7,785.0**	**7,696.0**	**6,013.3**	**1,731.0**	**7,744.3**

(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.
(3) The TBPOC approved a budget reduction to the Richmond-San Rafael Project in October 2006 in the amount of $89 million. See Appendix A-1.
(Due to the rounding of numbers, the totals above are shown within $0.02).

Appendix B.

Toll Bridge Seismic Retrofit Program - SFOBB East Span Only
AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through December 2006

($ millions)

East Span Contract	AB 144/SB 66 Baseline	TBPOC Current Approved Budget See Note (1)	Third Quarter 2006 Forecast	Fourth Quarter 2006 Forecast	Variance (4th Q06 - 3rd Q06)	Expenditures Through Dec 2006
SFOBB East Span -Skyway						
Capital Outlay Support	197.0	197.0	197.0	197.0	-	153.6
Capital Outlay	1,293.0	1,293.0	1,293.0	1,293.0	-	1,114.4
Total	1,490.0	1,490.0	1,490.0	1,490.0	-	1,268.0
SFOBB East Span -SAS- E2/T1 Foundations						
Capital Outlay Support	52.5	52.5	52.5	52.5	-	16.8
Capital Outlay	313.5	313.5	313.5	313.5	-	194.3
Total	366.0	366.0	366.0	366.0	-	211.1
SFOBB East Span -SAS- Superstructure						
Capital Outlay Support	214.6	214.6	214.6	214.6	-	28.1
Capital Outlay	1,753.7	1,753.7	1,767.4	1,767.4	-	215.6
Total	1,968.3	1,968.3	1,982.0	1,982.0	-	243.7
SFOBB East Span -SAS- W2 Foundations						
Capital Outlay Support	10.0	10.0	10.0	10.0	-	9.2
Capital Outlay	26.4	26.4	26.4	26.4	-	25.2
Total	36.4	36.4	36.4	36.4	-	34.4
South/South Detour						
Capital Outlay Support	29.5	29.5	29.5	29.5	-	18.1
Capital Outlay	131.9	131.9	152.2	152.2	-	37.2
Total	161.4	161.4	181.7	181.7	-	55.3
YBI - Transition Structures						
Capital Outlay Support	78.7	78.7	78.7	78.7	-	11.9
Capital Outlay	299.3	299.3	318.5	318.5	-	-
Total	378.0	378.0	397.2	397.2	-	11.9
Oakland Touchdown (Total, including the following split contracts and prior-to-split expenses)						
Capital Outlay Support	74.4	74.4	92.1	92.1	-	23.0
Capital Outlay	283.8	283.8	302.5	302.5	-	-
Total	358.2	358.2	394.6	394.6	-	23.0
Oakland Touchdown Contract - Submarine Cable						
Capital Outlay Support	-	-	3.0	3.0	-	0.3
Capital Outlay	-	-	9.6	9.6	-	-
Total	-	-	12.6	12.6	-	0.3
Oakland Touchdown Contract No. 1 (Westbound)						
Capital Outlay Support	-	-	49.9	49.9	-	2.6
Capital Outlay	-	-	226.5	226.5	-	-
Total	-	-	276.4	276.4	-	2.6
Oakland Touchdown Contract No. 2 (Eastbound)						
Capital Outlay Support	-	-	15.8	15.8	-	0.2
Capital Outlay	-	-	62.0	62.0	-	-
Total	-	-	77.8	77.8	-	0.2
Oakland Touchdown Contract - Electrical Systems						
Capital Outlay Support	-	-	1.4	1.4	-	-
Capital Outlay	-	-	4.4	4.4	-	-
Total	-	-	5.8	5.8	-	-

Appendix B. (Cont'd.)

Toll Bridge Seismic Retrofit Program - SFOBB East Span Only
AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through December 2006

($ millions)

East Span Contract	AB 144/SB 66 Baseline	TBPOC Current Approved Budget See Note (1)	Third Quarter 2006 Forecast	Fourth Quarter 2006 Forecast	Variance (4th Q06 - 3rd Q06)	Expenditures Through Dec 2006
YBI/SAS (Archeology)						
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
YBI - USCG Rd Relocation						
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
YBI - Substation and Viaduct						
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
Oakland Geofill						
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
Pile Installation Demonstration Project						
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
Existing Bridge Demolition						
Capital Outlay Support	79.7	79.7	79.7	79.7	-	0.3
Capital Outlay	239.2	239.2	222.0	222.0	-	-
Total	318.9	318.9	301.7	301.7	-	0.3
Stormwater Treatment Measures						
Capital Outlay Support	6.0	6.0	6.0	7.0	1.0	5.9
Capital Outlay	15.0	15.0	15.0	15.0	-	6.4
Total	21.0	21.0	21.0	22.0	1.0	12.3
Right-of-way and Environmental Mitigation						
Capital Outlay Support	-	-	-	-	-	-
Capital Outlay	72.4	72.4	72.4	72.4	-	38.8
Total	72.4	72.4	72.4	72.4	-	38.8
Sunk Cost - Existing East Span Retrofit						
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
Environmental Phase (Expended)						
Capital Outlay Support	97.7	97.7	97.7	97.7	-	97.7
Project Expenditures, Pre-splits						
Capital Outlay Support	44.9	44.9	44.9	44.9	-	44.9
Non-project Specific Costs						
Capital Outlay Support	20.0	20.0	20.0	19.0	(1.0)	3.2
Subtotal East Span Capital Outlay Support	959.4	959.4	977.1	977.1	-	466.7
Subtotal East Span Capital Outlay and Sunk Costs	4,492.1	4,492.1	4,546.8	4,546.8	-	1,695.3
Other Budgeted Capital	35.1	35.1	11.0	11.0	-	0.6
Total SFOBB East Span	**5,486.6**	**5,486.6**	**5,534.9**	**5,534.9**	**-**	**2,162.6**

(1) Current contract allotment to install two submarine electrical cables is $11.5 million. BATA's share is $8.9 million and Treasure Island Development Authority's share is $2.6 million.
(Due to the rounding of numbers, the totals above are shown within $0.02).

Appendix C.

CTC TBSRP Contributions
Adopted December 2005

Schedule of Contributions to the Toll Bridge Seismic Retrofit Program ($ million)

Source	Description	2005-06 (Actual)	2006-07	2007-08	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
	Total	547	273	100	43	99	153	150	165	300	1830

** Caltrans Efficiency Savings*

*** SFOBB East Span Demolition Cost*

Appendix D.

Project/Contract Photographs

SFOBB East Span Replacement Project

Skyway Contract

700 ton segment is slowly lifted off the barge

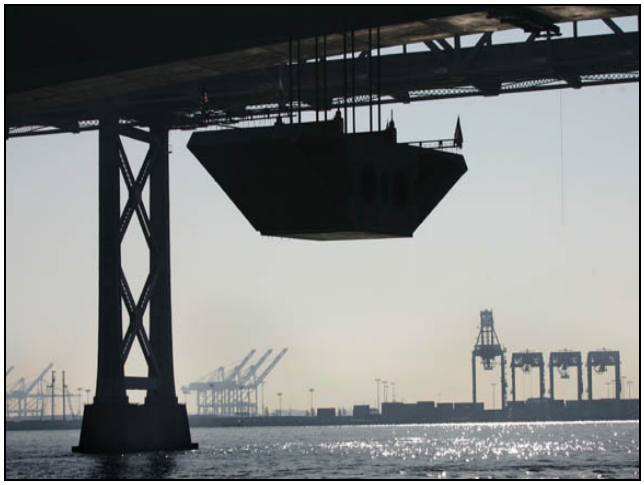
700-ton segment slowly travels up to the deck

700-ton segments are slowly hoisted into place

700-ton segment squeezes into place

Skyway Contract (Cont'd.)

700-ton segments is almost in place



Segment is almost in place in this view towards the Oakland shipyards seen in the background

Inserting HPB BW into the Bridge

Installation of Bike Path Panel Segments

Installing HPB BW

Lifting HPB BW

Skyway Contract (Cont'd.)

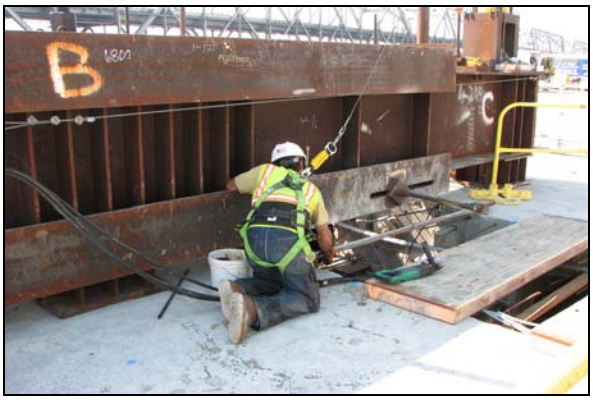
Cormorant Nesting Platform Installation

Westbound OBG

Bike Path Railing for the Eastbound Skyway

Closure Pour Span 5A

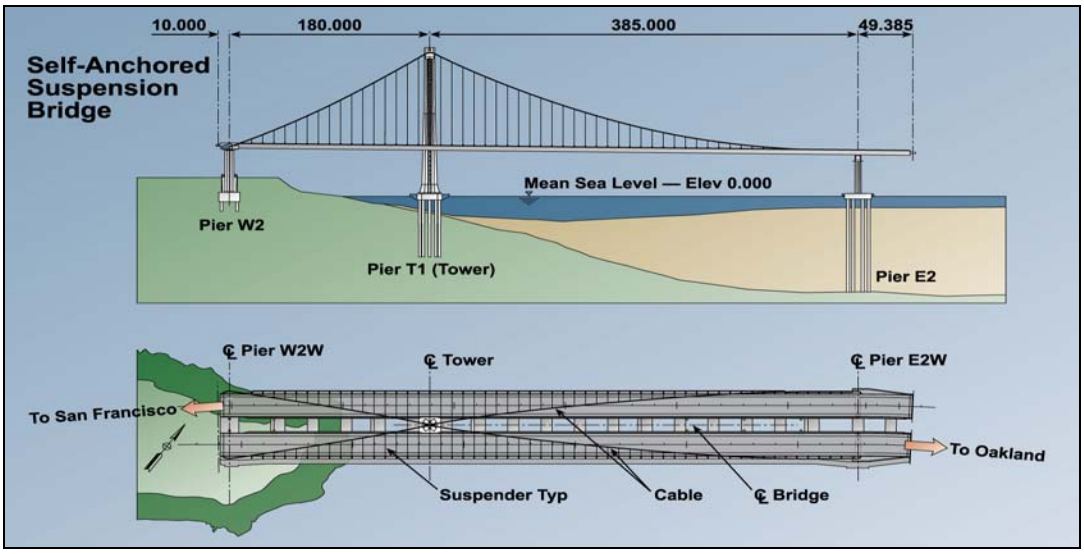
Closure Pour at OBG



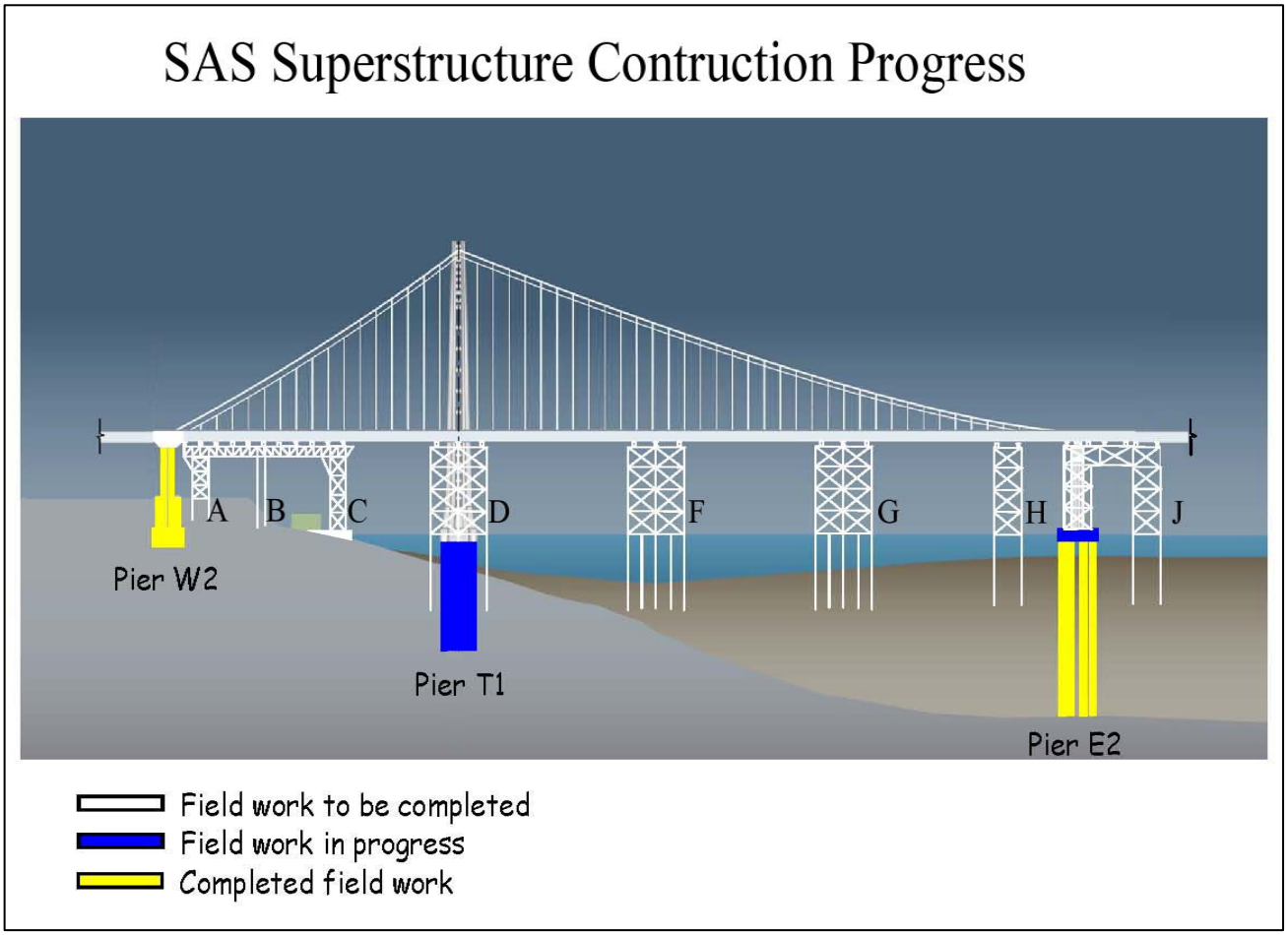
Jacking at Interior Closure Pour at Span 9

SAS Superstructure Contract

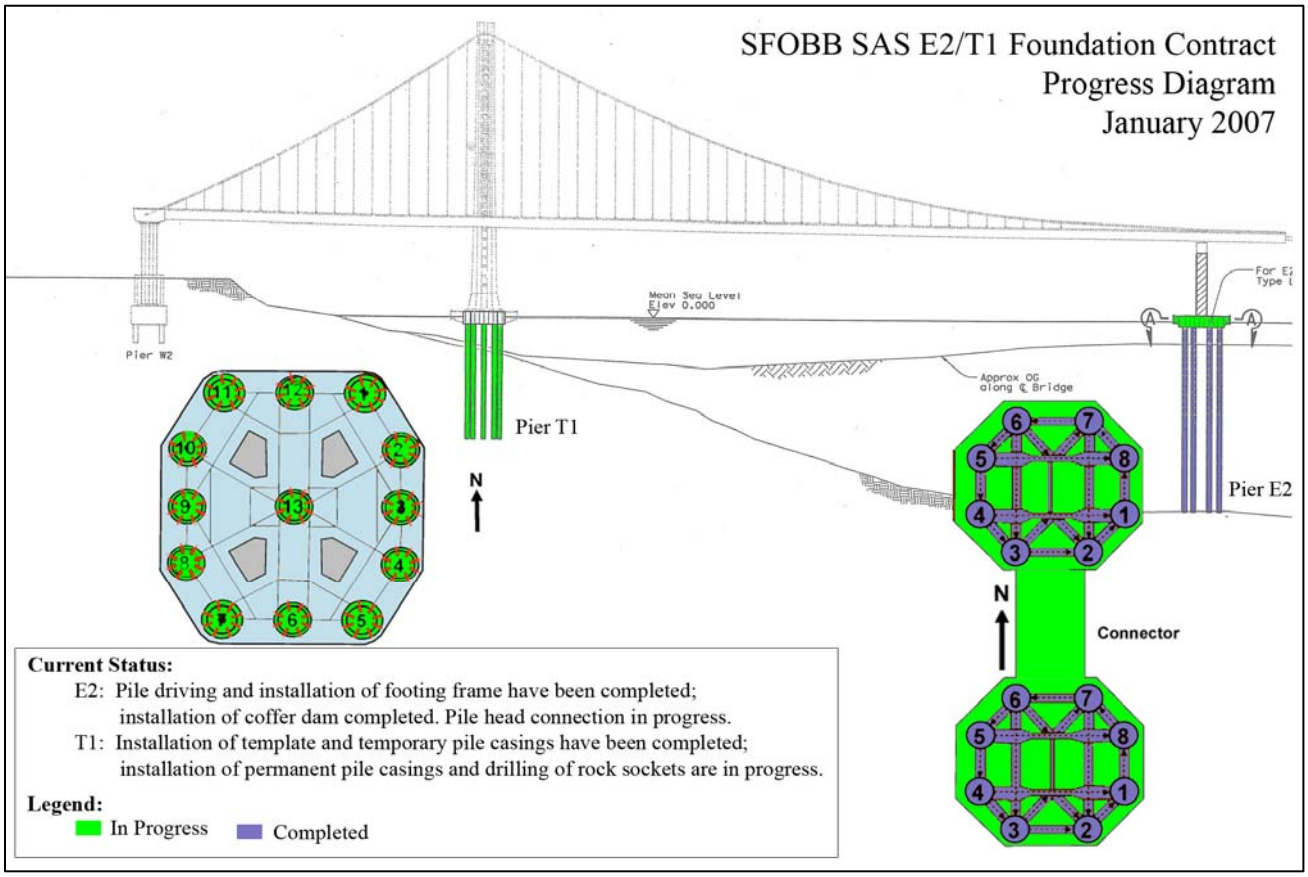
SAS Superstructure Artist Rendition



SAS Superstructure Contract (Cont'd.)



SAS E2/T1 Foundations Contract

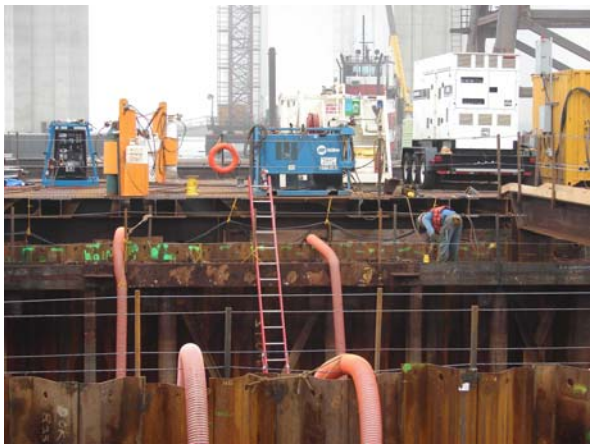


E2 Prepared and Sheltered for pile head connection

E2 Prepared and Sheltered for pile head connection

SAS E2/T1 Foundations Contract (Cont'd.)

Pumping System at E2



Pumping Water out of Cofferdam at E2

Rock Socket Drilling in Pile # 12 at T1

Rock Socket Drilling in Pile # 4 at T1

Sheet piling Cofferdam at E2

Spud Piles for Cofferdam Access Platforms at E2

SAS E2/T1 Foundations Contract (Cont'd.)

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

View of the completed W2 pier columns at the YBI, which will be the western support of the SAS structure

Top Half of Piles Welded to Bottom Half at E2

Closure Pour

SAS E2/T1 Foundations Contract (Cont'd.)

Pile Driving Operations at E2 (one)

Pile Driving Operations at E2 (two)

Cofferdam Frame for E2

Lifting the Pile Driving Hammer

YBI SSD Contract

Pier Column Construction for Bents 50 and 51

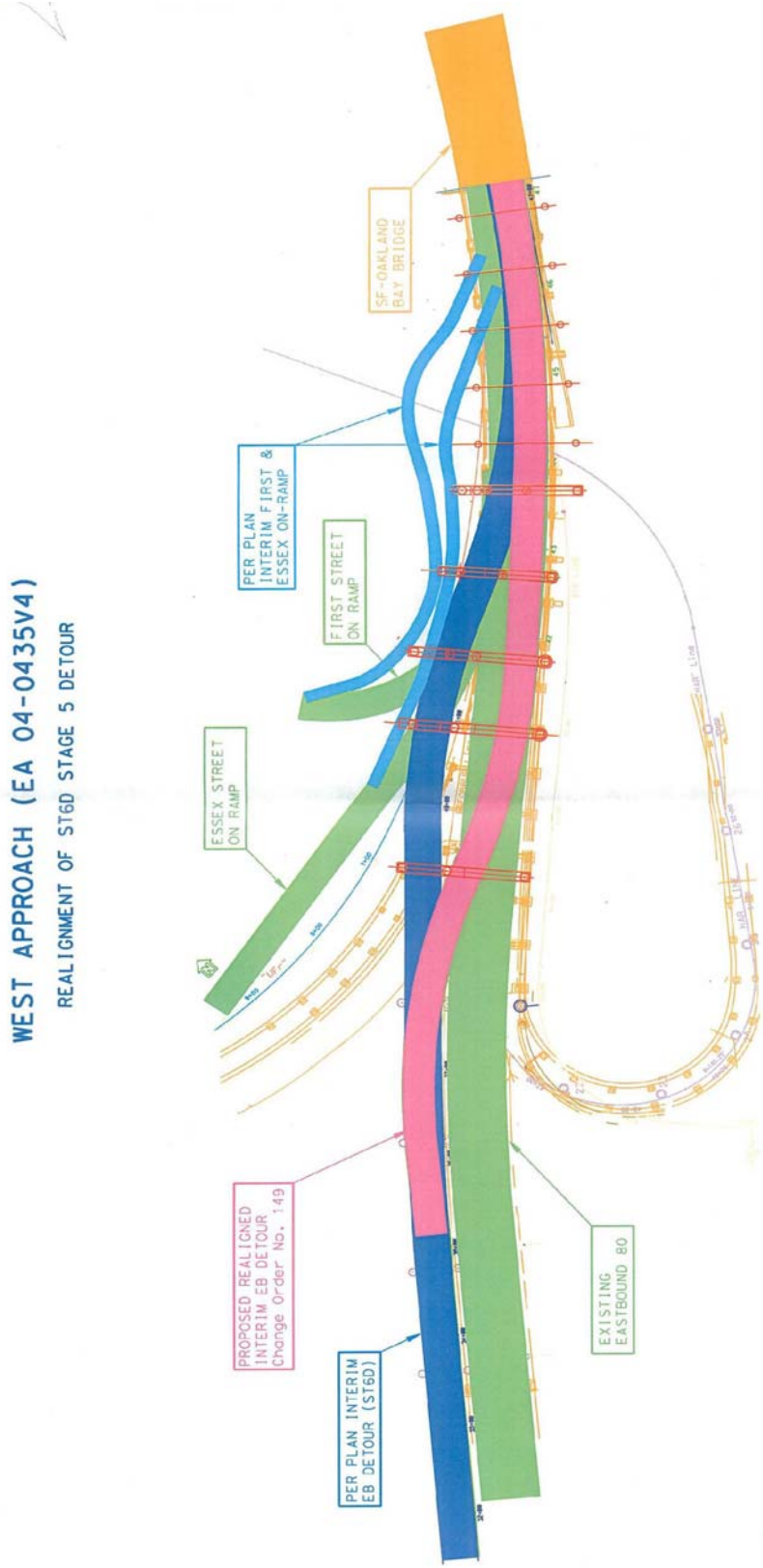
Footing and Pier Columns for Bent 48

Demobilization of the SSD construction equipment (one)

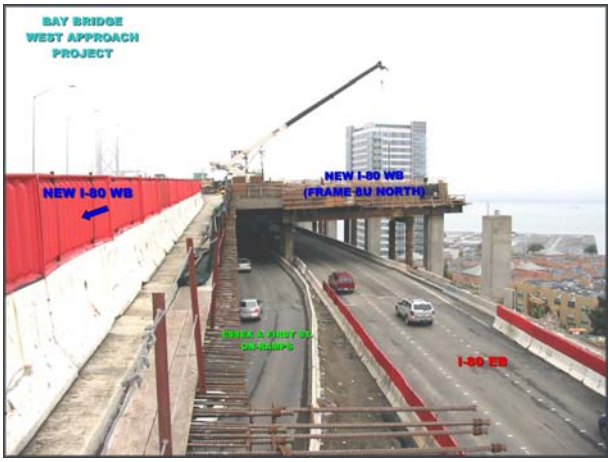
Demobilization of the SSD construction equipment (two)

East View from Bent 50

SFOBB West Approach Replacement Project



SFOBB West Approach Replacement Project (Cont'd.)

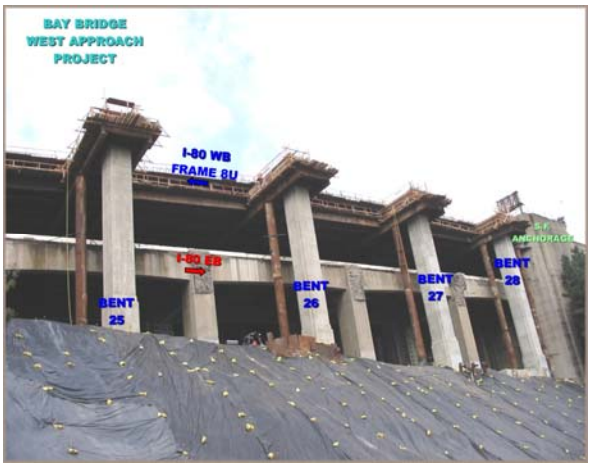


West Approach Progress Photo (one)

West Approach Progress Photo (two)

West Approach Progress Photo (three)

West Approach Progress Photo (four)



West Approach Progress Photo (five)

West Approach Progress Photo (six)

SFOBB West Approach Replacement Project (Cont'd.)

Frame 8U North

West Approach Project (one)

West Approach Project (two)

SFOBB West Approach Replacement Project (Cont'd.)

West Approach Project – Labor Weekend Progress

West Approach 8U North (one)

West Approach 8U North (two)