



TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

MEETING MATERIALS

August 29, 2017

CALTRANS

BAY AREA TOLL AUTHORITY

CALIFORNIA TRANSPORTATION COMMISSION



Final Agenda

**Toll Bridge Program Oversight Committee (TBPOC) Meeting
1:00 PM, August 29, 2017
375 Beale Street, San Francisco, CA
1st Floor, Board Room**

Item Number/ Topic	Presenter	Time	Desired Outcome
1. Roll Call	Malcolm Dougherty		Information
2. Chair's Report	Malcolm Dougherty	5 min	Information
3. Consent Calendar - TBPOC May 9, 2017 Meeting Minutes	Andrew Fremier, BATA	1 min	Approval
4. Marine Foundation Demolition Early Completion Plan Update (Piers E6-E18 Old Bay Bridge) <ul style="list-style-type: none"> Department presentation will define the 1 year and over \$10 million savings plan. 	Dan McElhinney, Caltrans/ Steve Whipple, Caltrans	10 min	Information
5. Marine Foundation Pier Retention (Piers E2, E19-23) – Recommendation for Public Access Facilities <ul style="list-style-type: none"> Staff will present an update on the project environmental enhancement discussions with resource agencies and present the Advanced Planning Study (scope, costs and schedule). Staff will recommend next steps for TBPOC approval to complete environmental permits and construction. 	Dan McElhinney, Caltrans/ Brian Maroney, Caltrans/	20 min	Approval
6. SAS Tower Anchor Rod Grouting Contract Completion <ul style="list-style-type: none"> Staff to present highlights of the SAS Tower Anchor Rod Grouting Contract successful early completion. 	Brian Maroney, Caltrans/ Steve Whipple, Caltrans	10 min	Information
7. Yerba Buena Island Transition Span 2 Contract – Transfer Capital Funds from YBITS 3 to YBITS 2 Contract <ul style="list-style-type: none"> Department will request TBPOC approval for the transfer of YBITS 3 capital funds to YBITS 2 contract. 	Patrick Treacy, Caltrans	10 min	Approval
8. Yerba Buena Island Transition Span 2 Contract Change Order (CCO) 170 – Modifications to Bent W8 and W9 Erosion Control <ul style="list-style-type: none"> Department will request TBPOC approval for CCO 170 that includes revisions to the embankment confinement system in the vicinity of Bents W8 and W9. 	Deanna Vilcheck, Caltrans	10 min	Approval

Item Number/ Topic	Presenter	Time	Desired Outcome
9. Program Budget/Risks Update for FY 17-18 (Capital Outlay/Capital Outlay Support/Risk Management) – Budget Request <ul style="list-style-type: none"> Staff will recommend TBPOC approval for FY 17-18 COS budget and report on the savings/expenditures for CO/COS FY 16-17. A Risk Management report will be presented with an updated risks probability and budget risks for this quarter, including a Program Budget forecast review. 	Dan McElhinney, Caltrans/ Patrick Treacy, Caltrans	10 min	Approval
10. TBPOC Policy and Procedures on Closed Sessions <ul style="list-style-type: none"> Department will present the requirements on TBPOC Closed Sessions for legal representation. 	Caltrans Legal	10 min	Information
11. Draft 2017 Second Quarter Project Progress and Financial Update <ul style="list-style-type: none"> Staff to present the final draft report and recommend TBPOC approval. 	Peter Lee, BATA	5 min	Approval
12. Public Comment / Other Business			
13. Adjournment / Next Meeting The next meeting of the TBPOC will be held on November 7, 2017 at 1:00 p.m. 1120 N Street, Sacramento, CA – Caltrans Board Room			

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

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

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Meeting Information and Conduct: Effective, January 1, 2016, the TBPOC is governed by the Bagley-Keene Open Meeting Act which requires the TBPOC to publish an agenda at least ten days in advance of any meeting. A copy of this meeting notice and agenda will be posted 10 days prior to the meeting and related book items will be posted 7 days prior to the meeting on the TBPOC Website: www.baybridgeinfo.org. All supplemental information or revisions to the already posted TBPOC meeting material will be provided at the TBPOC meeting. Audio recordings of the TBPOC meetings will be posted within one week following each meeting on the TBPOC Website: www.baybridgeinfo.org. Questions or inquiries about this meeting may be directed to TBPOC staff (Karen Wang, 510-208-4599, 1111 Broadway, Suite 900, Oakland, CA).

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

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5	5	Marine Foundation Pier Retention (Piers E2, E19-23) – Recommendation for Public Access Facilities
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10	10	TBPOC Policy and Procedures on Closed Sessions
11	11	Draft 2017 Second Quarter Project Progress and Financial Update

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** August 22, 2017

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

RE: Agenda No. - 3

Item- TBPOC May 9, 2017 Meeting Minutes

Recommendation:

Approval

Cost:

NA

Schedule:

NA

Discussion:

The Program Management Team recommends TBPOC approval of the May 9, 2017 Meeting Minutes.



TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

TBPOC REGULAR MEETING MINUTES

1:00 PM, May 9, 2017

Caltrans Headquarters Office Building
1120 N Street, Sacramento, CA (Caltrans Board Room)

Attendees: TBPOC Members: Malcolm Dougherty (Chair), Steve Heminger, Susan Bransen
PMT Members: Dan McElhinney, Andrew Fremier, Stephen Maller
Participants: Eric Cordoba, Deanna Vilcheck, Brian Maroney, Stefan Galvez, Bill Casey, Patrick Treacy, Peter Lee, Karen Wang

Convened: 1:04 pm

Items	Action
1. Roll Call <ul style="list-style-type: none">All TBPOC members were present.	NA
2. Chair's Report <ul style="list-style-type: none">The Chair presented progress on the Bay Bridge East Span projects. Highlights included: Cormorant birds successfully moving to their new home on the platforms underneath the New East Span, Bay Bridge Bike Path and YBI Vista Point opened on May 2nd, completion of YBITS 2 edge beam, completion of the YBITS2 ECS gabion walls, removal of the last 288' section of the old East Span completed on March 23, 2017, mechanical demolition of the marine foundations (6-18) are ongoing, underwater demolitions scheduled to begin September 2nd through November 2017, progress on advancing 7 piers so 13 are removed this FY and SAS T1 anchor rod grouting replacement work is on-going, ahead of schedule and under budget.	No action.
3. Consent Calendar - TBPOC February 7, 2017 Meeting Minutes	The TBPOC approved the Consent Calendar item. Motion by: Steve Heminger Second by: Susan Bransen Votes (3-0): Yes- Steve Heminger, Susan Bransen, Malcolm Dougherty; No-0
4. Yerba Buena Island Southgate Road Work as Part of the SFCTA Contract <ul style="list-style-type: none">Caltrans Chief Deputy District 4 Director, Dan McElhinney, and SFCTA Deputy	No action.

(Continued)

Items	Action
<p>Director for Capital Projects, Eric Cordoba, provided a project and funding update, including new information related to State Highway Bridge Program (HBP) funding for the Southgate Road.</p> <ul style="list-style-type: none"> • SFCTA plans to start construction of the Southgate Road Realignment Improvements during the summer of 2017. Potential early elements for construction this summer could include: 1) Removal of old concrete foundations from the S-curve; 2) Relocate Quarters 8; 3) bridgehead foundation; 4) off-ramp bridge. Scheduled for construction contract solicitations by early 2018 and have construction from 2018 and completed by Spring 2019. • With the HBP and Prop 1B funding secured, there is a balance of \$6.371 M in funding that needs to be secured. Per the staff memo to TBPOC, BATA and CTC staff recommended the remaining \$6.371M be funded with a combination of BATA Seismic Retrofit and BATA Rehabilitation funds. • The contract for the engineering related work will be decided on before the BATA Commission tomorrow for approval. TBPOC approval for \$6.371 is needed by today to allow for engineering work to continue. • Steve Heminger requested that the \$6.371M request be funded from the Toll Seismic account (refer to Item 5 for TBPOC action). 	
<p>5. Transfer of Seismic Funds to SFCTA Supplementing the YBI Southgate Road Project Budget</p> <ul style="list-style-type: none"> • Stephen Maller presented the previous request of transferring \$3M out of the Toll Bridge Seismic Retrofit program contingency funds. In the prior month, the TBPOC moved \$3M worth of work out of the Toll Bridge Seismic Retrofit Program to SFCTA with the intent to have the associated budget also transfer over. However, Committee member Steve Heminger suggested that the full \$6.371M come from the Toll Bridge Seismic Retrofit Program funds and not \$3.371M 	<p>The TBPOC approved by a vote of 3-0 to transfer \$6.371M from the Toll Bridge Seismic Retrofit Program contingency funds in part due to the YBITS 2 Contract scope reduction and transfer decision to SFCTA for the completion work related to YBI Southgate Road construction.</p> <p>Motion by: Steve Heminger Second by: Susan Bransen Votes (3-0): Yes- Steve Heminger, Susan Bransen, Malcolm Dougherty; No-0</p>

(Continued)

Items	Action
<p>out of the BATA Rehabilitation funds. Staff recommended that TBPOC approve to transfer \$6.371M from the Toll Bridge Seismic Retrofit Program contingency funds to SFCTA so they can proceed with the work on this project.</p>	
<p>6a. Yerba Buena Island Transition Span 2 Contract- Change Order 89, Supplemental 1 – 92-Day Contract Time Extension</p> <ul style="list-style-type: none"> Deanna Vilcheck, Caltrans SFOBB Area Construction Manager, provided an update on the construction performed on YBI and presented staff's recommendation for TBPOC approval on CCO 89-S1. 	<p>The TBPOC approved by a vote of 3-0 for YBITS2 CCO 89-S1 in the amount of \$1.288M from the contract contingency for a contract time extension of 92 working days.</p> <p>Motion by: Susan Bransen Second by: Steve Heminger Votes (3-0): Yes- Steve Heminger, Susan Bransen, Malcolm Dougherty; No-0</p>
<p>6b. Yerba Buena Island Transition Span 2 Contract- Funds Request</p> <ul style="list-style-type: none"> Deanna Vilcheck presented staff's recommendation for TBPOC approval of the YBITS funds request of \$4.8M from the Toll Bridge Seismic Retrofit Program contingency funds. 	<p>The TBPOC approved by a vote of 3-0 to allocate \$4.8M (capital outlay) from the Toll Bridge Seismic Retrofit Program contingency to the YBITS2 Contract to fully fund TBPOC approved changes, other anticipated changes and replenish the contingency balance for the remainder of the project.</p> <p>Motion by: Steve Heminger Second by: Susan Bransen Votes (3-0): Yes- Steve Heminger, Susan Bransen, Malcolm Dougherty; No-0</p>
<p>7. Marine Foundation Demolition Contract Change Orders (CCO) <u>For Information:</u> CCO 21 - Early Completion <u>For Approval:</u> CCO 1-S3 - Hydro Acoustic Monitoring CCO 3-S1 – Post Implosion Skimming CCO 11-S2 – East Bay Municipal Utility District Sewer Outfall Monitoring CCO 15-S1 – California Highway Patrol Marine Support CCO 20-S3 – Upland Disposal CCO 23-S0 - Sedimentation CCO 25-S0 - PG&E Monitoring</p> <ul style="list-style-type: none"> Deanna Vilcheck present a status update for the work related to CCO 21, Early Completion for the Marine Foundation Demolition Contract. 	<p>The TBPOC approved by a vote of 3-0 for the following Marine Foundation Demolition Contract Change Orders to advance 2018 marine work into 2017 to complete all major underwater implosion demolition this year as funded from the contract contingency:</p> <ol style="list-style-type: none"> CCO 1-S3 - Hydro Acoustic Monitoring (\$3.5M) CCO 3-S1 – Post Implosion Skimming (\$1.5M) CCO 11-S2 – East Bay Municipal Utility District Sewer Outfall Monitoring (\$1.3M) CCO 15-S1 – California Highway Patrol Marine Support (\$1.5M) CCO 20-S3 – Upland Disposal (\$800K) CCO 23-S0 – Sedimentation (\$5M) CCO 25-S0 - PG&E Monitoring (\$2M)

(Continued)

Items	Action
<ul style="list-style-type: none"> Deanna Vilcheck presented staff's recommendation for TBPOC approval for the above mentioned CCOs that will be funded from the project contingency, totaling to \$15.6M. Approval of the change orders will allow to advance 2018 marine work to 2017. It was noted that there would be some amount of savings in cost and time by advancing this work and completing ahead of schedule. Potential COS savings is about \$9M (one year worth of work). Stefan Galvez reported that Caltrans is on track in obtaining the required environmental resource permits. The last conversation with National Marine Fisheries Services indicated that they would not require a re-consultation, which would allow for other partnering agencies to move forward on issuing permits. They are negotiating next steps and they appear to be minor permit amendments for all the agencies. There is a high level of confidence that all required environmental permits will be received on time for the marine foundation implosion. Brian Maroney, Caltrans SFOBB Project Chief Bridge Engineer, presented a graphic showing the nearby facilities near the marine foundations that included the PG&E gas line, EBMUD sewer outfall and the BART tube. He provided an update on the latest discussions with the various agencies of these facilities and the required sensors and monitoring instrumentation. Vince Mammano, FHWA, offered a few words in recognition of Caltrans for their receipt of the 2017 Environmental Excellence Award for the Bay Bridge Projects. It is a national award recognition for exemplary achievement and collaboration in partnering among the field of celebrated applicants. 	<p>Motion by: Steve Heminger Second by: Susan Bransen Votes (3-0): Yes- Steve Heminger, Susan Bransen, Malcolm Dougherty; No-0</p>
<p>8. Marine Foundation Pier Retention (Piers E2, E19-23) – Options Consideration</p> <ul style="list-style-type: none"> Brian Maroney, Caltrans SFOBB Project Chief Bridge Engineer, presented an update on the progress of the Marine Foundation Pier Retention work. 	<p>The TBPOC confirmed direction for the project team to not pursue removing piers E2 and E19-23 as part of this project, and to continue their efforts in completing the Advanced Planning Study for the Marine Foundation Pier Retention (Piers E2, E19-</p>

(Continued)

Items	Action
<ul style="list-style-type: none"> • Clive Endress, Landscape Architect, presented the architectural renderings of the pier retention design alternatives that would allow for public access. Staff continues to their work on the Advanced Planning Study that is expected to be completed by June 30, 2017. • Staff is still in negotiations with resource agencies to confirm if this project environmental document could be reevaluated to include public access enhancements in this project, or if a new project and new environmental document. • Staff is also in discussions with partnering agencies on the future ownership, operations and funding of retaining these said piers. 	<p>23) for public access options that is expected to be completed by June 30, 2017. Recommendations on these options will be presented at the next TBPOC meeting. PMT to confirm with the environmental resource agencies if this project environmental document could be reevaluated to include public access enhancements in this project, or if a new project and new environmental document and permits will be required to retain the six piers- PMT to present a recommendation at the next TBPOC meeting.</p>
<p>9. 504'/288' Sections Existing Bridge Dismantling Contract Change Order 26 – Salvaged Steel Lead Removal</p> <ul style="list-style-type: none"> • Bill Casey, Caltrans SFOBB Area Construction Manager, presented the recommendation for TBPOC approval of CCO 26 in the amount of \$2.324M of contract funds related to the salvaged steel lead removal work. 	<p>The TBPOC approved by a vote of 2-1 for 504'/288' Sections Existing Bridge Dismantling Contract Change Order 26 in an amount of \$2.324M of contract funds to compensate the Contractor for the extra effort to remove and dispose of the coating materials of the salvaged steel members and for the additional extended overhead costs associated with the delayed completion of the work for the time period from April 14, 2017 to June 16, 2017.</p> <p>Motion by: Malcolm Dougherty Second by: Susan Bransen Votes (2-1): Yes- Susan Bransen and Malcolm Dougherty; No-Steve Heminger</p>
<p>10. Program Budget/Risks Update for FY 17-18 (Capital Outlay/Capital Outlay Support/Risk Management) – Budget Request</p> <ul style="list-style-type: none"> • Patrick Treacy, Caltrans SFOBB Budget and Risk Manager, presented the program risk management results for the first quarter of FY 16-17. Highlights include: Summary of Q1 2017 cost risk results – adequacy of reserves, summary of Q1 changes, Q1 risk management costs results, trend of potential draw on program contingency, recent changes in draw trend, top 10 capital outlay risks, costs carried in risk forecast, risk management action plan for close out of 	<p>The TBPOC approved by a vote of 2-1 to allocate \$4M of estimated savings from the COS FY16/17 approved budget to the first quarter of COS FY 17/18 budget. PMT is to review a work plan and budget for COS FY 17/18 and present at the next TBPOC meeting.</p> <p>Motion by: Steve Heminger Second by: Malcolm Dougherty Votes (2-1): Yes- Steve Heminger and Malcolm Dougherty; No- Susan Bransen</p>

(Continued)

Items	Action
<p>costs carried in risk, future risks carried in risk register, and challenges going forward.</p> <ul style="list-style-type: none"> • For the costs carried in the risk register, Steve Heminger confirmed that BATA will cover the following items and therefore can be removed from the Toll Seismic risk forecast in the next quarterly report: <ul style="list-style-type: none"> ○ \$5.8 million: BATA capital costs to furnish Light Poles for new bridge ○ \$3.2 million: BATA COS to design light poles and open the new bridge ○ \$16.9 million: 2005 Deck Joint Repair on Richmond/San Rafael Br. Bridge • The Vincent Thomas funding shortfall of \$8.1M (2005 AB144) should be shown as a risk item that was realized. • As an update for the SAS closeout, the Chair reported that the ABF claim is working its way through the process. The TYLin claim update can be provided to the other TBPOC members in closed session. The TBPOC needs a lawyer to confirm the appropriateness to proceed into closed session. PMT to assist the TBPOC through this process. • Dan McElhinney presented the program COS budget estimates, expenditures, action plan and recommended TBPOC approval to allocate an initial \$4M budget taken from the projected FY 16/17 savings for Quarter 1 of FY 17/18 COS budget. This will allow staff to provide proper resource to support planned work to proceed on schedule, maximize efficiency of State staff and A&E, and reduce risks of delays and cost changes. • Staff will review FY 17/18 proposed budget with PMT and will return to the PMT in September for additional request to complete the next three quarters of FY 17/18. 	
<p>11. Draft 2017 First Quarter Project Progress and Financial Update</p>	<p>The TBPOC approved by a vote of 3-0 the 2017 First Quarter Project Progress and Financial Update.</p> <p>Motion by: Steve Heminger</p>

(Continued)

Items	Action
<ul style="list-style-type: none">Peter Lee presented staff's recommendation for TBPOC approval of the said report.	Second by: Susan Bransen Votes (3-0): Yes- Steve Heminger, Susan Bransen, Malcolm Dougherty; No-0
12. Public Comment / Other Business	NA
13. Adjournment / Next Meeting <ul style="list-style-type: none">The next meeting of the TBPOC in August 2017 will be rescheduled. Date and time is to be determined.Location: 375 Beale Street, San Francisco (1st Floor - Ohlone Conference Room)	NA

Adjourned: 3:29 pm

TBPOC REGULAR MEETING MINUTES
1:00pm, May 9, 2017

APPROVED BY:

MALCOLM DOUGHERTY, TBPOC Chair
Director, California Department of Transportation

Date

SUSAN BRANSEN
Executive Director, California Transportation Commission

Date

STEVE HEMINGER,
Executive Director, Bay Area Toll Authority

Date

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** August 22, 2017

FR: Dan McElhinney, Caltrans Chief Deputy District Director, District 4 Bay Area
Steven Whipple, SFOBB Principal Construction Manager, Caltrans

RE: Agenda No. - 4

Item- Marine Foundation Demolition Early Completion Plan Update

Recommendation:
FOR INFORMATION

Cost:
NA

Schedule Impacts:
None

Discussion:

Since our May 9, 2017 TBPOC meeting, in which the contractor and Caltrans District 4 team had proposed and received approval for an innovative demolition early completion plan, the team continued collaborating closely with federal and state environmental resource agencies to remove multiple piers during single demolition events. Success was completed in July when permit approvals were obtained to proceed, which will help save a year and over \$10 million in costs on this critical work for the public.

Therefore, instead of two more fall seasons of work, 13 marine foundations (Piers E6-E18) of the original East Span of the Bay Bridge will be demolished using controlled charges and should be complete by the end of 2017. A series of implosions to demolish the 1936 concrete structures that stand up at least 20 feet to 46 feet tall underwater in the bay is scheduled for six weekends on Saturdays, starting Labor Day Weekend, September 2, and then every other weekend through mid November 2017 (please see attached Old Bay Bridge Demolition by Implosion Schedule). If weather, wind, or limited visibility for marine life monitoring occurs, then the implosions will proceed that Sunday or by Monday at slack tide times.

Memorandum

With the experience gained in 2015 on Pier E3, and in 2016 on Piers E4 and E5, this year Caltrans is combining multiple piers on demolition dates, saving a year of work and over \$10 million by accelerating the implosion schedule for the original Bay Bridge marine piers. Caltrans and Kiewit-Manson, AJV, have gained the support throughout from environmental regulatory agencies for permits supporting this innovative implosion method that minimizes any impact to marine life during debris removal in the San Francisco Bay. These innovative controlled charges have been shown to be more efficient and the environmentally preferable alternative to traditional marine foundation removal.

Significant environmental monitoring will take place before, during, and after each blast to evaluate water quality, marine mammals, fish, and birds. The period from September through November provides the window when the least number of fish and marine mammals are present in the area. There will be brief impacts to water quality, as turbidity is expected to dissipate in just over an hour. Studies conducted from 2015 and 2016 implosions showed minimal impacts to marine mammals and fish due to the blasts.

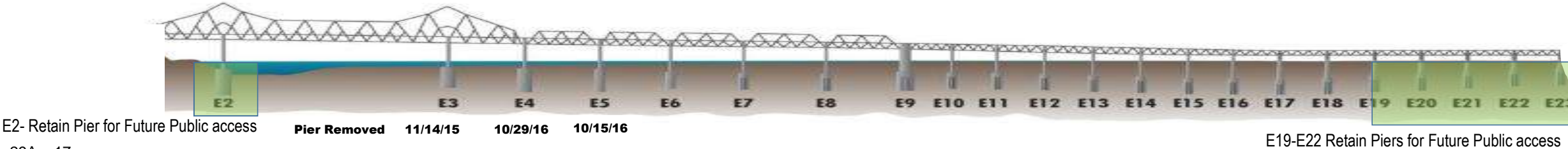
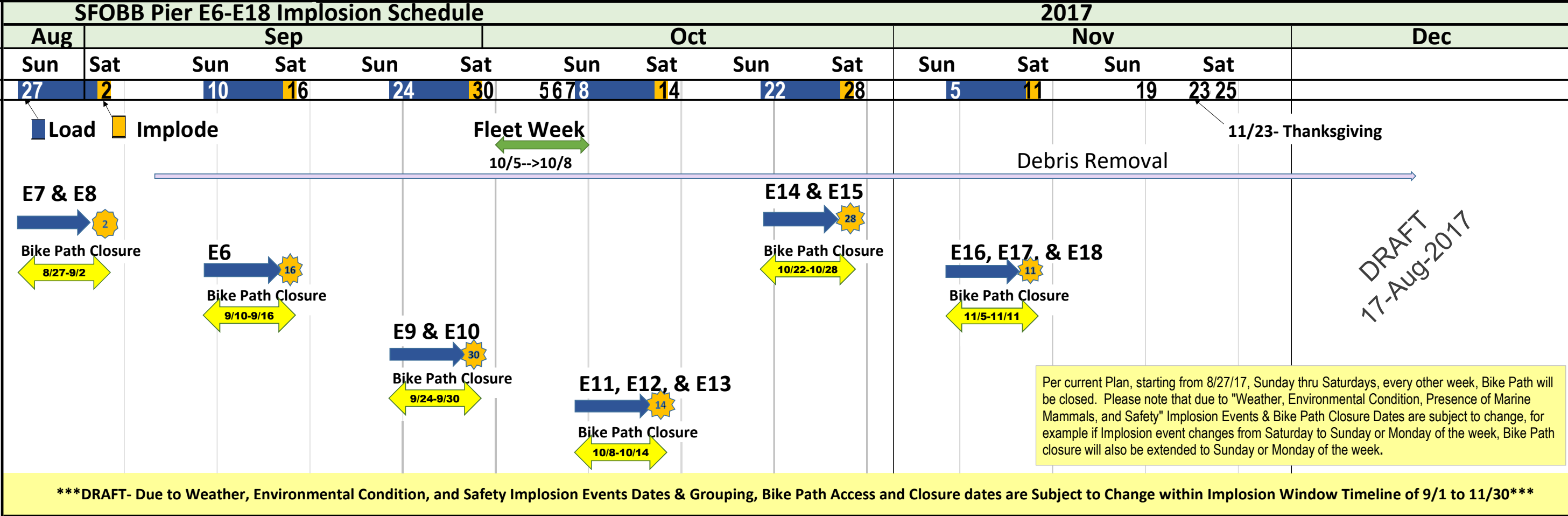
A Blast Attenuation System, better known as the “bubble curtain,” will be in place around the piers to minimize impacts to biological resources by reducing blast area forces in the Bay during an implosion. The implosion time will again take place near “slack tide” when high or low tidal fluctuation is at a balance point between ebb and flow to further help minimize potential impacts to the environment by maximizing the effectiveness of the Blast Attenuation System.

Caltrans is working with the California Highway Patrol (CHP), the US Coast Guard (USCG), and local law enforcement agencies to ensure the public safety of motorists, boaters, bicyclists, and pedestrians. The Bay Bridge Bike Path hours (please see attachment 2) were coordinated with Bike East Bay and San Francisco Bicycle Coalition leaders in support of the security and safety issues related to delivering controlled implosions and loading activities one week prior to each implosion date. On each implosion date, CHP will be initiating traffic rolling closures lasting up to 30 minutes on Interstate 80 eastbound and westbound approaching the Bay Bridge during each announced demolition activity.

The calendar for the Bike Pedestrian Path may be found at www.baybridgeinfo.org. The best place to watch the upcoming implosions will be on www.youtube.com or by following #BayImplosions2017 on Twitter, Instagram, and Facebook.

Attachments:

1. Pier Demolition Fall 2017 Construction Schedule
2. Bike Path Closure Dates Flyer



Bay Bridge Bicycle and Pedestrian Path Schedule

Fall 2017

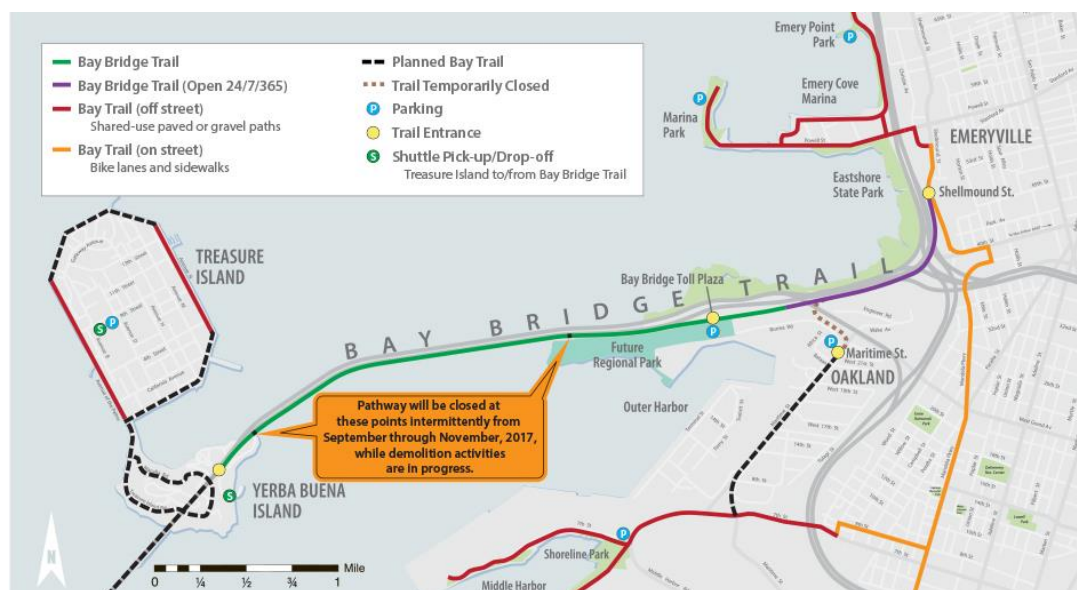
The 2-mile path on the Bay Bridge East Span from Oakland to Yerba Buena Island (San Francisco) will be closed on the following days to support security and safety activities in preparation for pier implosions:

Bicycle Pedestrian Path Closure Dates

- Sunday, August 27 – Saturday, September 2, Labor Day Weekend
- Sunday, September 10 – Saturday, September 16
- Sunday, September 24 – Saturday, September 30
- Sunday, October 8 – Saturday, October 14
- Sunday, October 22 – Saturday, October 28
- Sunday, November 5 – Saturday, November 11

Closure dates may include Sunday or Monday of the following week due to weather, site conditions, and/or construction activities.

Thank you for your patience. For more project information, please visit www.baybridgeinfo.org or call Alejandro Lopez at (510) 286-5445.



Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** August 22, 2017

FR: Brian Maroney, SFOBB Project Chief Bridge Engineer, Caltrans/
Stefan Galvez, Chief, District 4 Office of Environmental Analysis, Caltrans/
Chris Traina, District 4 Contract Manager, Caltrans/

RE: Agenda Item No. - 5

Item- Marine Foundation Pier Retention (Piers E2, E19-23) –
Recommendation for Public Access Facilities

Recommendation:
APPROVAL

To approve immediately proceeding with the design, resource agency coordination, environmental re-validation, and issuing a construction contract change order (CCO) with the current marine foundation CMGC contractor to incorporate the environmental enhancement of retaining piers E2 and E19-23 as part of public access areas outlined in the scope, schedule and estimates summary below for project completion in 2018.

Cost:

A comparison of program costs for each design alternative is attached.

Schedule Impacts:

A project schedule is attached.

Discussion:

The purpose of this memo is to brief the Toll Bridge Program Oversight Committee (TBPOC) on the Advanced Planning Study (APS) to retain Pier E2 near Yerba Buena Island (YBI) and Piers E19-E23 of the original East Spans of the San Francisco-Oakland Bay Bridge (SFOBB). The Project Development Team (PDT) is seeking permission to proceed to an advanced design phase and cost negotiations through the established Contract Manager/General Contractor (CMGC) contract and Contract Change Order (CCO) with the Kiewit-Manson Joint Venture (K-M JV). The PDT is also seeking the necessary Capital Outlay Support (COS) resources to support the design effort, environmental planning for permits and authorizations, and planning processes with project stakeholders.

Memorandum

Based on direction from the TBPOC at previous meetings, the Project Development Team (PDT) completed an APS on 6/30/2017, for a facility that connects YBI and Pier E2, and a facility that connects selected piers among Piers E19 through E22 to the Oakland Touchdown (OTD) at the future Gateway Park. These facilities would provide public access to the San Francisco (SF) Bay and the piers of the original SFOBB. The APS includes architectural renderings of each alternative, a general plan and cost estimates for each facility, a detailed risk register, and project schedules. The APS considers two possible alternatives that both share a common solution on YBI, a simple span bridge to Pier E2. Design Alternative 1 combines the YBI facility with a facility at OTD that consists of a conventional pier supported on piles from Pier E23 to Piers E22 and E21 to the West. Design Alternative 2 combines the YBI facility with a floating pier facility between Pier E23 to Piers E22 and E21 similar to Alternative 1. An estimate of the combined Capital Outlay (CO) costs for each component of the design alternative are outlined in the APS and is summarized in the Pier Retention Cost Estimates file attached to this memorandum. When considering the alternatives presented in the APS it is important to note the following:

- Both design alternatives retain Piers E19 and E20 west of the designed facilities with no improvements or modifications.
- Costs presented in these estimates are for bicycle and pedestrian approaches to the facilities, modifications to the tops of piers (“dance floors”), and construction of piers and/or bridges to the piers.
- Cost for lighting and pedestrian railing are included in each estimate.
- Costs for shoreline amenities at each facility such as fish cleaning stations, belvederes or observation platforms, lighting and or pedestrian railing are not included in this estimate.

A comparison of the program level costs that includes CO, COS for Design and Construction staff, as well as Risk Management costs of each alternative has been prepared and is summarized in the Pier Retention Cost Comparison file attached to this memorandum. This analysis compares program costs to previous program estimates for removal of all of the piers considered for retention, and key elements of the comparison are outlined below:

- Previous cost estimates for demolition of the piers presented in past Toll Bridge Program Quarterly Reports are for demolition with explosives of all piers. These costs could increase if a different method of removal is required.
- The CO costs for retention of the piers is lower than the removal costs.
- As expected, the costs to establish public access on YBI at Pier E2 are much lower than the cost of removing Pier E2, while the cost of establishing public access at the OTD at Piers E19-E23 exceed previous estimates for the cost of removing the piers.

Memorandum

- The PDT has provided two viable design alternatives that encompass the removal of all piers, or the retention of all piers as requested by the TBPOC. There are many alternatives combinations and solutions that could be prepared as the project advances through further design iterations.

The project schedule that accompanies the comparison is attached and shows the fastest path to completion of the designed alternatives would be accomplished utilizing the CMGC process. The current CMGC team has established excellent working relationships with various regulatory and permitting agencies. The agencies have developed confidence that this team can complete projects as promised. This should help to streamline approval processes for the project when compared to a typical Design-Bid-Build project developments process.

Attachments:

1. Pier Retention Cost Estimates
2. Pier Retention Cost Comparison
3. Pier Retention Schedule
4. SFOBB Pier Retention Advanced Planning Study Report (dated June 30, 2017)

04-013581 SFOBB Pier Retention Costs

Pier Retention Estimate Summary

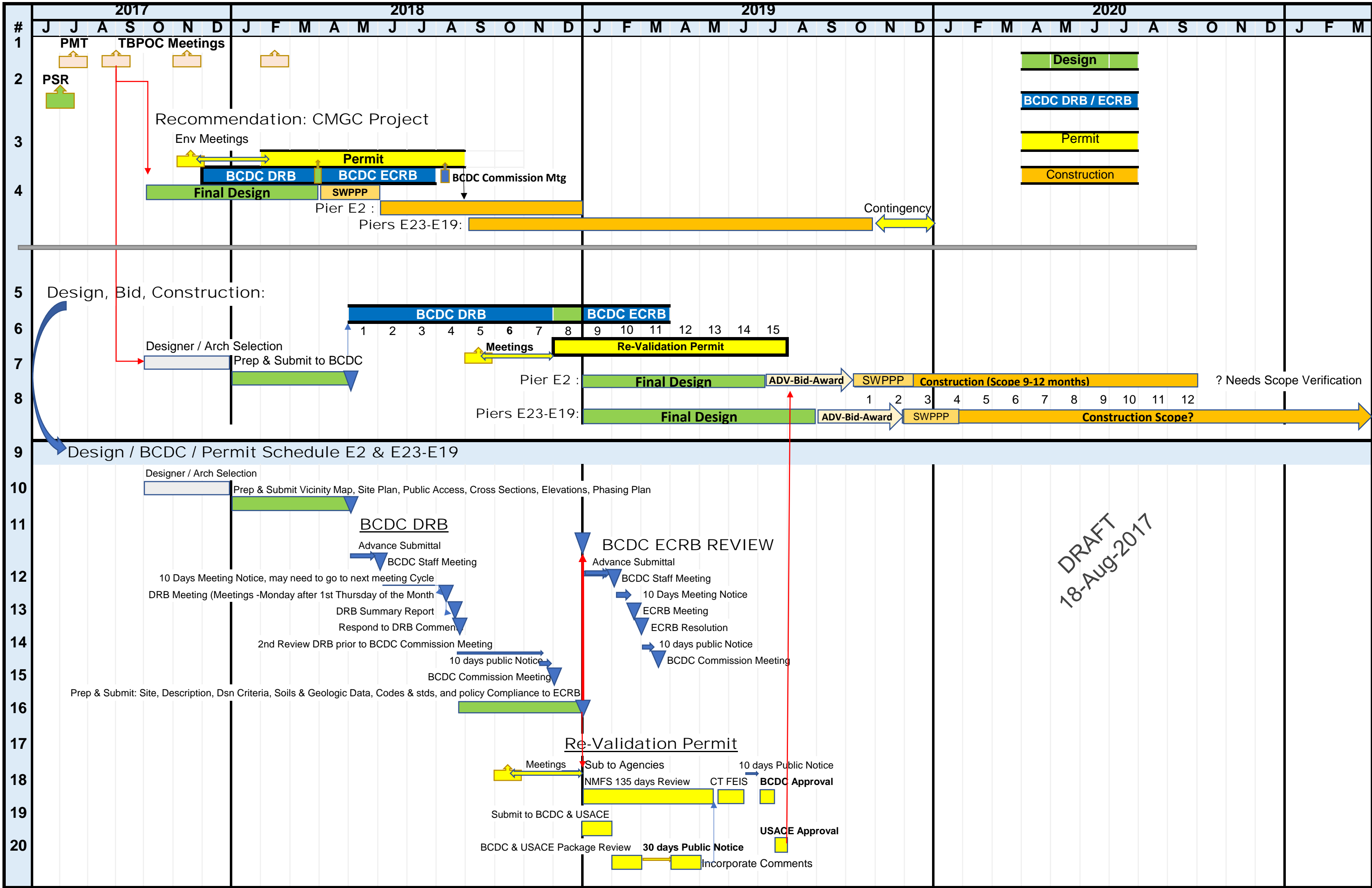
Description	Pier E2 Yerba Buena Island Alternative 1 Precast Box Girder	Piers E19 to E23 Oakland Shore Alternative 1 Precast Box Girder Bridge Pier	Piers E19 to E23 Oakland Shore Alternative 2 Floating Bridge Pier
ROADWAY ITEM WORK	200,000	420,000	420,000
STRUCTURES ITEM WORK	4,490,930	6,435,480	7,806,800
COMBINED ITEM WORK	4,690,930	6,855,480	8,226,800
TIME RELATED OVERHEAD (15%)	703,640	1,028,322	1,234,020
SUBTOTAL COMBINED ITEM WORK	5,394,570	7,883,802	9,460,820
MOBILIZATION (10%)	599,397	875,978	1,051,202
SUBTOTAL COMBINED ITEM WORK	5,993,966	8,759,780	10,512,022
SUPPLEMENTAL WORK ITEMS (5% of Item Work)	299,698	437,989	525,601
STATE FURNISHED ITEMS	-	-	-
TOTAL COMBINED ITEM WORK (Engineers Estimate Without Escalation or Contingencies)	6,293,664	9,197,769	11,037,623
ESCALATION TO CONSTRUCTION MIDPOINT (9/30/2018)	396,453	579,390	695,286
CONTINGENCIES (25%)	1,672,530	2,444,290	2,933,228
TOTAL CAPITAL COSTS	8,363,000	12,222,000	14,667,000

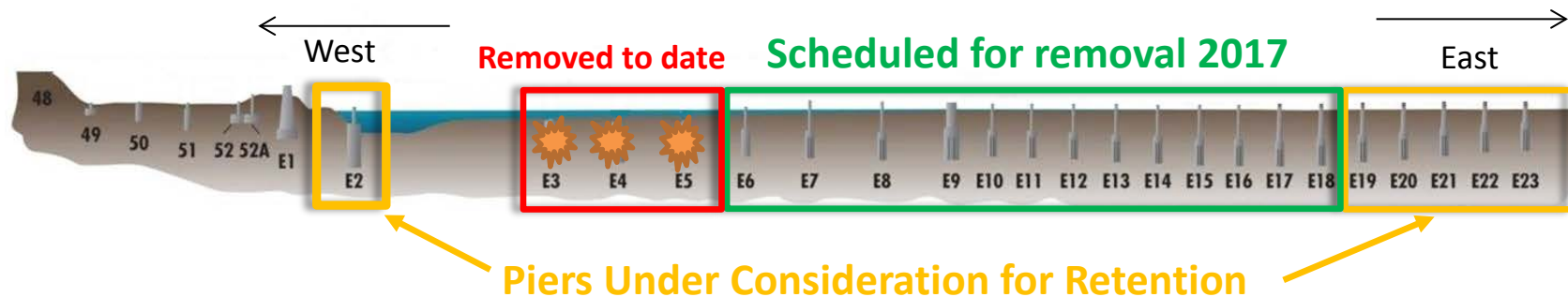
NOTES:

1. Estimate is for Capitol Outlay (CO) costs only.

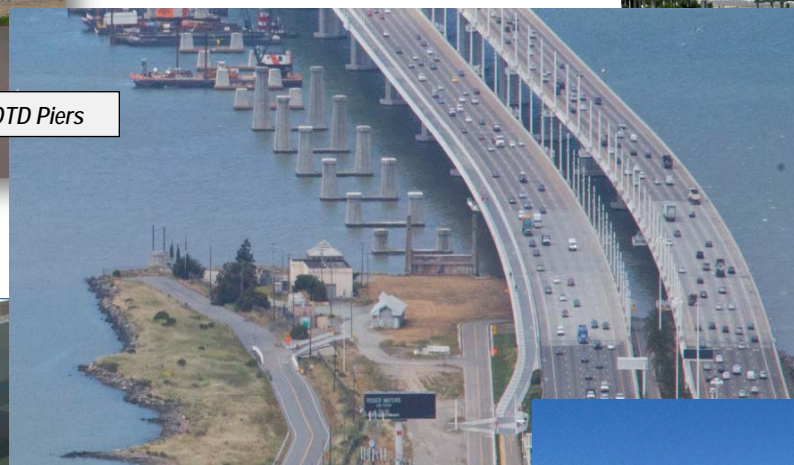
04-013581 SFOBB Pier Retention Costs
Pier Retention Comparison

Description	Pier Retention Alternative 1 Precast Box Girder Bridge Pier	Pier Retention Alternative 2 Floating Bridge Pier	Pier Demolition Alternative
YBI CAPITAL COSTS	8,363,000	8,363,000	17,000,000
OAKLAND CAPITAL COSTS	12,222,000	14,667,000	8,000,000
TOTAL CAPITAL COSTS	20,585,000	23,029,000	25,000,000
DESIGN SUPPORT COSTS	2,000,000	2,000,000	2,000,000
CONSTRUCTION SUPPORT COSTS	8,000,000	8,000,000	8,000,000
RISK MANAGEMENT COSTS: YBI	15,700,000	15,700,000	14,800,000
RISK MANAGEMENT COSTS: OAKLAND	16,200,000	16,200,000	10,800,000
TOTAL COST	62,485,000	64,929,000	60,600,000





SFOBB Pier Retention Advanced Planning Study Report
June 30th, 2017



San Francisco–Oakland Bay Bridge East Span Seismic Safety Project

Report Contributors

California Department of Transportation (Caltrans)

Brian Maroney
Chris Traina
Trinh Lai
Stefan Galvez
Deanna Vilcheck
Brian Boal
Jeannie Balderramos
Saba Mohan

Bay Area Toll Authority (BATA):

Peter Lee
Trish Stoops

Zoon Engineering

Clive Endress
Dana Hissen

AECOM:

Dillon Lennebacker
DJ Allison

Kiewit/Manson JV (K-M):

Zach Reilly
Jeff Arviso
Dave Nielson
Farshad Mazloom (KieCon)

The Project Development Team recognizes and appreciates the strong support provided by the Toll Bridge Program Oversight Committee (TBPOC) and the Program Management Team (PMT):

TBPOC

Malcolm Dougherty -Caltrans
Steve Heminger-Metropolitan Transportation Commission (MTC)
Susan Bransen-California Transportation Commission (CTC)

PMT

Dan McElhinney-Caltrans
Andrew Fremier-Bay Area Transportation Authority (BATA)
Peter Lee-BATA
Stephen Maller-CTC

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List of Abbreviated Terms

APS	Advanced Planning Study
BATA	Bay Area Toll Authority
BCDC	Bay Conservation Development Commission
BO	biological opinion
Caltrans	California Department of Transportation
COS	Capital Outlay Support
CDB	Contract Drilling & Blasting LLC
CDFW	California Department of Fish and Wildlife
CEC-Silverado	California Engineering Contractors-Silverado Joint Venture
CHP	California Highway Patrol
CMGC	Construction Manager/General Contractor program
CTC	California Transportation Commission
CY	Cubic yard
EBMUD	East Bay Municipal Utility District
EBRPD	East Bay Regional Park District
FEIS	Final Environmental Impact Statement
ft.	Foot/feet
GMP	Guaranteed maximum price
IHA	Incidental Harassment Authorization
ITP	Incidental Take Permit
K-M	Kiewit-Manson Joint Venture
OTD	Oakland Touchdown
PDT	Project Development Team
PG&E	Pacific Gas and Electric
PMT	Program Management Team
RFP	Request for proposals
RWQCB	Regional Water Quality Control Board
SF	San Francisco
SFOBB	San Francisco-Oakland Bay Bridge
SFOBBESSSP	San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project
TBPOC	Toll Bridge Program Oversight Committee
TIDA	Treasure Island Development Agency
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USFW	United States Fish and Wildlife Service
YBI	Yerba Buena Island

Chapter 1. Introduction and Background

1.1. Purpose of the Report

This report presents information on the planning and design efforts for the retention of Pier E2, and Piers E19 to E23 of the original SFOBB (San Francisco-Oakland Bay Bridge) East Span. The report is also intended to serve as a resource for the Environmental team as they begin their efforts to secure the permits and authorizations required from various Federal, State and local resource and regulatory agencies with jurisdiction in the San Francisco Bay. This report provides several estimated design alternatives and options, conceptual drawings, and General Plans for each alternative. The path forward builds on the successful removal of Piers E3 through E18 from the waters of San Francisco Bay (SF Bay) over the 2015 to 2017 construction seasons and offers the Bay Area community opportunities to provide public access with dramatic views of the SF Bay and the new East Spans of the SFOBB from local parks, and to supplement planned development at these locations.

1.2. Background

1.2.1. Removal of Existing Bridge

As part of the San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project (SFOBBESSSP), the original lead paint-covered steel superstructure and all foundations of the bridge were to be removed from the waters of SF Bay as part of the initial environmental commitments documented in the Final Environmental Impact Statement (FEIS) and permits dating back to 2001. For contracting purposes, this work was segregated into three separate contracts and removed during the periods outlined below:

- 04-0120T4 Contract-Removal of the Main Span Cantilever truss section
 - November 2013 to November 2015
- 04-013524 Contract-Removal of the five 504 foot and fourteen 288 foot truss spans
 - March 2015 to April 2017.
- Marine Foundations Removal Contract-
 - September 2014 to current

Figure 1-1 offers an image of the original East Spans bridge for reference.

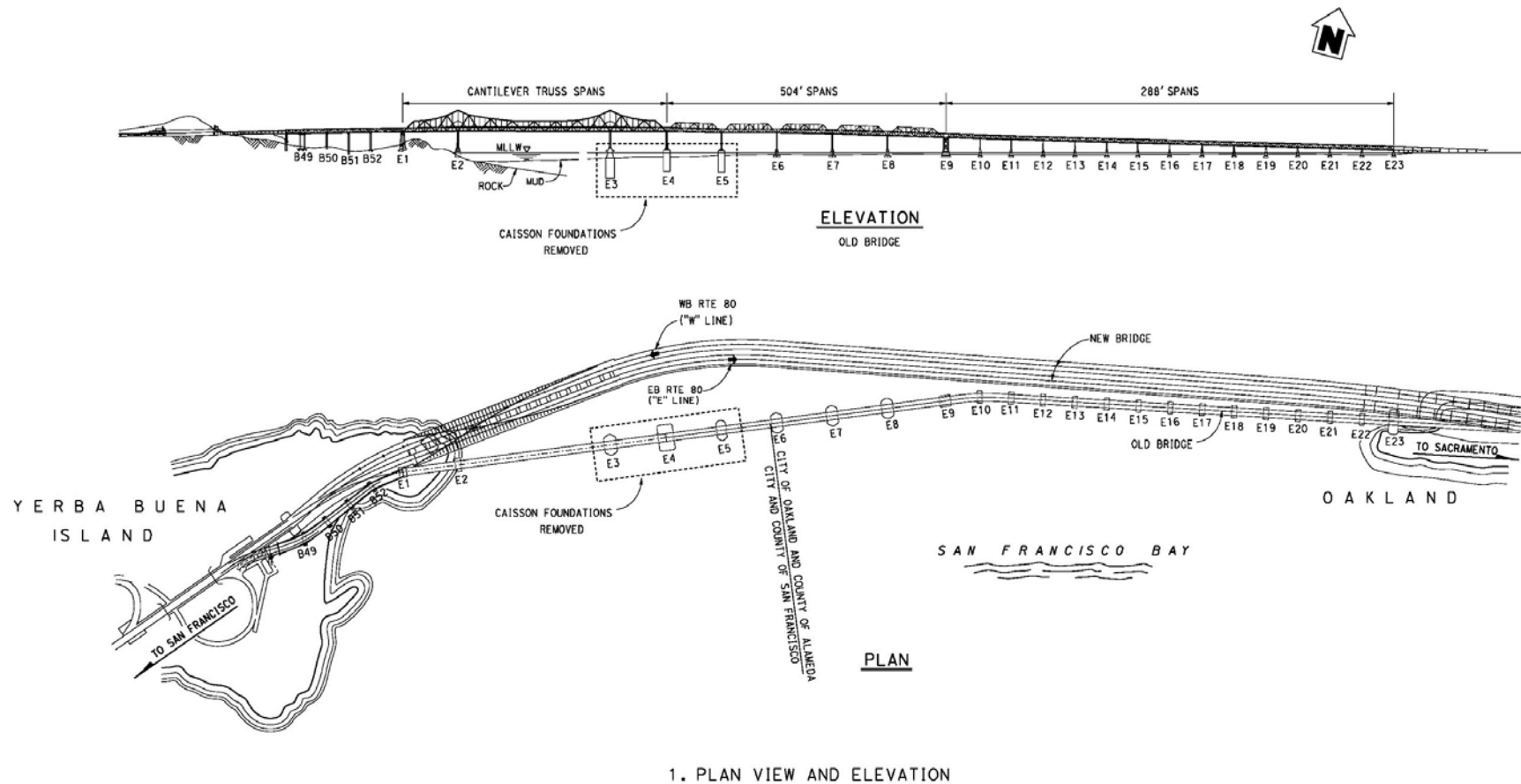


Figure 1-1. Original San Francisco-Oakland Bay Bridge East Spans Layout

1.3. Marine Foundation Contracts

1.3.1. Authorization for Pier Retention Planning Process

On March 7, 2013, the members of the Toll Bridge Program Oversight Committee (TBPOC) were briefed on plans for the removal of the existing foundations of the original east span of the SFOBB. Options for retaining some of the foundations were presented. The TBPOC voted to move forward with an option to retain several of the piers for the purpose of providing future public access on both Yerba Buena Island (YBI) and near the Oakland Touch Down (OTD). Staff was directed to seek authorization to retain Pier E2 near YBI for public access, and retain up to four piers (Piers E19 to E22) and create a public access trestle at that location. Staff was also asked to identify a non-State owner for these structures. It is important to note that the PDT recommended the addition of Pier E23, the first land based pier at OTD, to the list of piers to be retained in . This request was approved by the TBPOC.

1.3.2. Construction Manager/General Contractor Program

On April 22, 2014, the Department advertised a Request for Qualifications (RFQ) for the removal of all marine foundations through the pilot Construction Manager/General Contractor (CMGC) program. This innovative project delivery and contracting method allowed the Project Development Team (PDT) to seek the most qualified contractor based on criteria developed by the PDT prior to the selection process. The selected contractor becomes a part of the PDT and helps to design the project during the preconstruction services phase of the contract. Once the design is completed the Contractor and the Department develop estimates and risk registers and negotiate a Guaranteed Maximum Price (GMP) for the construction of the designed project. The CMGC process was ideal for this project for the following reasons:

- The PDT was able to utilize the experience of the Contractor on marine foundation removal projects.
- The PDT was able to select a contractor with significant experience in controlled blasting of marine structures. This was essential in gaining the confidence of the regulatory permitting agencies.
- The PDT could develop and sequence phases of the project to ensure they were compatible with staging sequences with adjacent SFOBB dismantling projects.
- The Department could reduce risk and delays that have been typical for many complex projects within the Toll Bridge Program.

1.3.3. Status of Marine Foundation Removal Contracts

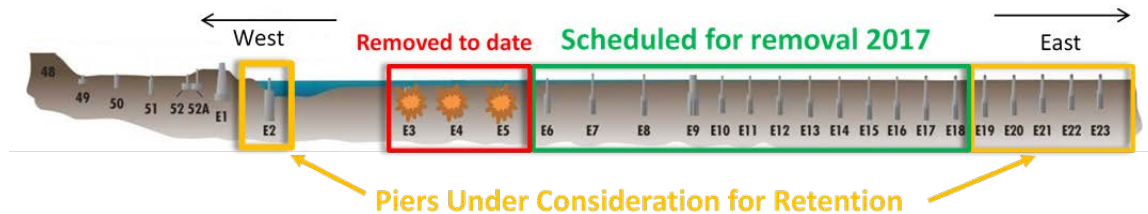
The Department began design of the removal of the marine foundations in September of 2014 and the PDT decided to break the contract into three distinct projects for several reasons. The Marine Foundation removal contracts needed to be aligned with milestone dates for the release of foundations from the superstructure dismantling contract.

Priority was placed on maximizing the probability of successfully obtaining permits for the complete removal of Pier E3 by August of 2015, as a successful removal of this foundation would open the door for removal of the remaining foundations over the next three years. The PDT also recognized that the TBPOC desired the retention of Pier E2 and Piers E19 to E22 to preserve a sense of connection to the original bridge and to create public access to the SF Bay at both shorelines near the New Eastern Spans.

To date, the sequencing and coordination of the projects has proceeded as scheduled and Piers E3, E4 and E5 have been removed. The early completion of Contract 04-013524 and the associated removal of steel trusses from Piers E4 through Pier 23 combined with the flexibility created using the CMGC process has created an opportunity for the Department to remove all of the remaining marine foundations in the upcoming 2017 blast season. The PDT and K-M are on schedule to complete all of the mechanical removal and drilling operations, and all authorizations and permit amendments have been secured. This change has also made it a necessity to move forward with the design and sequencing of the Pier Retention project. The PDT is scheduled to brief the TBPOC on the status of the contract in August of 2017, and will request authorization to begin Contract Manager and negotiation phase with K-M on this contract.

The three projects phases and level of completion are outlined below:

- Pier E3 Demonstration Project (04-013544)
 - Completed 12/15/2017
- Pier E4 to Pier E18 Marine Foundation Removal Project (04-013574)
 - Piers E4 and E5 removed in 2016 Blast Season
 - Pier E6 through E18 to be removed in 2017 season.
- Pier E2 and Piers E19-E22 Pier Retention Project (04-013581)
 - Advanced Planning Study completed 6/30/2017
 - TBPOC Update schedule 8/29/2017

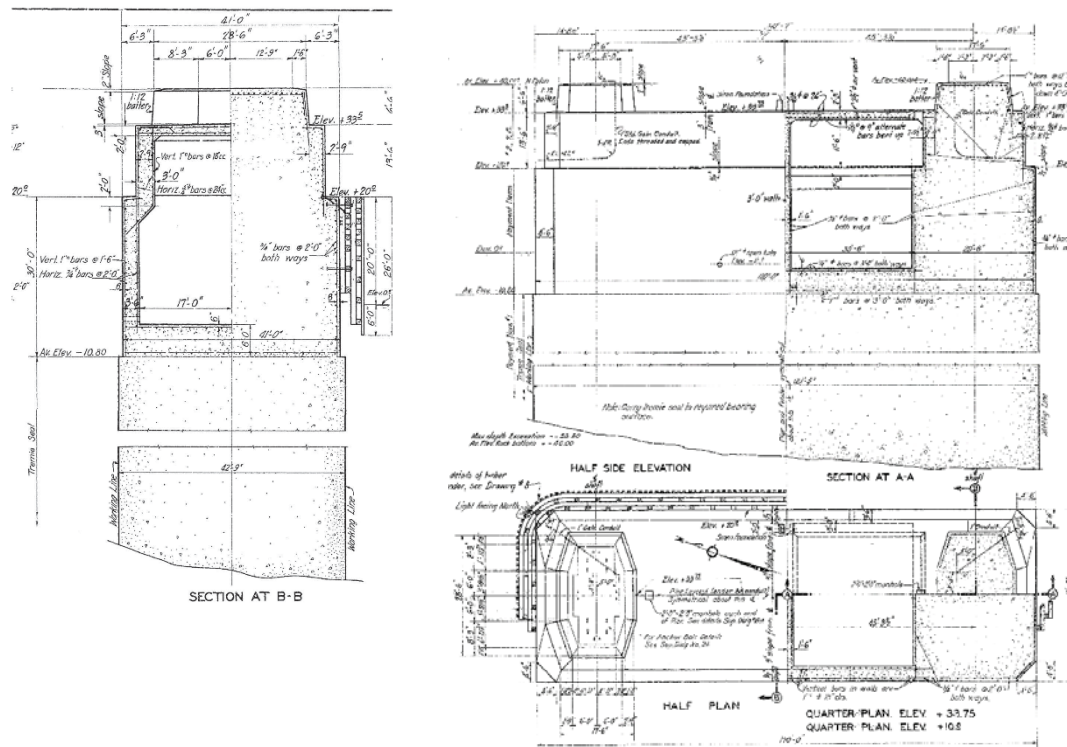
Figure 1-2. Status of Marine Foundation Removal

1.3.4. Description of Piers Considered for Retention

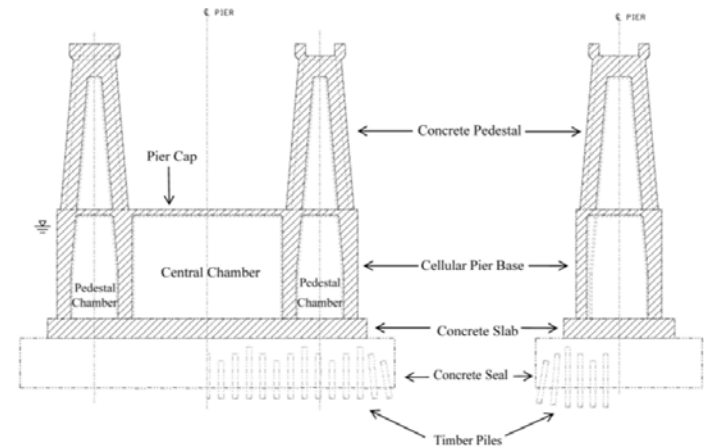
Similar to the marine foundations that have been removed or are scheduled for removal, the piers selected for retention are of two basic types: concrete caisson and timber pile. Pier E2 at the eastern edge of YBI is a large, reinforced concrete, cellular structure, resting on an unreinforced concrete seal course with an average thickness of about 35 feet that bears on rock. The reinforced concrete walls within Pier E2 range from 3 to 4 ft. in thickness. The timber pile foundations at Piers E19 through E22, and the onshore Pier 23 foundation consist of lightly reinforced concrete that are supported by timber piles driven into the Bay mud. The piles range in length from 85 to 120 ft. in length, are 18 inches in diameter at their top and taper down in size as they extend downward. There are 298 piles at the foundations supporting these spans. The pile tops are held together with a concrete slab that is not reinforced. On top of each concrete slab is a reinforced concrete cellular structure that extends from the slab up to above the water surface and concrete pedestals that supported the now removed steel superstructure. Figure 1-3 shows a representative image of these foundations.

Figure 1-3. Types of SFOBB East Spans Marine Pier

Pier E2 Plan and Elevation Views



Typical Schematic for Piers E19 to E22



Chapter 2. Environmental Planning and Design Alternatives

2.1. Purpose

The purpose of this chapter is to provide insight into the status of the environmental planning efforts for the project and discuss the ongoing outreach to the various regulatory agencies to secure permits and authorizations for the pier retention project. The design alternatives that are under consideration for further development and advancement to the PS&E phase are also presented.

2.2. Background

In 2001, the Federal Highways Administration approved the Record of Decision for the Environmental Impact Statement (EIS) for the replacement of the SFOBB East Span. The EIS disclosed the potential impacts for construction of the new east span, and the removal of the original east span. The EIS further committed to the removal of the marine foundations of the original east span via mechanical means, as an off-set for the placement of new fill associated with the construction of the new east span.

In addition, several agencies' permits issued in 2001 and 2002, including the San Francisco Bay Conservation and Development Commission (BCDC), the United States Army Corps of Engineers (USACE), the United States Coast Guard (USCG), and the National Marine Fisheries Service (NMFS) required and authorized the mechanical removal of the marine foundations of the original east span.

Furthermore, as previously discussed in Chapter 1, in March of 2013 the TBPOC requested that the PDT begin discussions with various planning and resource agencies in San Francisco and the East Bay to advance a project that would create public access by retaining the five piers under discussion. During the project development phases for the superstructure removal contracts and the Pier E3 Demonstration project in 2014, the Environmental Team began discussions with BCDC and USACE regarding retention of some of the existing piers.

During 2015, the Environmental team focused their efforts on securing permit amendments and modifications to ensure the success of the Pier E3 Demonstration project. On December 3rd, 2015, the TBPOC was briefed on the success of the Pier E3 removal, and was presented an update on the status of contract negotiations and the

project development for the removal of Piers E2 to E22. They were also briefed on discussions that had occurred with several of the resources agencies regarding Pier Retention efforts. The PDT team moved forward after this meeting on a parallel effort to seek the necessary permit amendments and modifications for the removal of Piers E4 to E18 in Contract 04-013571, and the retention of the remaining piers in Contract 04-013581. It is expected that all of the foundations in Contract 04-013574 will be removed successfully in the 2017 blast season. Chapter 2 will focus on the environmental planning and project development that has occurred during 2016 and 2017.

2.3. Environmental Planning

2.3.1. Environmental Planning Considerations

During 2016 and 2017 the PDT held numerous meetings with resource agencies regarding the retention of marine foundations in Contract 04-13581. Discussion with resources agencies prior to the successful removal of Piers E3 to E5 had resulted in no commitments from any of the agencies regarding the retention of any piers. With limited resources they were focused on providing support to amend permits for or authorize the foundations removed in Contract 04-013581. The successful removal of Piers E4 and E5 in October of 2016, and the recent opportunity for early completion of the removal of Piers E6 to E18 has necessitated a more urgent approach to the development of the project for the retention of the marine foundations. Some of the more significant considerations are listed below:

- Development of Memorandums Of Understanding (MOU).
- Identification of functional objectives for any retained piers
- Coordination on permit amendments with the USCG, USACE, and BCDC.
- Mitigation of SF Bay Infill quantified in original permits.
- Development of an Advanced Planning Study (APS) and design alternatives.
- Fast-paced process to obtain permit amendments/authorizations in conjunction with CMGC project development and contract negotiations.

2.3.2. Development of MOU

Establishing the owner, the operator, and the agency responsible for the long term maintenance of any facilities that will be constructed to connect the piers selected for retention with YBI and at the future Gateway Park on the OTD. The development of an MOU is essential to requesting amendments to the existing permits. The PDT has met several times with representatives of BATA and the Treasure Island Development

Agency (TIDA), and have put together a draft MOU for Pier E2 and YBI. The PDT will conduct similar meetings with representatives of Gateway Park and the East Bay Regional Park District (EBRPD) to develop similar MOU for a pier facility between the foundations to be retained near the future Gateway Park at the OTD. A copy of a draft MOU is included as Appendix A.

2.3.3. Coordination of Permit Amendments

The PDT has conducted multiple meetings with staff from BCDC, the USCG, and USACE during 2016 and 2017 to discuss permit amendments and needed authorizations for the foundation removal contracts. These meetings provided the PDT with an opportunity to begin discussions on the possibility of pier retention. Although early input indicated there may be hurdles to off-set impacts from leaving the piers in place, clearly the opportunity would create much needed regional public access. This benefit has allowed the discussion to continue and for the project team to not include the piers being discussed for retention.. It is important to note that the PDT has proceeded at risk with the pursuit of the retention of these piers. If permit amendments are obtained and it is determined the piers must be removed, the Department will incur some expenditures in Capital Outlay Support (COS) that will not be recovered. The Department would then have to proceed with project delivery process to remove the piers that will result in further expenditures of COS. Some general bullets and comments from meetings with various agencies that outline concerns and obstacles to overcome are outlined below:

- USCG, BCDC, and USACE all reminded the PDT that removal of the existing piers was mitigation for allowing a new bridge to be built and the original permit requires removal of these piers.
- USCG indicated that when elements of the bridge are no longer used for transportation, then there is no longer a bridge and the elements (existing foundations) must be removed.
- USCG indicated that any amendment to the existing USCG bridge permit would require a permit from USACE to allow the retention of existing piers.
- BCDC is very interested in the opportunity to provide public access at both YBI and OTD, but indicated a public process and hearing would be necessary to pursue the pier retention option.
- USACE indicated the retention of piers would require in-kind mitigation through removal of other facilities in the SF Bay area.
- USACE indicated they would require approvals from all other agencies first before providing their approval.
- USACE and BCDC highlighted that any pier to be retained must have a clear purpose and function.

2.3.4. Design Alternatives

The PDT has been holding monthly meetings and several workshops to develop the alternatives presented and estimated in this APS. Two alternatives are under consideration for selection as the preferred alternative. Both of these alternatives share a common design for the pedestrian structure and public access facility to be constructed at YBI. The roadway approach design to both the piers on YBI and OTD are the same for each alternative. All facilities will be designed in accordance with appropriate sea level rise design standards and criteria approved by BCDC. It is important to note that at OTD there are no planned bridge structures or public access west of Pier E21, and Piers E19 and E20 will have no modifications made to them. All structures would have an overlay to protect the wearing surface. A description of both design alternatives is outlined in the following paragraphs. Conceptual drawings for public access along with roadway and structure plans are shown in Figures 2.1 through 2.10.

- **Design Alternative 1-Precast Box Girder Bridge Pier**
 - **YBI Pier E2**-this facility consists of four 150 ft long precast/prestressed (PC/PS) box girder sections that could be fabricated at a precast facility and transported on barges to the project site. They could also be cast on YBI near the project site and hoisted into place with a crane on land. The girders would be connected transversely with light prestressing. The facility is designed to be 25 ft wide and would have pedestrian railing and lighting. Mechanical removal of the pedestal and existing slabs on top of Pier E2 and a replacement slab with railing and lighting. Modification of the existing fender system may be required.
 - **OTD Piers E19 to E23**-The pedestrian structures in this alternative would be 25 ft wide and consist of PC/PS girders on 30 inch diameter cast-in-steel shell (CISS) pile bents spaced roughly 100ft apart. Mechanical removal of concrete pedestals and parts of Pier E23 at OTD would be required to accommodate the structure. The bridge structures would be connected to reinforced concrete slabs on top of each pier. The slabs and pedestrian structures would have the appropriate pedestrian railing and lighting.
- **Design Alternative 2-Floating Bridge Pier**
 - **YBI Pier E2**-same as Alternative 1.
 - **OTD Piers E19 to E23**-The pedestrian structures in this alternative would be 25 feet wide and consist of 3 floating bridge sections connected together and held in place laterally with spud piling. Mechanical removal of concrete pedestals and parts of Pier E23 at OTD would be required to accommodate the structure. The floating pier structures would be connected to reinforced concrete slabs on top of each pier through the use of aluminum gangways that would rise up and down with the tidal action

of the SF Bay. The slabs and pedestrian structures would have the appropriate pedestrian railing and lighting.

- **Demolition Alternative**-This alternative would consist of removing all piers with both mechanical and explosive techniques utilized on the removal of the other marine foundations, or if necessary they could be removed using cable sawing should monitoring results on the Pacific Gas and Electric (PGE) facility precludes the use of explosive techniques.

Figure 2-1. Piers E19 through E23 at OTD



Figure 2-2. Piers E2 and the Torpedo Building at YBI



Figure 2-3. Conceptual Design of Precast Box Girder Bridge at Pier E2 (YBI)

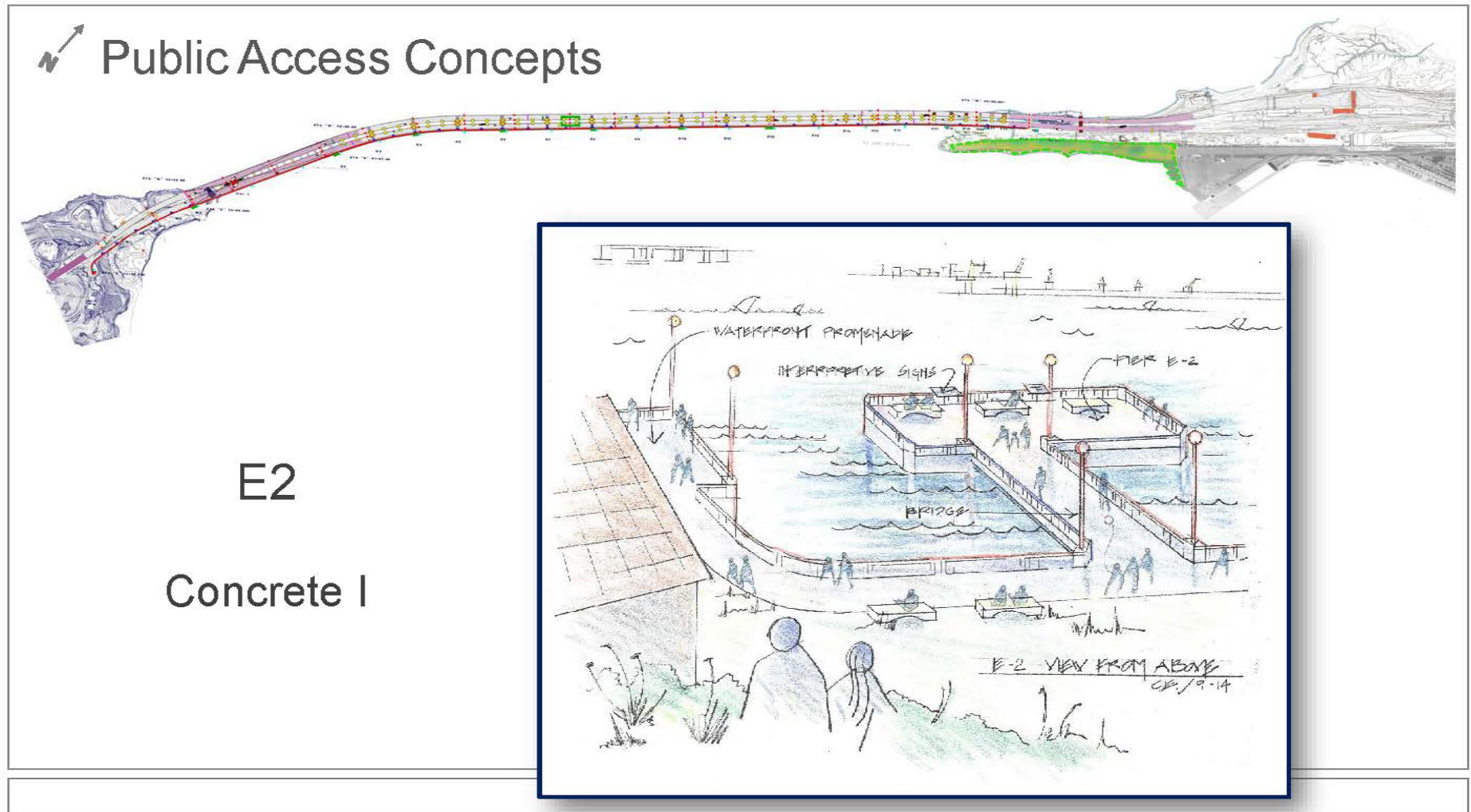


Figure 2-4. Conceptual Plan of Precast Box Girder Bridge at Pier E2 (YBI)

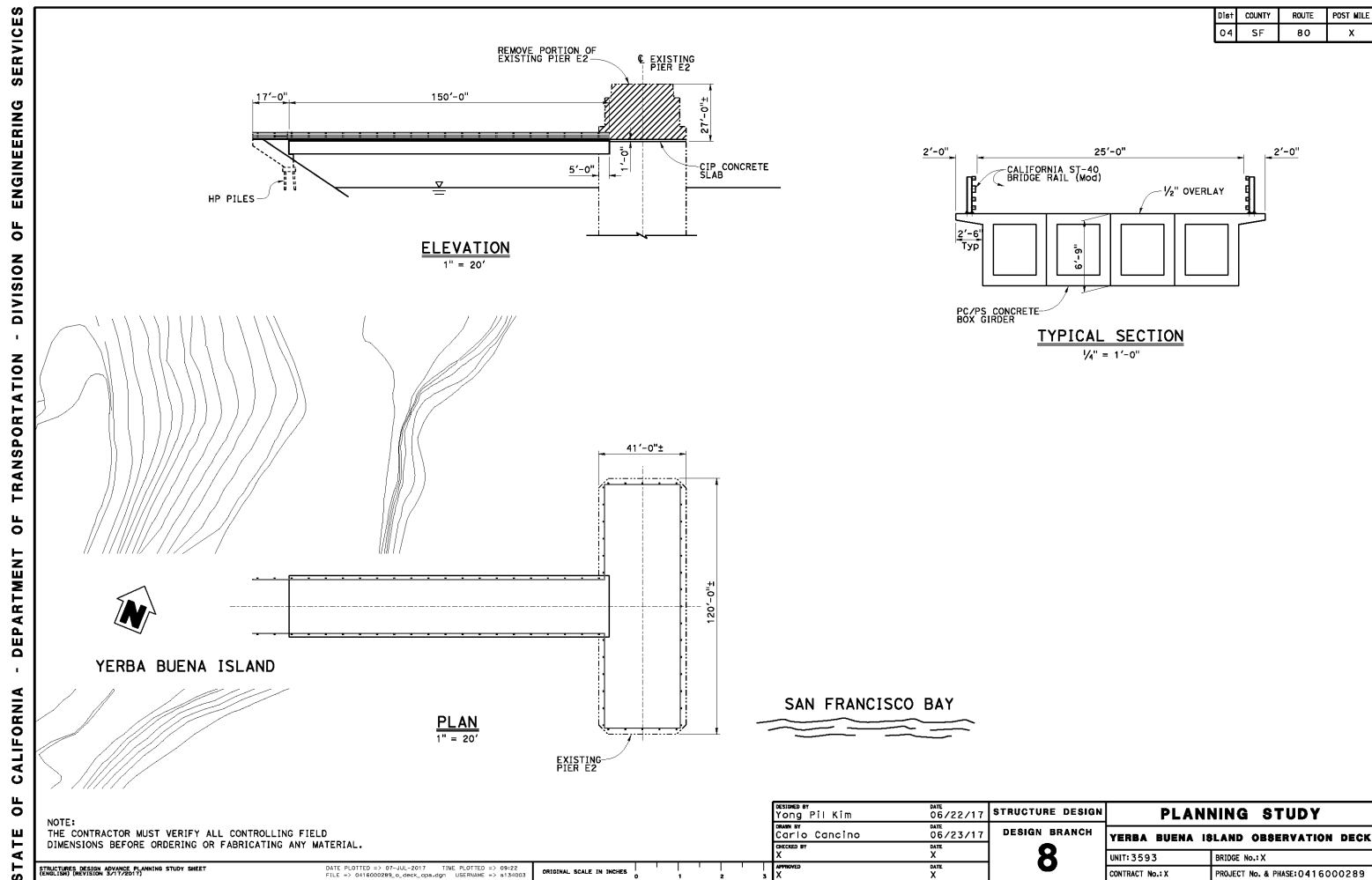


Figure 2-5. Conceptual Design of Precast Box Girder Bridge Pier (OTD)-Alternative 1

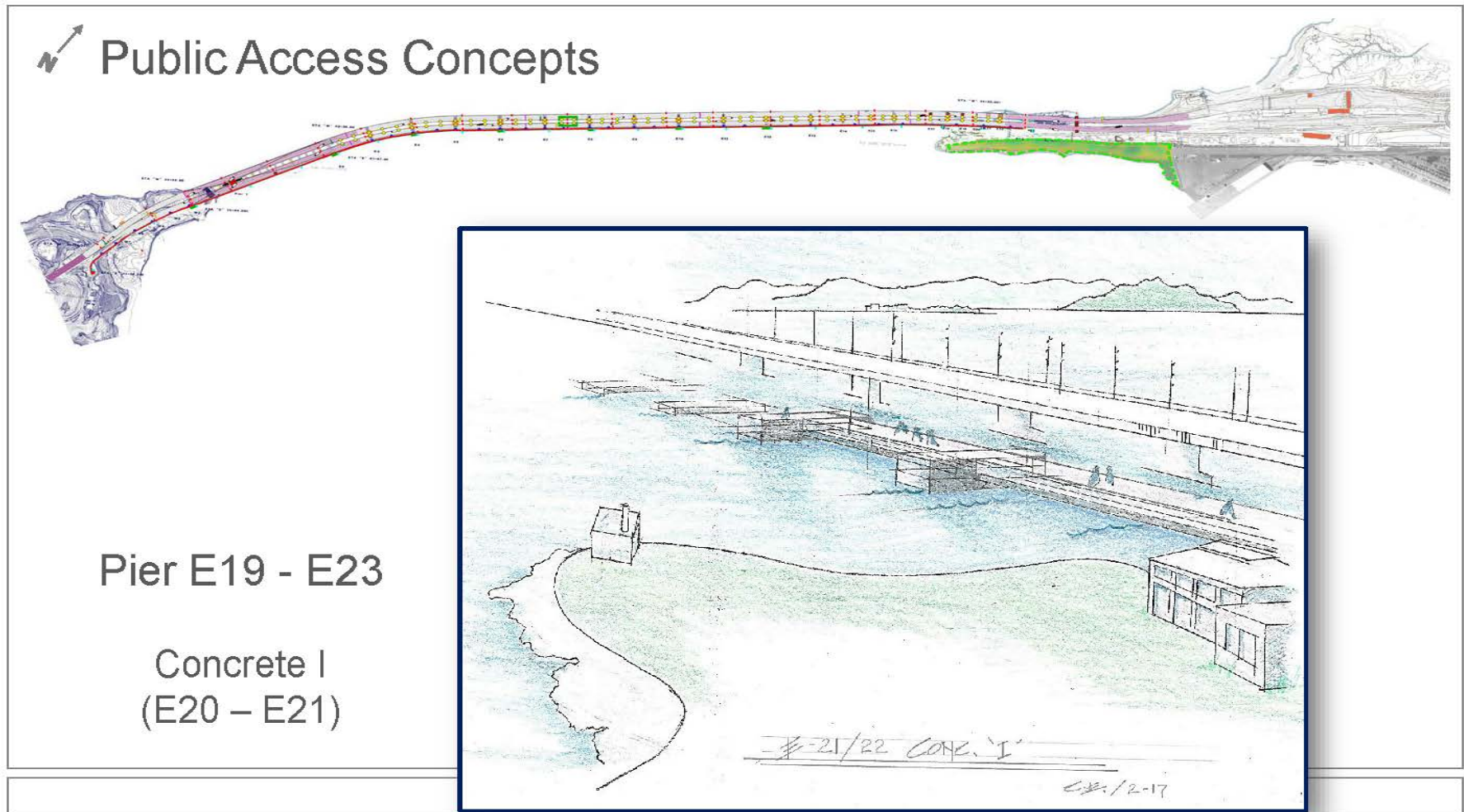


Figure 2-6. Conceptual Plan of Precast Box Girder Bridge Piers E21 and E22-OTD Alternative 1

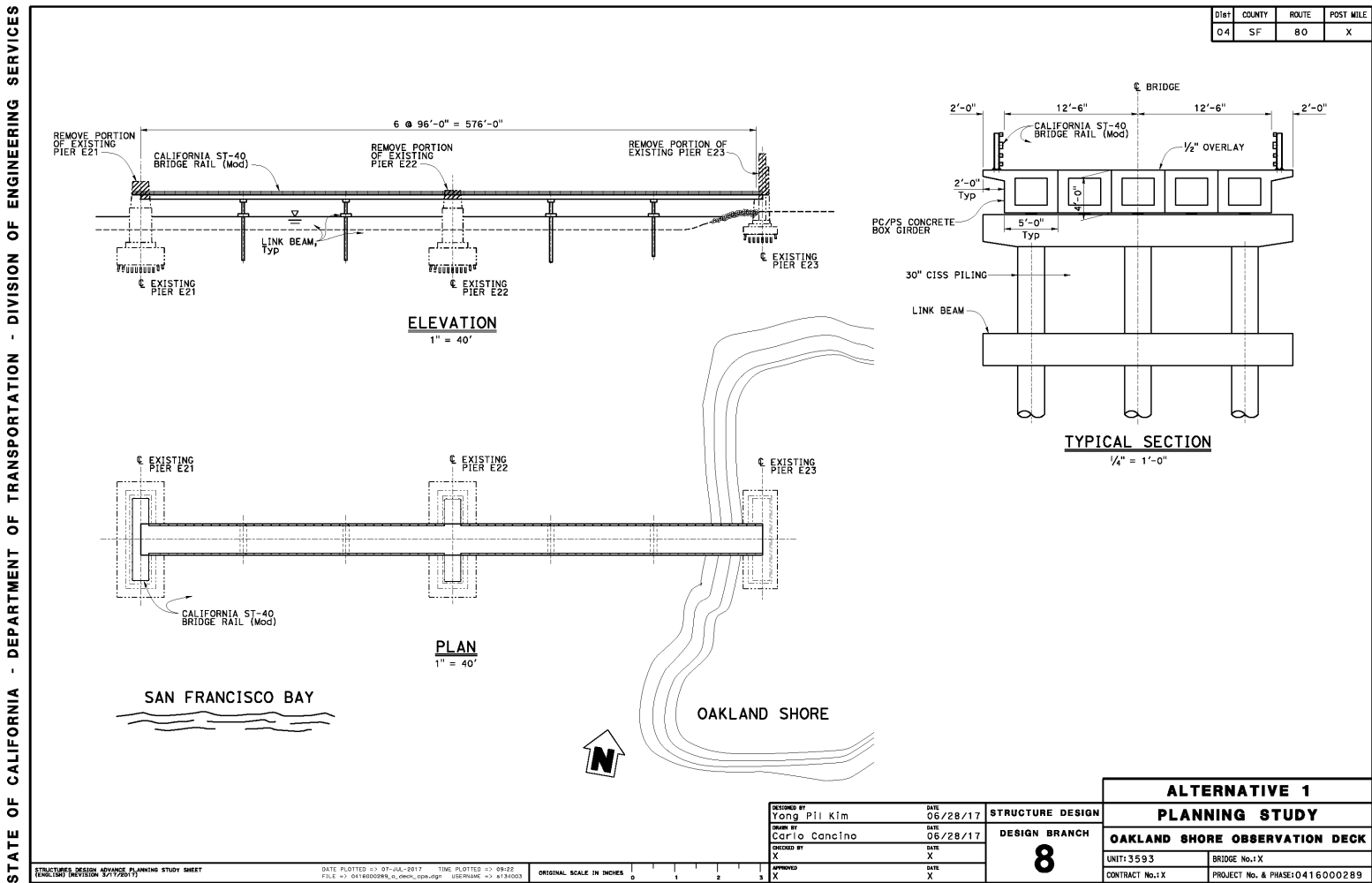


Figure 2-7. Conceptual Design of Floating Pier-Alternative 2

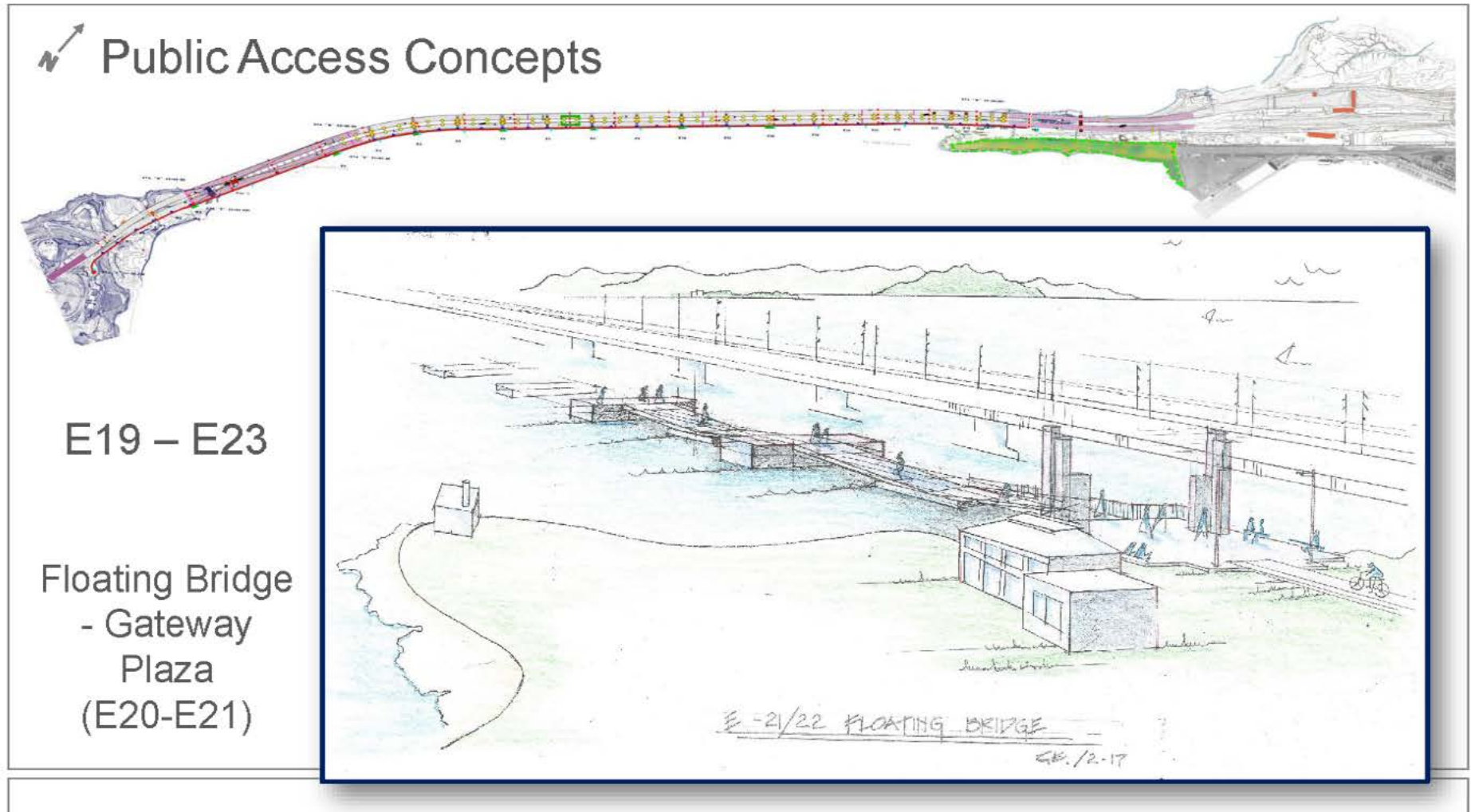


Figure 2-8. Conceptual Plan of Floating Pier-Piers E21 to E23-OTD Alternative 2

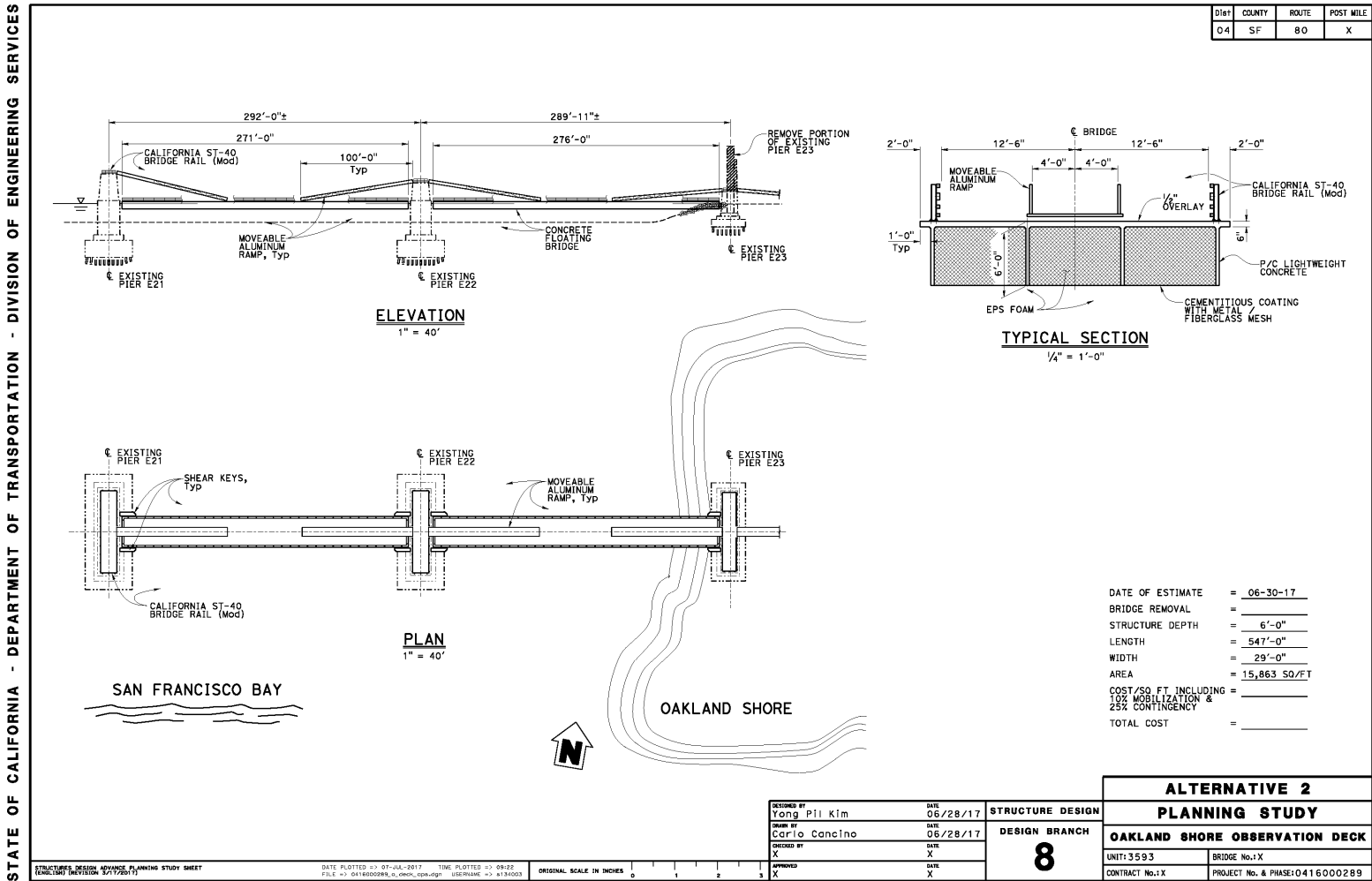


Figure 2-9. Bicycle Pedestrian Facility Approach Layout at YBI



Figure 2-10. Bicycle Pedestrian Facility Approach Cross Section at YBI

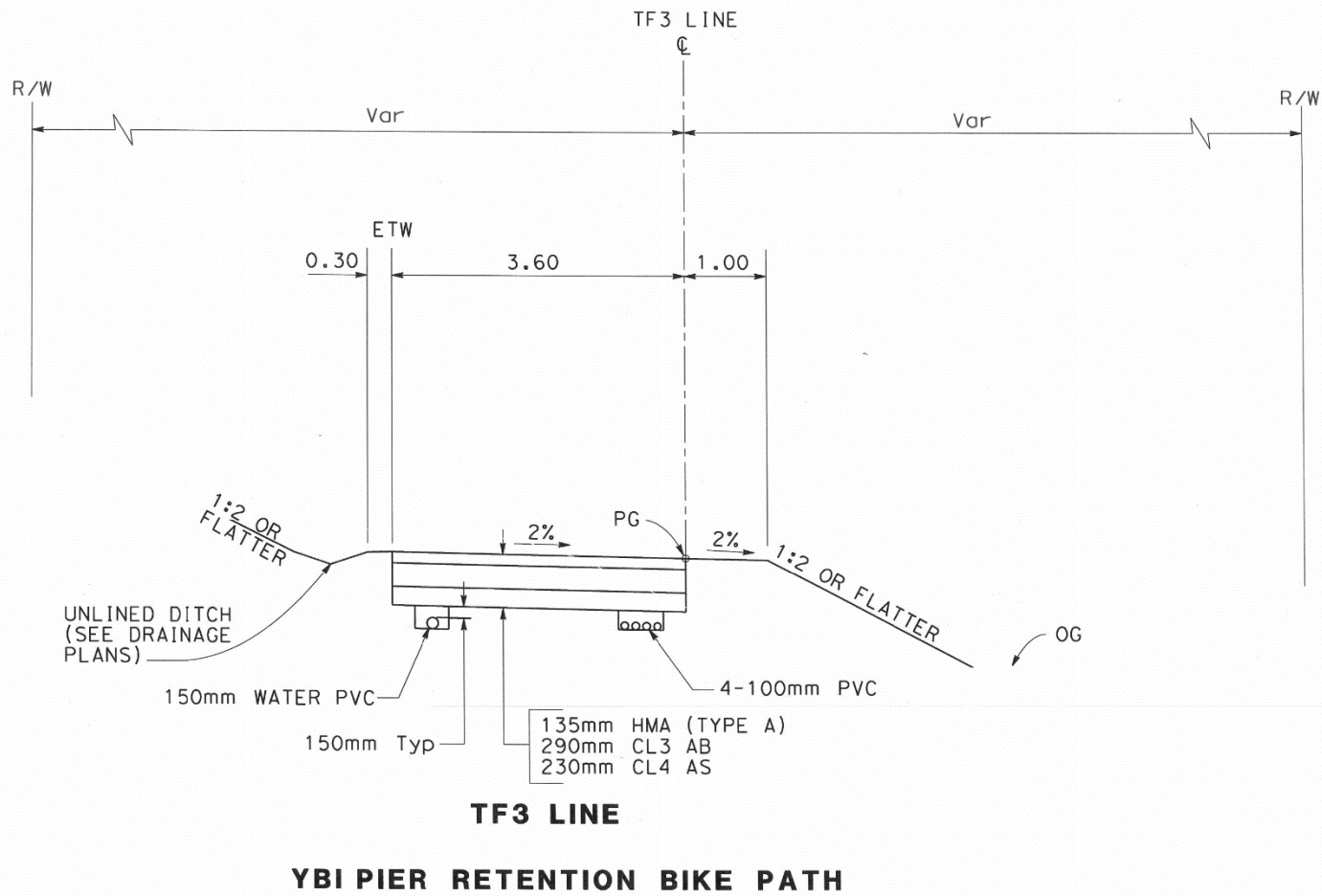
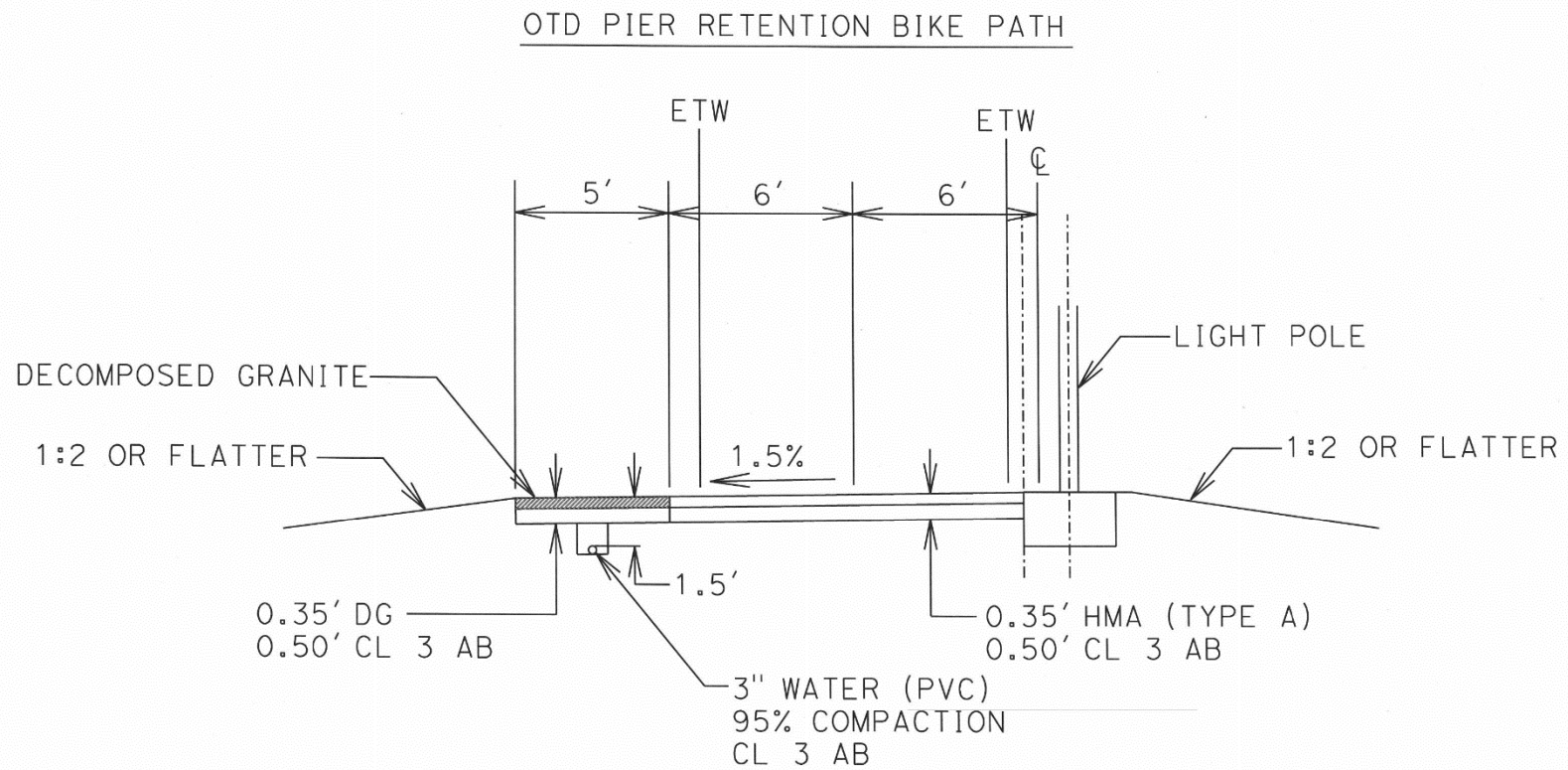


Figure 2-11. Bicycle Pedestrian Facility Approach Layout at OTD



Figure 2-12. Bicycle Pedestrian Facility Cross Section at OTD



Chapter 3. Cost Estimates, Risk Management, and Project Schedule

3.1. Purpose of the Chapter

The purpose of this chapter is to present the estimated costs of the two alternatives that are under consideration and are presented in this study. This chapter will also outline the project and program risks for each alternative, and recommend a program level budget that incorporates Capital Outlay (CO), Capital Outlay Support, and Program Risks.

3.2. Estimated Costs Of Project Alternatives

Estimated costs for the project design at YBI and both Alternatives at Gateway Park on the OTD are presented in Table 3-1. The estimates were prepared using quantities for removal that have been previously calculated during the project development phases of the marine foundation removal contracts. They have been modified and tailored for each design. Quantities of work were developed for all piers and structures based on APS level drawings, and for the Roadway work at the approaches to each facility. The estimates do not include CO for any promenades or walkways depicted in several of the architectural drawings included with this report.

Unit costs were developed based on historical costs on SFOBB Projects, and bid data from projects bid within the SF Bay area between 2014 and 2017. For the floating pier alternatives, preliminary square foot costs were sought from the precast industry and K-M for the fabrication of the float sections. The estimates all have the following factors applied:

- Time related overhead of 15 percent of project costs to account for work on the SF bay and in a challenging environment.
- Mobilization in the amount of 10% of combined item work.
- Supplemental Work Items-5 percent of combined item work.
- All costs have been escalated through September of 2018, the assumed midpoint of construction if costs are negotiated through the CMGC Program.
- A project contingency of 25 percent is included in all each estimate.

Table 3-1. Summarized Costs for Each Alternative

Description	Pier E2 Yerba Buena Island Alternative 1 Precast Box Girder	Piers E19 to E23 Oakland Shore Alternative 1 Precast Box Girder Bridge Pier	Piers E19 to E23 Oakland Shore Alternative 2 Floating Bridge Pier
ROADWAY ITEM WORK	200,000	420,000	420,000
STRUCTURES ITEM WORK	4,490,930	6,435,480	7,806,800
COMBINED ITEM WORK	4,690,930	6,855,480	8,226,800
TIME RELATED OVERHEAD (15%)	703,640	1,028,322	1,234,020
SUBTOTAL COMBINED ITEM WORK	5,394,570	7,883,802	9,460,820
MOBILIZATION (10%)	599,397	875,978	1,051,202
SUBTOTAL COMBINED ITEM WORK	5,993,966	8,759,780	10,512,022
SUPPLEMENTAL WORK ITEMS (5% of Item Work)	299,698	437,989	525,601
STATE FURNISHED ITEMS	-	-	-
TOTAL COMBINED ITEM WORK (Engineers Estimate Without Escalation or Contingencies)	6,293,664	9,197,769	11,037,623
ESCALATION TO CONSTRUCTION MIDPOINT (9/30/2018)	396,453	579,390	695,286
CONTINGENCIES (25%)	1,672,530	2,444,290	2,933,228
TOTAL CAPITAL COSTS	8,363,000	12,222,000	14,667,000
NOTES:			
1. Estimate is for Capitol Outlay (CO) costs only.			


3.3. Risk Management

A detailed risk register has been developed for each alternative, and a quantitative analysis of identified risks at YBI and OTD was utilized to prepare the comparison of project costs for each alternative presented in Table 3-2. The quantitative analysis of risk for each alternative are presented in Tables 3-3 and 3-4.

Table 3-2. Comparison of Project Costs

Description	Pier Retention Alternative 1 Precast Box Girder Bridge Pier	Pier Retention Alternative 2 Floating Bridge Pier	Pier Demolition Alternative
YBI CAPITAL COSTS	8,363,000	8,363,000	17,000,000
OAKLAND CAPITAL COSTS	12,222,000	14,667,000	8,000,000
TOTAL CAPITAL COSTS	20,585,000	23,029,000	25,000,000
DESIGN SUPPORT COSTS	2,000,000	2,000,000	2,000,000
CONSTRUCTION SUPPORT COSTS	8,000,000	8,000,000	8,000,000
RISK MANAGEMENT COSTS: YBI	15,700,000	15,700,000	14,800,000
RISK MANAGEMENT COSTS: OAKLAND	16,200,000	16,200,000	10,800,000
TOTAL COST	62,485,000	64,929,000	60,600,000

Table 3-3. Quantitative Analysis for Pier E2

		Marine Structure Retention E2 - Quantitative Analysis						
		as of July 13, 2017						
ID #	Title	Cost Range			Probability		50% Probable Cost	
		Low	Most Likely	High	Low	High	Current	Previous
Risks								
204.1	Extra environmental mitigation costs.	\$2,750,000	\$5,500,000	\$11,000,000	60%	80%	\$4,492,000	\$525,000
914	Cost Uncertainty around the Cost Estimate	\$0	\$2,500,000	\$5,000,000	100%	100%	\$2,500,000	\$9,000,000
922	Added scope due to Architectural Enhancements	\$1,250,000	\$2,500,000	\$5,000,000	60%	80%	\$2,042,000	
204	New Environmental Constraints (biology, water quality or acoustic limitations) increases scope of the work or effects Contractor's Means and Methods.	\$0	\$1,500,000	\$3,000,000	60%	100%	\$1,200,000	\$1,333,000
904	Capital Cost of schedule delays in the Construction Phase	\$0	\$840,000	\$2,640,000	100%	100%	\$1,160,000	\$1,347,000
924	COS Cost of schedule delays in the Construction Phase	\$0	\$600,000	\$2,400,000	100%	100%	\$1,000,000	
923	COS Cost of schedule delays in Environmental or Design review.	\$180,000	\$630,000	\$1,920,000	100%	100%	\$910,000	
202	Differing Site Condition (on-site conditions different than plan)	\$500,000	\$750,000	\$1,000,000	60%	80%	\$525,000	\$210,000
905	Clean up/close out of the Corridor on the Island	\$500,000	\$750,000	\$1,000,000	40%	60%	\$375,000	\$375,000
101	Issues arising from USCG operations on YBI.	\$100,000	\$500,000	\$1,000,000	60%	80%	\$373,000	\$373,000
104	Coordination with other contracts on YBI	\$200,000	\$300,000	\$400,000	80%	100%	\$270,000	\$270,000
108	Capital Cost of schedule delays in Environmental or Design review.	\$0	\$105,000	\$480,000	100%	100%	\$195,000	\$80,000
205	Quantity overruns (i.e. oversize foundation) or no method of payment for work defined on plans.	\$0	\$300,000	\$500,000	60%	80%	\$187,000	\$187,000
910	In construction permit amendment.	\$0	\$100,000	\$600,000	40%	60%	\$117,000	\$117,000
916	Organisational changes lead to omissions and /or project delays	\$0	\$50,000	\$100,000	80%	100%	\$45,000	\$45,000
907	Hazardous materials over and above those identified in the contract	\$20,000	\$40,000	\$600,000	0%	20%	\$22,000	\$22,000
908	Bird Nesting Issues	\$0	\$50,000	\$150,000	20%	40%	\$20,000	\$60,000
912	Air Quality Management (Silica)	\$0	\$0	\$20,000	20%	40%	\$2,000	\$2,000
18 Risks - Total Risk Cost:							\$15,435,000	
CCOs								
901	Miscellaneous administrative/technical CCOs	\$100,000	\$200,000	\$600,000	100%	100%	\$300,000	\$967,000


prepared by: Patrick Treacy

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prepared by: Patrick Treacy

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Table 3-3. (continued) Quantitative Analysis for Pier E2



Marine Structure Retention E2 - Quantitative Analysis

as of July 13, 2017

ID #	Title	Cost Range			Probability		50% Probable Cost	
		Low	Most Likely	High	Low	High	Current	Previous
					1 CCOs - Total CCO Cost:		\$300,000	
		Subtotals		Risks:	\$15,435,000			
				NOPCs:	\$0			
				CCOs:	\$300,000			
		50% Probable Risk Management Cost				\$15,735,000		

Table 3-4. Quantitative Analysis for Piers E19 to E23 (OTD)**Marine Structure Retention E19-23 - Quantitative Analysis**


as of July 13, 2017

ID #	Title	Cost Range			Probability		50% Probable Cost	
		Low	Most Likely	High	Low	High	Current	Previous
Risks								
914	Cost Uncertainty around the Cost Estimate	\$0	\$5,000,000	\$10,000,000	100%	100%	\$5,000,000	\$3,500,000
922	Added scope due to Architectural Enhancements	\$2,500,000	\$5,000,000	\$10,000,000	60%	80%	\$4,083,000	
204	New Environmental Constraints (biology, water quality or acoustic limitations) increases scope of the work or effects Contractor's Means and Methods.	\$0	\$1,500,000	\$3,000,000	60%	100%	\$1,200,000	\$613,000
904	Capital Cost of schedule delays in the Construction Phase	\$0	\$840,000	\$2,640,000	100%	100%	\$1,160,000	\$1,347,000
924	COS Cost of schedule delays in the Construction Phase	\$0	\$600,000	\$2,400,000	100%	100%	\$1,000,000	
204.1	Extra environmental mitigation costs.	\$600,000	\$1,200,000	\$2,400,000	60%	80%	\$980,000	\$175,000
923	COS Cost of schedule delays in Environmental or Design review.	\$180,000	\$630,000	\$1,920,000	100%	100%	\$910,000	
202	Differing Site Condition (on-site conditions different than plan)	\$500,000	\$750,000	\$1,000,000	60%	80%	\$525,000	\$210,000
108	Capital Cost of schedule delays in Environmental or Design review.	\$0	\$210,000	\$960,000	100%	100%	\$390,000	\$45,000
916	Organisational changes lead to omissions and /or project delays	\$50,000	\$100,000	\$200,000	80%	100%	\$105,000	\$105,000
205	Quantity overruns (i.e. oversize footings) or no method of payment for work defined on plans.	\$0	\$150,000	\$300,000	60%	80%	\$105,000	\$105,000
910	In construction permit amendment.	\$0	\$70,000	\$350,000	40%	60%	\$70,000	\$70,000
908	Bird Nesting Issues	\$0	\$50,000	\$150,000	80%	100%	\$60,000	\$60,000
907	Hazardous materials over and above those identified in the contract	\$20,000	\$40,000	\$600,000	0%	20%	\$22,000	\$22,000
203	Disposal of Dredge Material	\$0	\$0	\$100,000	0%	20%	\$3,000	\$3,000
912	Air Quality Management (Silica)	\$0	\$0	\$20,000	20%	40%	\$2,000	\$2,000
16 Risks - Total Risk Cost:							\$16,616,000	
CCOs								
901	Miscellaneous administrative/technical CCOs	\$200,000	\$400,000	\$1,200,000	100%	100%	\$600,000	\$483,000
1 CCOs - Total CCO Cost:							\$600,000	

prepared by: Patrick Treacy

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Table 3-4. (continued) Quantitative Analysis for Piers E19 to E23 (OTD)



Marine Structure Retention E19-23 - Quantitative Analysis

as of July 13, 2017

ID #	Title	Cost Range			Probability		50% Probable Cost	
		Low	Most Likely	High	Low	High	Current	Previous
								</

3.4. Project Schedule

A comparison of project timelines and schedules utilizing the CMGC process and a traditional Design-Bid-Build process is presented rows 1 to 4 and row 5 to 8 of Figure 3-1. Rows 9 to 20 show the anticipated Environmental permit timeline.

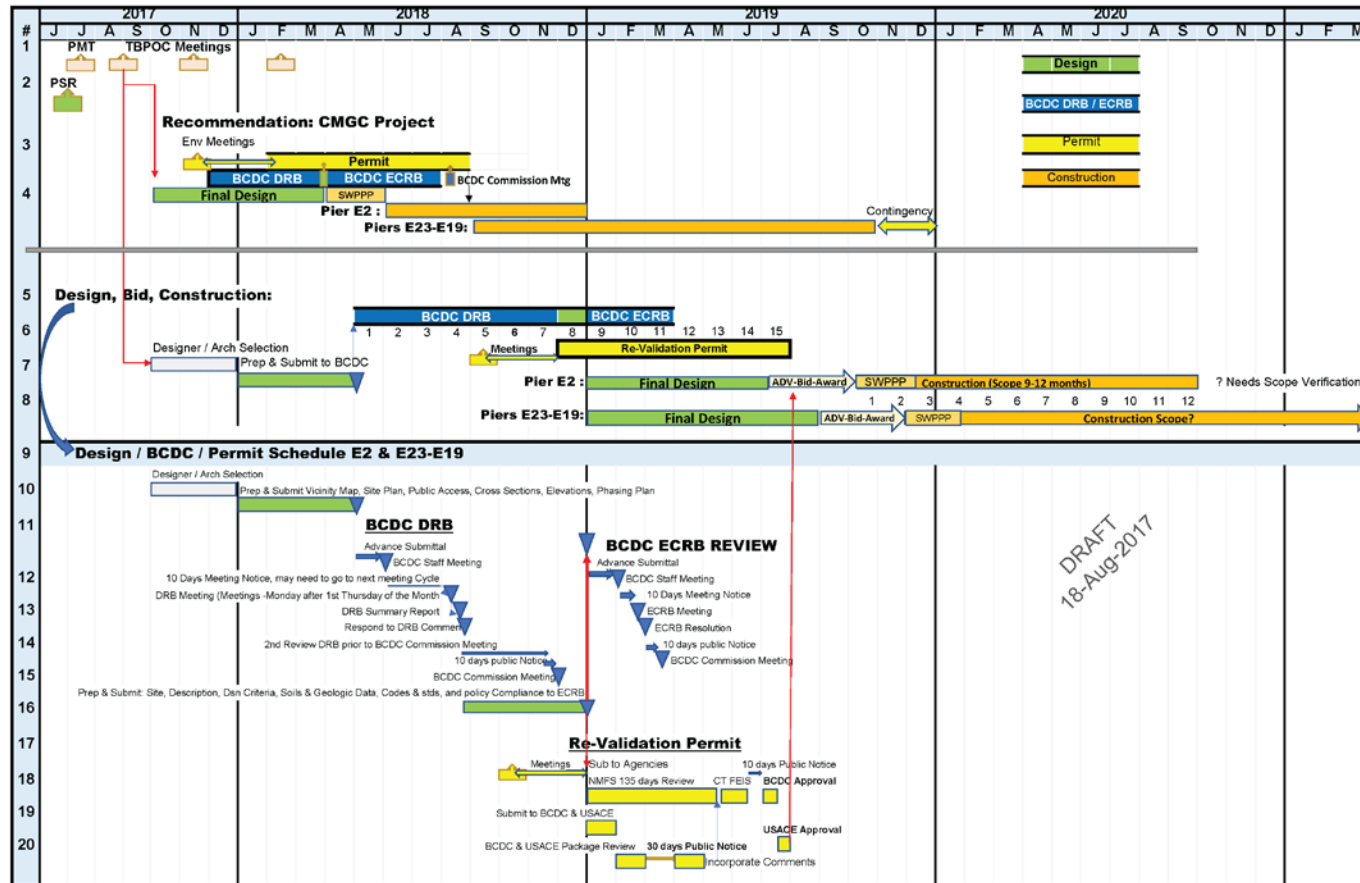


Figure 3-1. Comparison of Project Schedules

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** August 22, 2017
FR: Steven Whipple, SFOBB Principal Construction Manager, Caltrans
Brian Maroney, Toll Bridge Chief Bridge Engineer, Caltrans
RE: Agenda No. – 6
Item – SAS Tower Anchor Rod Grouting Contract Completion

Recommendation:
Information

Costs:
N/A

Schedule:
N/A

Discussion:

This memo is to document the successful completion of the corrected grouting of the San Francisco-Oakland Bay Bridge T1 Tower anchor rods. This work also marks the completion of all tasks directed by the TBPOC on the topic concerning the grout repair. The California Department of Transportation completed that work through a follow-up construction contract with California Engineering Contractors (CEC). Inspectors have judged CEC's work to be of exceptionally good quality. It is also important to be aware that the QA (Quality Assurance) inspection was carried out at an elevated level.

In the Fall of 2014 Caltrans construction inspectors identified that the grouting of the tower anchor rods was out of compliance with the contract specifications. A significant effort to support the original contractor responsible for the grouting, American Bridge Flour JV (ABF), was initiated and invested in, but was not completed prior to completion of the overall contract and a judgement was made by Caltrans to end the contract and retain payment for the grout from ABF due to the nonconforming condition of the grout.

Under the direction of the TBPOC an investigation by the project team and an expert panel was carried out that resulted in recommendations to the TBPOC on testing, analysis and ultimately follow-up repair. As the final recommendations for repair depended upon the results of the testing and analysis, recommendations were presented in two phases. Results from the full-size testing and analysis drove a consensus recommendation to the TBPOC to remove existing grout by water blasting and regROUT the anchor rods with a specifically selected backfill grout material accompanied by an

Memorandum

appropriately elevated level of inspection. The TBPOC approved funding for the grout repair during the May 2016 meeting. The grout repair was completed in August 2017, early and under budget.

The successful completion of the T1 Tower anchor rod grouting marks the completion of the tasks directed by the TBPOC on the topic concerning the grout repair. Further, the completion of this field work marks the completion of the structural work of the East Span being performed by the State of California.

It is valuable to note that 18 corrosion sensors were successfully installed deep into the T1 grout and are providing data. It is anticipated that data from those sensors will continue to be collected and analyzed for many years to come. Further on the topic of cathodic protection (CP), it is valuable for the TBPOC to be aware the underwater CP survey at T1 is expected to be completed by end of September 2017.

Images of potential interest that will be presented by staff may include:

- 1) SFOBB SAS & T1 Tower,
- 2) Downward viewing cross-section of the tower base,
- 3) Images of the grout conditions found to be out of contract compliance,
- 4) Project team, Expert Panel and FHWA reviewing work in conference and in the field,
- 5) Water Blasting of questionable grout,
- 6) Borescoping of anchor rod annuli,
- 7) Example of images through a borescope, and
- 8) Example of images taken after grouting of each anchor rod.

Memorandum

TO: Toll Bridge Program Oversight Committee
(TBPOC)

DATE: August 22, 2017

FR: Patrick Treacy, Caltrans Budget and Risk Manager, District 4

RE: Agenda No. - 7

Yerba Buena Island Transition Span 2 Contract –
Item- Transfer Capital Funds from YBITS 3 to YBITS 2
Contract

Recommendation:

Approval

Cost:

\$ 3.3 million (Capital Outlay)

Schedule Impacts:

None if approved

Discussion:

It is requested that \$ 3.3M be transferred from YBITS-3 capital budget to YBITS-2 capital budget for continuing construction of the YBITS2 project to fully fund TBPOC approved changes, other anticipated changes, and replenish the contingency balance for the remainder of the project. Work on the project is expected to be finished in the fall of 2017. It should be noted that work originally contemplated in YBITS-3 is being done in YBITS-2 and we see no need for a separate YBITS-3 contract.

At the May 2017 TBPOC meeting a request for a \$4.8M in funding was approved. This \$4.8M included funds to cover 62 estimated CCO's identified at that time along with a \$1.1M contingency to cover unanticipated changes. It was thought that these funds would allow completion of all known work, however, additional funds are required as explained below.

Status of Project Funds

Previously Identified CCOs within Budget

Since the May 2017 TBPOC meeting, 56 of the 62 CCOs with a projected cost of \$19.3M have met or fallen under the estimated costs. Actual cost for those CCOs total \$19.1M resulting in a \$0.2M savings.

Previously Identified CCOs over Budget

Within the group of CCOs funded at the May, 2017 meeting, there were 6 CCO's estimated at \$1.3M that will exceed the estimated cost. Actual cost for these CCOs is \$3.1M resulting in a \$1.8M overrun. At the time of the May funds request, these 6 CCOs did not have a fully identified scope and cost. With the scope of work more clearly defined at this time, actual costs have now been agreed to or revised estimates have been established.

The major cost increase is for CCO 170 which is for additional work within the limits of the ECS added to the project and approved by the TBPOC at the May meeting as CCO 44. The new work added by CCO 170 places ECS within the limits of Bents W8 & W9 of the east bound YBITS-2 on ramp which is not covered under CCO44. We have an agreed price for CCO 170 of \$1.78 million (CCO 170 is agenda item 8 this meeting for TBPOC approval).

Unanticipated CCOs and Future Added Work

Since the May meeting we've identified additional work that will be covered in 11 CCOs. The total cost of these CCOs is estimated at \$1.8 million. Significant example of these CCO's are:

Utility & Buried Man-Made Obstruction	\$ 380,000
USCG support costs:	\$ 240,000
Conflicts with Existing Facilities:	\$ 600,000
Extended Site Management Costs:	\$ 300,000

The net increase from the 73 CCOs identified above items is \$3.4M in added costs not identified at the May meeting. A portion of these costs would be absorbed by the \$1.1M contingency provided in the May 2017 funds request. The remaining \$2.3M in added costs is part of this funds request..

Potential Additional Risk Management Costs (Not included in this request)

The project Risk Management Team has identified 15 other potential risks and has detailed them in the YBITS2 project Risk Register. The total Risk Management Cost (50% probable) associated with these risks resulted in a forecast cost of \$113.2 million in Q2-2017 and was included in the Q2-2017 Budget Balance Bar (BBB) analyses. The project team is not requesting funding to cover these additional potential costs (\$113.2 million minus \$108.7 million requested here) at this time and a future Supplemental Funds Request may be required if these risks are realized going forward.

The largest remaining known risks are:

Issues with Slopes	\$2.2 million
Delay Costs	\$1.2 million
Mitigating Impacts to USCG	\$1.0 million
Rehab of Local Streets	\$1.0 million
Hazardous Materials	\$0.9 million
Potential Added Scope to Torpedo Rd	\$0.7 million

Memorandum

Request Summary:

It is requested that the \$3.3M in funding currently allocated to the YBITS3 project be transferred to the YBITS2 project to cover the CCO cost overruns outlined above and provide a \$1.0M contingency balance to complete the project.

Identified Additional CCO Costs:	\$3,400,000
May 2017 Contingency	(-\$1,100,000)
<u>August 2017 Contingency: _____</u>	<u>\$1,000,000</u>
 Total:	 \$3,300,000

Recommendation:

Approval of this \$3.3 million additional funding transfer from YBITS3 to YBITS2 to allow completion of the remaining work without delay.

Attachments:

None

Memorandum

TO: Toll Bridge Oversight Committee (TBPOC) **DATE:** August 22, 2017

FR: Deanna Vilcheck, Caltrans Construction Manager for YBITS2

RE: Agenda No. - 08
Item - YBITS-2 Contract Change Order No. 170-S0– Bents W8 and W9 Embankment Confinement System

Recommendation:

APPROVAL

Cost:

YBITS2 CCO # 170-S0: \$1,780,000 Pending Approval

Schedule Impacts: Contract time is deferred. This work is a critical path item. This change order involves additional work activities which may delay completion of the contract. Mitigation measures -- adding more crew and working overtime -- are being implemented in order to maintain a completion date of November 1, 2017.

Discussion:

YBITS-2 Change Order No. 170-S0 **in the amount of \$1,780,000** provides for installing additional Embankment Confinement System (ECS) units and geogrids in the areas within bent lines W8 and W9 of the YBITS-2 east bound on ramp, including required backfill.

At these locations, cement modified structural back fill is shown on the contract drawings but does not exist and therefore we must add ECS to these areas. CCO 44 added ECS on the northern slope (under the SFOBB and YBITS-2 structure) to the contract but did not include the areas under bents W8 and W9. We have an agreed price of \$1.78 million for the CCO, excluding any weather impacts, based upon prices in CCO 44.

Risk Management:

The Q2 2017 Risk Management Report had identified 15 project risks that were reviewed and quantified by the YBITS2 project team. The risks have a probable cost of \$9.8 million ranging from \$6 million to \$14 million. In particular, Risk #22: Unstable Slopes on YBI, was identified to address the slope stability issue being resolved by CCO #170. This risk has a probable cost of \$2.2 million, with a cost range of \$0 to \$4.5 million and was carried in the Q2 2017 project capital cost forecast.

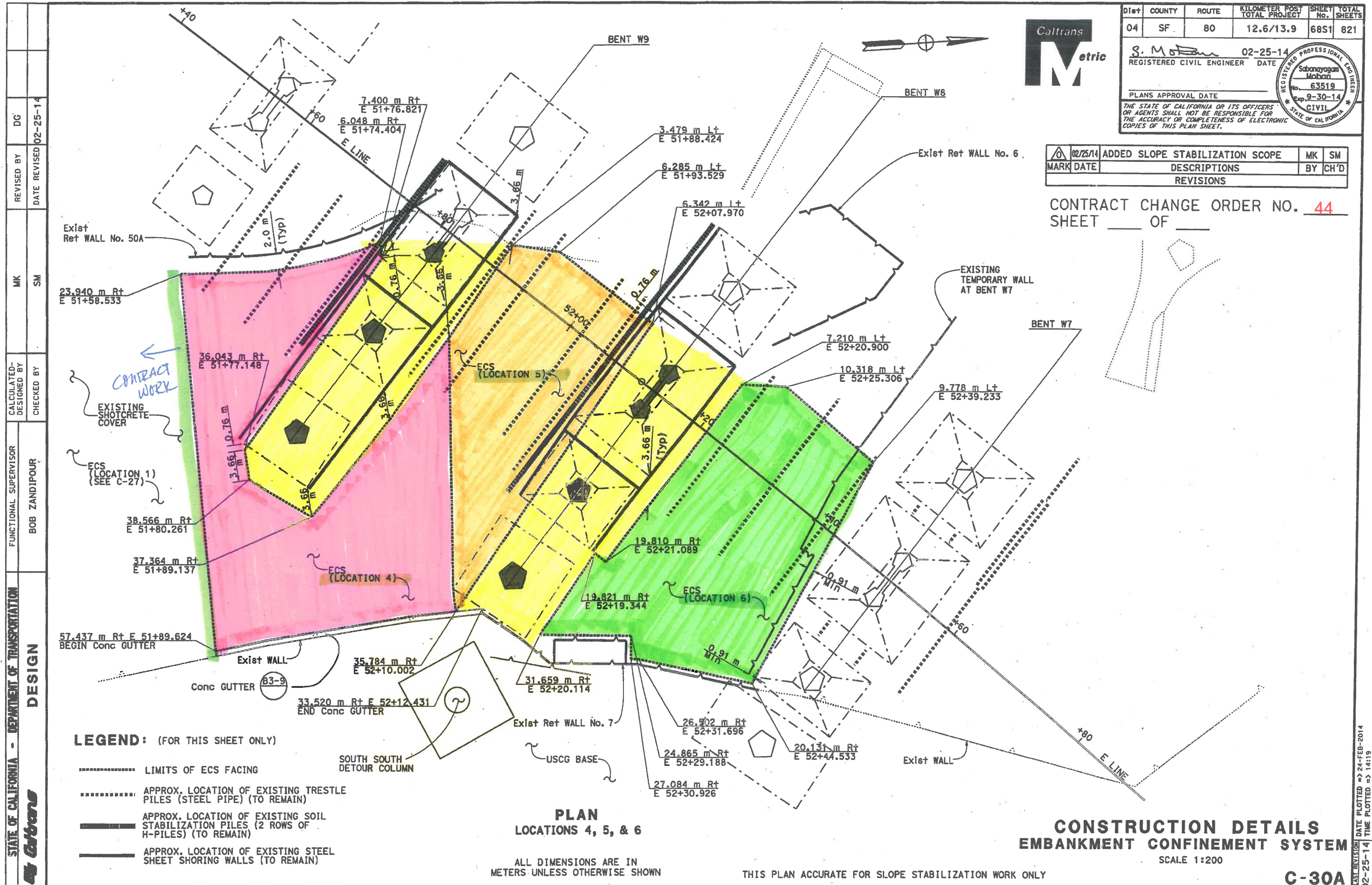
To mitigate this risk in the past, the Department has completed additional soil borings in the area of the goat slope, as part of the South-South-Detour work and advanced some of the additional retaining wall work into the South-South-Detour contract.

Memorandum

Design also incorporated some of the remaining South-South-Detour foundation work into the slope stability analysis, which helped reduce the scope of the final restoration work and decreased the final cost.

Attachment(s):

1. Map of Bent W8 and W9 ECS



Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** August 22, 2017

FR: Dan McElhinney, Caltrans Chief Deputy District Director, District 4 Bay Area
Patrick Treacy, Caltrans Budget and Risk Manager, District 4

RE: Agenda No. - 9
Program Budget/Risks Update for FY 17-18
Item- (Capital Outlay/Capital Outlay Support/Risk Management) – Budget Request

Recommendation:
APPROVAL

Staff will present COS budget estimates, action plan, and recommend TBPOC approval for FY 17-18 COS budget and report on FY 16-17 budget savings status.

Cost Impacts:

Based on the Second Quarter 2017 Risk Management Report, the current Program Capital Outlay Support (COS) Budget is insufficient to complete all remaining work and needs to change to cover the FY 17-18 budget request.

Schedule Impacts:

None

Discussion:

The project team members are happy to report they managed workload and budget very closely to support the TBPOC with savings of \$6 million last fiscal year, of which \$4 million is helping fund this fiscal year. Obtaining in July the permits to accelerate Implosion demolition by one year for early completion this fiscal year, the project team will present this request for \$16 million supplemental funding outlining the detailed estimating process by managers considering the revised workload for staff and key consultants. Also as a good result, the new 3 year COS forecast to finish with the demolition acceleration included does reflect significant savings each year to completion.

Refer to Table A, illustrating how the new permits allowing for early completion resulted in COS forecast savings.

**Table A – NEW PERMITS ALLOW EARLY COMPLETION
COS FORECAST SAVINGS - August 2017 Table**

YEAR	NOV 2016 FORECAST ⁽¹⁾	AUG 2017 FORECAST ⁽²⁾	FORECAST SAVINGS
2018	\$21.0M	\$19.9M	\$1.1M
2019	\$20.0M	\$10M	\$10M
2020	\$14.9M	\$7M	\$7.9M
2021	\$11.2M	\$2.7M	\$8.5M
2022	\$6.0M	\$0	\$6.0M
TOTAL FORECAST SAVINGS AUGUST 2017			\$33.5M

(1) Refer to Attachment 3 - November 2016 East Span CO and COS TBSRP Budget Forecast (Original)

(2) Refer to Attachment 1 - August 2017 East Span CO and COS TBSRP Budget Forecast (Early Completion)

FY 16-17 COS Update

FY 16-17 expenditures through June 2017 are approximately \$18 million with a \$6 million savings compared to the approved budget of \$24 million. Significant team efforts were successful to help manage risks, A&E contracts and staffing levels each month to complete the fiscal year \$6 million below budget.

FY 2017-18 COS Budget Request

At the May 9 TBPOC meeting, the TBPOC approved by a vote of 2-1 to allocate \$4 million of estimated saving from the COS FY 16-17 approved budget to the first quarter of COS FY 17-18 budget. PMT is to review a work plan and budget for COS FY 17/18 and present at the next TBPOC meeting. The cost data shows that approximately \$1.18 million COS (pending final invoices) was expended in month of July.

An estimated budget of \$19.9 million is necessary to continue planned carry-over work from FY 16-17 and also accelerated implosion demolition work in FY 17-18. Assumptions in the budget request include no contingency nor risk reserve for potential scope or schedule changes, which if necessary would be presented to TBPOC as separate supplemental budget requests:

Carry-over Work: \$19.9 million

- YBITS2 including Landscape
- Marine Demo (E6-E18)
- Marine Demo/Retention (E2, E19-23)
- 504/288 Demo, close-out
- SAS: Replace Grouting, Archive and close-out

Memorandum

Risks beyond this request include costs or schedule impacts related to pier retention options, SAS claim/arbitration costs, YBITS2 construction delays, marine foundation permitting, as-built/archiving, expert/peer reviews, or new TBPOC/PMT requests. Risk cost estimates range from \$0 million to \$18 million.

TBSRP Forecast at Completion

The current COS budget for the program as well as at the East Span is not sufficient to cover the FY 17-18 COS budget request, nor to complete the program through FY 2020-21. A budget change is necessary since the remaining budget will be exhausted in the third quarter of FY 17-18.

Based on the Q2 2017 analysis, the budget variance to complete the TBSRP is estimated to be \$47.5 million for the SFOBB East Span, or \$44.0 million for the entire TBSRP (including savings forecast). This represents a \$4.1 million improvement in the SFOBB East Span COS forecast since last quarter. The COS Forecast trend has been improving for the last six quarters, with the forecast decreasing by \$21 million (30%) since it peaked in the fourth quarter of 2015.

Table 1 – Program Budget, Expenditure and Forecast
(\$ in millions)

Project	TBPOC Approved Budget (a)	Expenditures June 2017 (b)	COS Forecast Q2 2017 (c)	Remaining Budget May 2017 (a – b)	Budget Variance* (a – c)
SFOBB East Span	\$1,335.9	\$1,327.3	\$1,383.4	\$8.6	-\$47.5
TBSRP	\$1,902.2	\$1,889.9	\$1,946.2	\$12.3	-\$44.0

NOTE: By July 1, 2017, only about \$8 million will be available in the current approved COS Budget for the SFOBB East Span with \$28.3 million in Program Contingency (Q2 2017 report).

Q2 2017 Risk Management Report Update

The San Francisco-Oakland Bay Bridge Risk Management Coordinator will present a summary of the Q2 2017 Risk Management Report at the TBPOC meeting. The presentation will focus mainly on Q2 2017 cost risk results, risk response actions and a look ahead to Q3 2017 risk management developments.

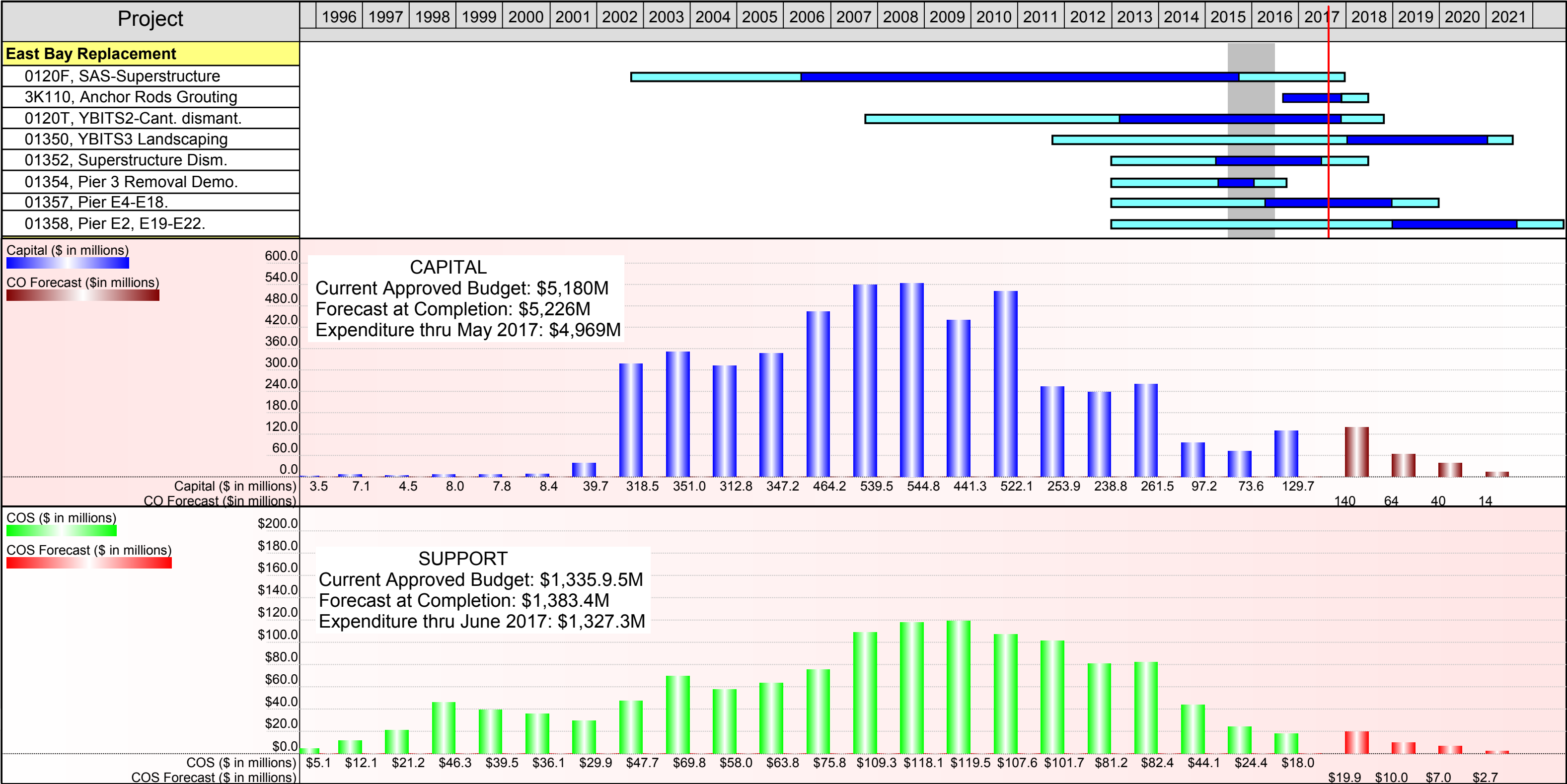
Attachments:

1. August 2017 East Span CO and COS TBSRP Budget Forecast (Early Completion)
2. SFOBB East Span Budget Request (Early Completion)
3. November 2016 East Span CO and COS TBSRP Budget Forecast (Original)

Toll Bridge Seismic Retrofit Program

CO and COS Cash Flow for East Span Projects (Proposed Advanced Schedule for the Marine Foundations)

Expenditure thru June 2017



Notes: 1) CO and COS forecasts are based on 2nd QTR 2017 Financial and Risk Management Reports.
2) Forecasts include 2nd QTR 2017 risk of \$47.5M COS.
3) COS forecasts for future years is being evaluated to reduce up to 25%.

SFOBB East Span Projects
FY 17/18 COS State Staff and A&E Contracts
Budget Request
(with Proposed Advanced Schedule of the Marine Foundations)

Draft
(as of 08/01/17)

Table 1 - State Staff Plan Detail (\$ in thousands)				
Contracts	Division		FY17/18 Proposed FTE	FY17/18 Proposed Budget Dlr
REGULAR PROJECTS	CONST	TB Const - D04	10.55	\$2,587
		TB Const - D59	5.37	\$1,434
		CONST	2.06	\$420
	CONST Total		18.0	\$4,442
	TB DGN	TB DGN	3.53	\$1,122
	TOLL BR DGN Total		3.5	\$1,122
	Dist 4 Support	DESIGN	0.40	\$86
		MGMT	4.01	\$1,207
		ENV	3.55	\$845
		EXT_AFFAIRS	0.19	\$36
		ROW	0.46	\$110
		TRAFFIC OPER	0.72	\$210
		MAINT	0.09	\$19
		ADMIN	0.03	\$5
		Dist 4 Support Total		9.4
	ENGR SVCS Support	ENGR SVCS DGN	0.79	\$173
		ENGR SVCS METS/GEO	1.05	\$221
		ENGR SVCS MGMT	0.17	\$48
		ENGR SVCS OE	0.24	\$59
	ENGR SVCS Support Total		2.3	\$501
REGULAR PROJECTS Total			33.2	\$8,582
RODS/GROUT REPAIR	CONST	TB Const - D04	0.48	\$117
		TB Const - D59	1.23	\$328
		CONST	0.06	\$12
	CONST Total		1.8	\$457
	TB DGN	TB DGN	0.06	\$20
	TOLL BR DGN Total		0.1	\$20
	Dist 4 Support	MGMT	0.19	\$58
	Dist 4 Support Total		0.2	\$58
	ENGR SVCS Support	ENGR SVCS METS/GEO	0.31	\$66
ENGR SVCS Support Total		0.3	\$66	
RODS/GROUT REPAIR Total			2.3	\$601
CATHODIC PROTECTION	TB DGN	TB DGN	0.50	\$159
	TOLL BR DGN Total		0.5	\$159
	Dist 4 Support	MGMT	0.19	\$56
	TOLL BR DGN Total		0.2	\$56
CATHODIC PROTECTION Total			0.7	\$216
Grand Total			36.2	\$9,398

Additional Notes*:

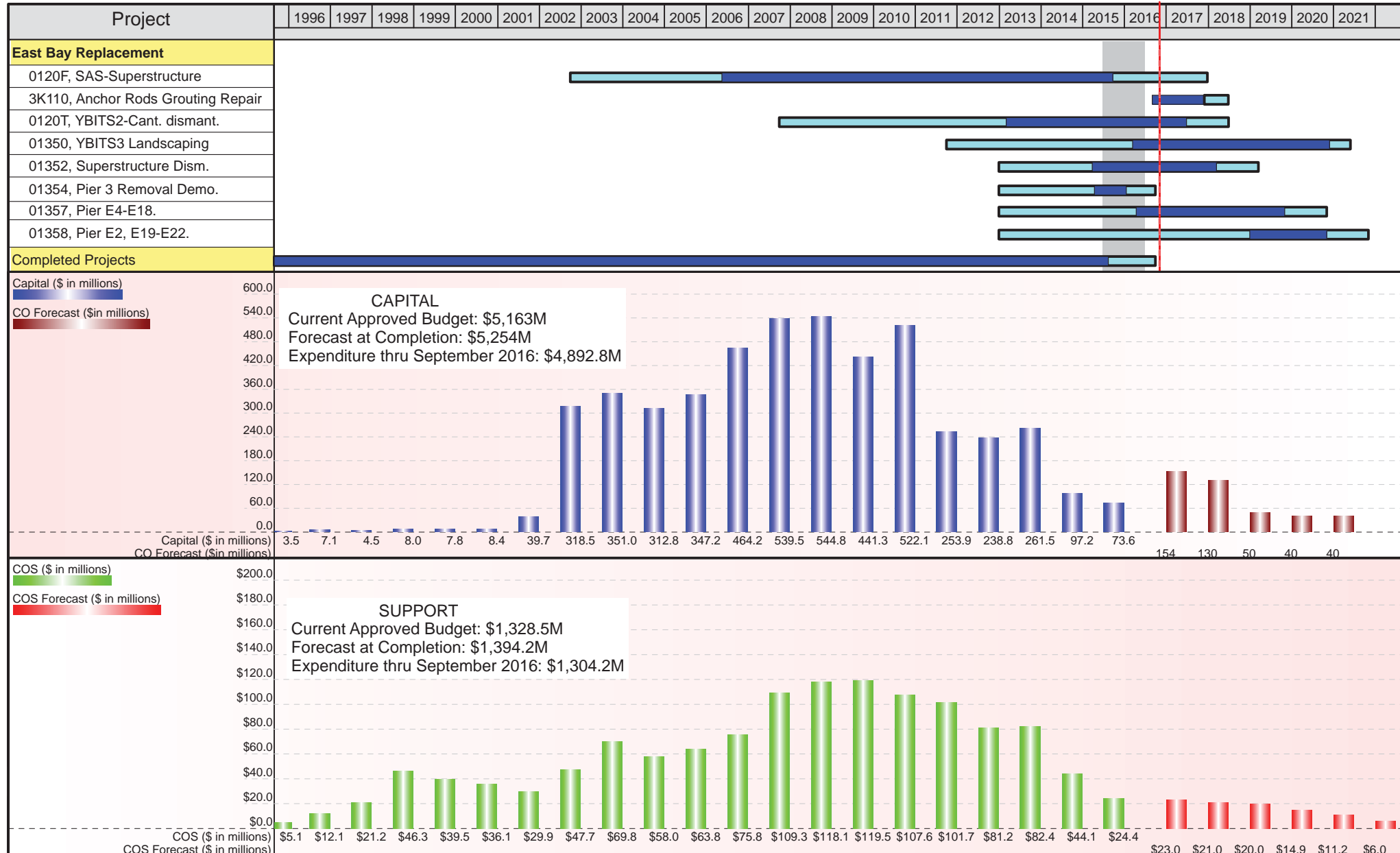
- Assumptions in this COS Budget Action Plan include no contingency or risk reserve for scope or schedule changes at this time, as these changes will only be presented as separate future budget requests if unmitigated risks, scope or schedule changes occur.
- COS savings within contracts listed above will be shifted to other contracts within the same list if needed.
- A&E Budgets listed were developed in task order discussions to balance workload, expertise, and cost effectiveness within budgets shown.

Table 2 - A&E Contracts Plan Detail (\$ in thousands)						
Work Description	Division	Contract	Vendor	Scope of Services	Task Manager	FY17/18 Proposed Budget Dlr
REGULAR PROJECTS	ENV	04A4712	AECOM	Env	Stefan G.	\$2,030
		04A4969	BROWN AND CALDWELL	Env	Hardeep T.	\$1,772
		04A3970	SF Bay Conser. & Dev. Comm	Env	Stefan G.	\$80
		04A4312	WRECO	Env	Hardeep T.	\$0
		04A4506	WATER BOARD	Env	Hardeep T.	\$115
		04A4535	IBR	Env	Stefan G.	\$30
	DESIGN	04.0135CM	Kiewit/Manson JV	Design	Chris T.	\$0
		04A0148	PB AMERICAS INC	Design	John U.	\$400
		59A0040	TY LIN M/N JV	Design	Hasan E.	\$2,600
	METS	04A4542	ALTAVISTA	METS	Keith H.	\$440
	GEO	04A4534	EMI	Geotech Eng	Saba M.	\$1,000
	CONST	04A4611	CH2M HILL	Claims	Deanna V.	\$200
	MGMT	04A4265	CALTROP ENG. Risk	Risk Mgmt	Patrick T.	\$90
		04A5045	HNTB	Mgmt	Dan M.	\$812
REGULAR PROJECTS Total				\$9,569		
RODS/GROUT REPAIR	ENV	04A4712	AECOM	ENV	Stefan G.	\$20
	DESIGN	59A0040	TY LIN M/N JV	Design	Hasan E.	\$100
	METS	04A4542	ALTAVISTA	METS	Keith H.	\$280
RODS/GROUT REPAIR Total				\$400		
CATHODIC PROTECTION	DESIGN	59A0040	TY LIN M/N JV	Design	Hasan E.	\$550
CATHODIC PROTECTION Total				\$550		
Grand Total				\$10,519		

Action Notes:

- Finalize task orders with A&E firms to deliver scope of services within budget for each contract.
- Revise all task orders to be within the budget of each contract and to end on June 30, 2018.

Toll Bridge Seismic Retrofit Program CO and COS Cash Flow for East Span Projects Expenditure thru September 2016



Notes: 1) CO and COS forecasts are based on 3rd QTR 2016 Financial and Risk Management Reports.
 2) Forecasts include 3rd QTR 2016 risk of \$91.0M CO, and \$65.7M COS.
 3) COS forecasts for future years is being evaluated to reduce up to 25%.

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** August 22, 2017
FR: Dan McElhinney, Caltrans Chief Deputy District Director, District 4 Bay Area
RE: Agenda No. - 10

Item- TBPOC Policy and Procedures on Closed Sessions

**Recommendation:
Information**

Discussion:

On April 19, 2016, the TBPOC previously approved by a vote of 3-0 to ask the Attorney General to appoint a member of the AG office to advise the TBPOC on the Bagley Keene Act. The TBPOC will discuss the status of their request and determine next steps at the August 29th TBPOC meeting.

Memorandum

TO: Toll Bridge Program Oversight Committee
(TBPOC)

DATE: August 22, 2017

FR: Peter Lee, Principal, BATA

RE: Agenda No. - 11

Item- 2017 Second Quarter Project Progress and Financial Update

Recommendation:

Approval

Cost:

N/A

Schedule Impacts:

N/A

Discussion:

Staff will present the draft 2017 Second Quarter Project Progress and Financial Update Report at the August 29th 2017 TBPOC meeting for approval.

Attachment:

Draft 2017 Second Quarter Project Progress and Financial Update (v3.1)



San Francisco Bay Area Toll Bridge Seismic Retrofit Program

2017 Second Quarter
Project Progress and Financial Update



TOLL BRIDGE PROGRAM
OVERSIGHT COMMITTEE

CITY AND COUNTY OF SAN FRANCISCO • CALIFORNIA TRANSPORTATION COMMISSION

Released: August 2017



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

August 16, 2017

Mr. Daniel Alvarez
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. Alvarez and Wilson:

The Toll Bridge Program Oversight Committee (TBPOC) is pleased to submit the 2017 Second Quarter Project Progress and Financial Update, for the San Francisco Bay Area Toll Bridge Seismic Retrofit and Regional Measure 1 Programs (TBSRP and RM1), prepared pursuant to California Streets and Highways Code Section 30952.

The TBPOC was established by Assembly Bill 144 in 2005 to oversee the delivery of the TBSRP and consists of the Executive Director of the Bay Area Toll Authority (BATA), the Director of the California Department of Transportation (Caltrans), and the Executive Director of the California Transportation Commission (CTC). With the opening of the new east span of the San Francisco-Oakland Bay Bridge to traffic on September 2, 2013, all seven state-owned toll bridges in the Bay Area have now achieved seismic safety, either via retrofit, or replacement of existing structures.

Caltrans is proceeding with a number of contracts to remove the old east span of the SFOBB and complete remaining work on Yerba Buena Island (YBI). A new temporary vista point constructed in cooperation with the San Francisco County Transportation Authority and other stakeholders was opened to the public on Yerba Buena Island on May 2, 2017. The marine foundation demolition contractor is in the process of preparing the remaining marine foundations for future implosion.

In 2016, Caltrans obtained environmental approvals to remove marine foundations E6 to E18 by implosion and had planned implosions over the next two years. However, removal of the superstructure trusses has advanced faster than expected, and provides Caltrans and their marine demolition contractor the opportunity to complete all implosions by the end of this calendar year. At the end of July 2017, Caltrans obtained the revised environmental approvals to implode the remaining piers this year. This year Caltrans is combining multiple pier implosions on demolition dates, saving a year of work and over \$10 million with a six-weekend implosion schedule from September 2 through November 11, 2017. The Pier E3 Demonstration project received FHWA's 2017 Environmental Excellence in Transportation Award.

The legislature established the TBSRP to seismically retrofit seven state-owned long span toll bridges and provided an \$8.685 billion budget to accomplish the work. In 2010, the legislature added two additional long span bridges (Antioch & Dumbarton) to the TBSRP and augmented the program's budget by \$750 million, thus creating a nine bridge TBSRP with a \$9.435 billion budget. Based upon successful completion of the Antioch and Dumbarton Bridge seismic retrofits with substantial savings, and projected TBSRP risks for demolition of the old east span, the TBPOC reduced the TBPOC approved program budget by \$483 million, bringing the current TBPOC approved budget to \$8.952 billion.

On program risks, each contract has a contingency allowance within its budget. The sum of these contingency allowances is compared to the total of capital outlay, capital outlay support and program-wide risks. Any excess of the risks over the contingency allowances represents a potential draw on the program contingency. The program contingency is currently \$28.3 million in accordance with the TBPOC approved budget. As of the end of the second quarter of 2017, the 50 percent probable draw on program contingency is \$100.5 million. The potential draw ranges from \$25 million to \$175 million. Per the latest (June 2017) forecast, the \$8.952 billion TBPOC approved budget may be insufficient to cover the cost of identified risks and it is possible that BATA will need to allocate toll funds from its reserves to pay for the remaining TBSRP work. Should Caltrans successfully implode the remaining marine foundations this year, the TBPOC expects forecasted risks and costs to be reduced significantly.

The TBPOC is committed to providing the Legislature and the CTC 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,

MALCOLM DOUGHERTY
TBPOC Chair
Director
California Department of
Transportation

STEVE HEMINGER
Executive Director
Bay Area Toll Authority

SUSAN BRANSEN
Executive Director
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

August 16, 2017

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

Ms. Fran Inman, Vice-Chair
California Transportation Commission
1120 N Street, Room 2221
Sacramento, CA 95814

Dear Mr. Alvarado and Ms. Inman:

The Toll Bridge Program Oversight Committee (TBPOC) is pleased to submit the 2017 Second Quarter Project Progress and Financial Update, for the San Francisco Bay Area Toll Bridge Seismic Retrofit and Regional Measure 1 Programs (TBSRP and RM1), prepared pursuant to California Streets and Highways Code Section 30952.

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The TBPOC is committed to providing the Legislature and the CTC 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,

MALCOLM DOUGHERTY
TBPOC Chair
Director
California Department of
Transportation

STEVE HEMINGER
Executive Director
Bay Area Toll Authority

SUSAN BRANSEN
Executive Director
California Transportation Commission



Program Management Team

Andrew Fremier
Bay Area Toll Authority
Metropolitan Transportation Commission

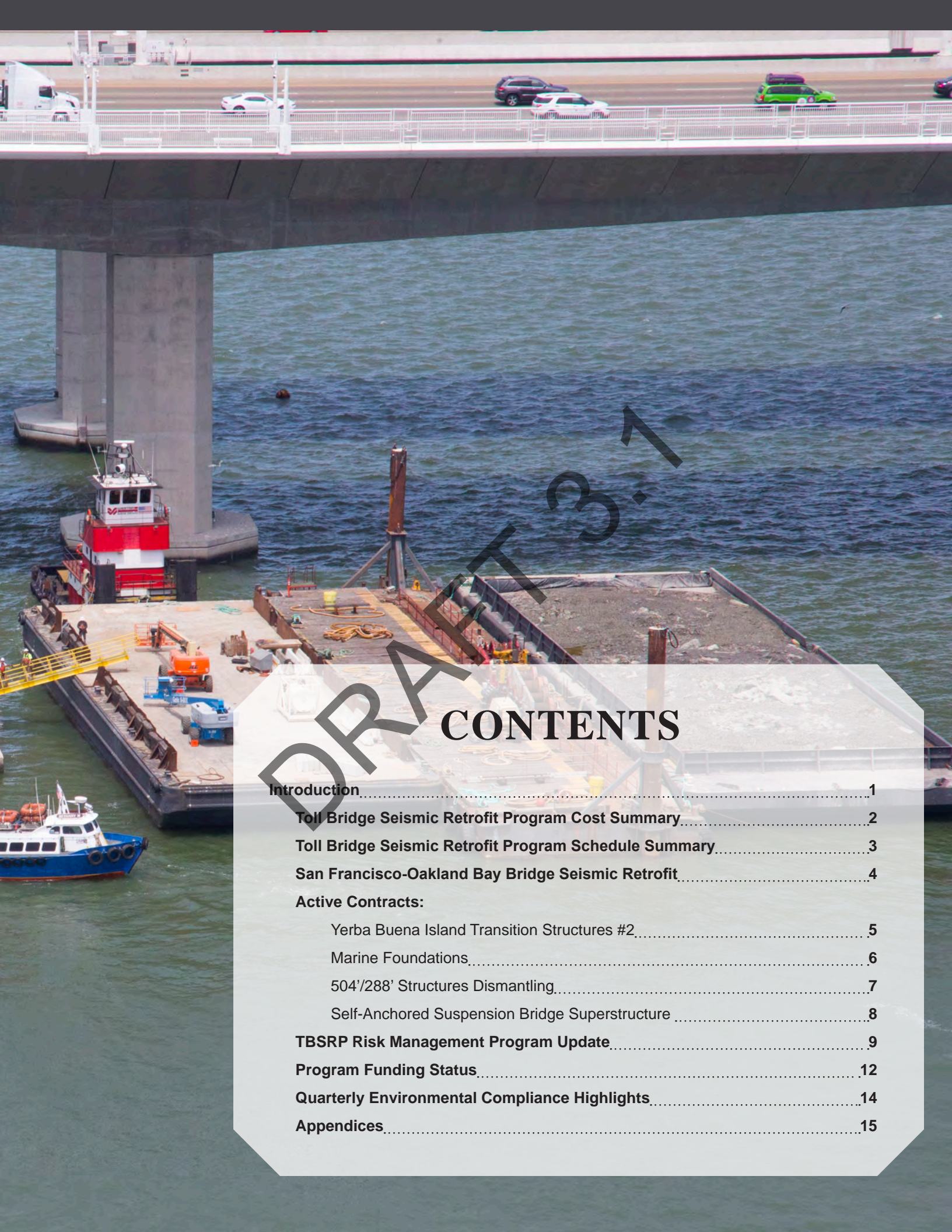
Stephen Maller
California Transportation Commission

Dan McElhinney
Caltrans District 4 - Bay Area

Brian Maroney
Caltrans, SFOBB Chief Engineer

Photo Credits:

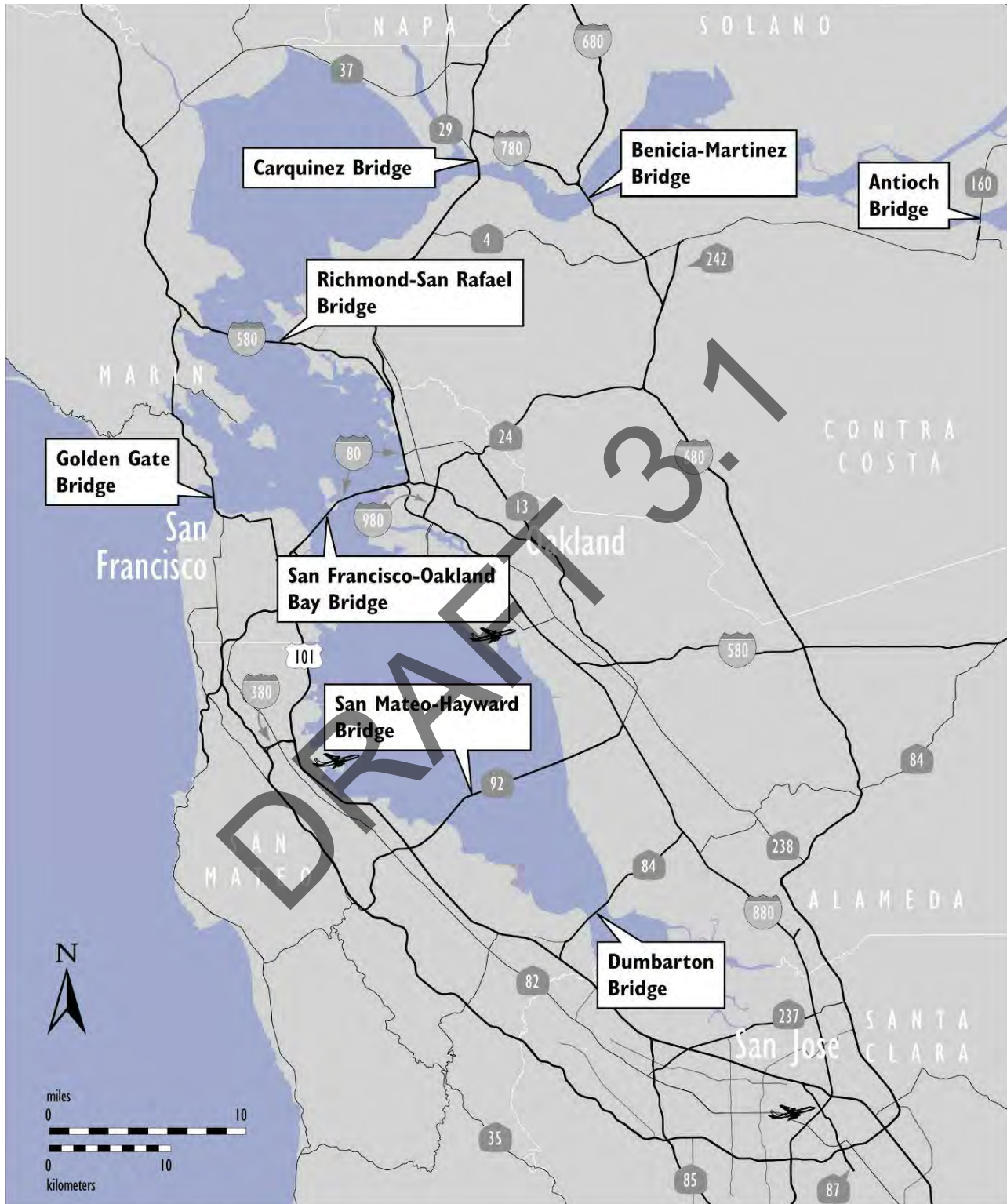
Caltrans: cover page, all other pages (unless otherwise noted)
Sam Burbank: photos on pages 8 & 16



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San Francisco Bay Area Toll Bridges



* The Golden Gate Bridge is owned and operated by the Golden Gate Bridge, Highway and Transportation District.

San Francisco Bay Area Toll Bridges

In July 2005, Assembly Bill (AB) 144 (Hancock) created the Toll Bridge Program Oversight Committee (TBPOC) to implement a project oversight and project control process for the new Benicia-Martinez Bridge and State Toll Bridge Seismic Retrofit Program (TBSRP) projects. The TBPOC consists of the Director of the California Department of Transportation (Caltrans), the Executive Director of the Bay Area Toll Authority (BATA) and the Executive Director of the California Transportation Commission (CTC). The TBPOC's project oversight and control processes include, but are not limited to, reviewing bid specifications and documents, reviewing and approving significant change orders and claims in excess of \$1 million (as defined by the TBPOC), and keeping the Legislature and others apprised of current project progress and status. In January 2010, Assembly Bill (AB) 1175 (Torlakson) amended the TBSRP to include the Antioch and Dumbarton Bridges seismic retrofit projects. The current TBSRP is as follows:

Toll Bridge Seismic Retrofit Projects	Seismic Safety Status
Dumbarton Bridge Seismic Retrofit	Complete
Antioch Bridge Seismic Retrofit	Complete
San Francisco-Oakland Bay Bridge East Span Replacement	Complete*
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
1958 Carquinez Bridge Seismic Retrofit	Complete
1962 Benicia-Martinez Bridge Seismic Retrofit	Complete
San Diego-Coronado Bridge Seismic Retrofit	Complete
Vincent Thomas Bridge Seismic Retrofit	Complete

* The seismic safety opening of the bridge occurred in September 2013. Remaining work on the project is the removal of the old bridge structure.

Toll Bridge Seismic Retrofit Program Cost Summary (Millions)

	Contract Status	AB 144/ SB 66/ AB 1175 Budget	TBPOC Approved Changes	Current TBPOC Approved Budget (June 2017)	Cost to Date (June 2017)	Current Cost Forecast (June 2017)	Cost Variance	Cost Status
		a	b	c = a + b	d	e	f = e - c	
SFOBB East Span Seismic Replacement								
Capital Outlay Construction								
Skyway	Completed	1,293.0	(55.8)	1,237.2	1,235.6	1,236.1	(1.1)	●
SAS Tower Anchor Rod Grouting	Construction			12.0	7.0	9.3	(2.7)	●
SAS Marine Foundations	Completed	313.5	(38.7)	274.8	274.8	274.8	-	●
SAS Superstructure	Completed	1,753.7	281.1	2,034.8	1,973.3	2,036.8	2.0	●
YBI Detour	Completed	131.9	341.4	473.3	473.4	473.4	0.1	●
YBI Transition Structures (YBITS)		299.3	13.6	312.9	299.6	319.3	6.4	
YBITS 1	Completed			203.7	203.2	203.8	0.1	●
YBITS 2	Construction			105.9	96.4	115.5	9.6	●
YBITS Landscaping	Design			3.3	-	-	(3.3)	●
Oakland Touchdown (OTD)		283.8	46.8	330.6	326.5	326.5	(4.1)	
OTD 1	Completed			205.3	202.8	202.8	(2.5)	●
OTD 2	Completed			72.6	71.2	71.2	(1.4)	●
Detour	Completed			47.0	46.7	46.7	(0.3)	●
OTD Electrical Systems	Design			-	-	-	-	●
Submerged Electric Cable	Completed			5.7	5.7	5.7	-	●
Existing Bridge Dismantling		239.2	82.3	321.5	209.8	372.5	51.0	●
Cantilever Section	Completed			69.0	68.5	69.0	-	●
504/288 Sections	Construction			103.5	72.2	82.2	(21.3)	●
Marine Foundations				149.0	69.2	221.4	72.4	●
Pier-3 Demonstration Project	Completed			17.5	16.8	16.8	(0.7)	●
Remaining Marine Foundations	Construction			131.5	52.3	204.5	73.0	●
Stormwater Treatment Measures	Completed	15.0	3.3	18.3	16.9	16.9	(1.4)	●
Other Completed Projects	Completed	90.4	(0.5)	89.9	90.0	90.0	0.1	●
Capital Outlay Support		959.3	376.6	1,335.9	1,320.9	1,383.4	47.5	●
Right-of-Way and Envir. Mitigation		72.4	-	72.4	60.9	70.0	(2.4)	●
Other Budgeted Capital		35.1	(32.8)	2.3	0.7	0.7	(1.6)	●
Total SFOBB East Span Replacement		5,486.6	1,029.3	6,515.9	6,289.4	6,609.7	93.8	●
Antioch Bridge Seismic Retrofit								
Capital Outlay Construction and Mitigation	Completed	-	24.1	24.1	24.1	24.2	0.1	●
Capital Outlay Support		-	47.0	47.0	47.0	47.0	-	●
Total Antioch Bridge Seismic Retrofit		267.0	71.1	71.1	71.1	71.2	0.1	●
Dumbarton Bridge Seismic Retrofit								
Capital Outlay Construction and Mitigation	Completed	-	46.0	46.0	47.4	47.5	1.5	●
Capital Outlay Support		-	66.4	66.4	64.4	64.8	(1.6)	●
Total Dumbarton Bridge Seismic Retrofit		483.0	112.4	112.4	111.8	112.3	(0.1)	●
Program Completed Projects	Completed	2,268.4	(74.1)	2,194.3	2,168.9	2,174.1	(20.2)	
Miscellaneous Program Costs		30.0	-	30.0	25.5	25.5	(4.5)	●
Net Programmatic Risks		-	-	-	-	31.4	31.4	●
Program Contingency*		900.0	(871.7)	28.3	-	-	(28.3)	●
Total Toll Bridge Seismic Retrofit Program*		9,435.0	(483.0)	8,952.0	8,666.8	9,024.2	72.2	●

*AB144/SB66 established a funding level of \$8.685 Billion in July 2005 for TBSRP. AB1175 added the retrofitting of the Antioch and Dumbarton Bridges in January 2010, providing another \$750 million in funding, bringing Total Toll Seismic Retrofit Program funding to \$9.435 Billion. Since 2010, \$483 million has been removed from the program, bringing the current TBPOC Approved Budget to \$8.952 Billion. The \$483 million removed consisted of:

Antioch Savings (4/12/10) \$137 million - Dumbarton Savings (9/02/10) \$216 million - Program Contingency Redirection (11/05/13) \$130 million, the current TBPOC approved Program Budget is \$8,952 million.

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

Toll Bridge Seismic Retrofit Program Schedule Summary

	AB 144/SB 66 Project Completion Schedule Baseline (July 2005)	TBPOC Approved Changes (Months)	Current TBPOC Approved Completion Schedule (June 2017)	Current Completion Forecast (June 2017)	Schedule Variance (Months)	Schedule Status
	g	h	i = g + h	j	k = j - i	l
SFOBB East Span Seismic Replacement						
Contract Completion						
Skyway	Apr 2007	8	Dec 2007	Dec 2007	-	●
SAS Marine Foundations	Jun 2008	(5)	Jan 2008	Jan 2008	-	●
SAS Superstructure	Mar 2012	42	Sep 2015	Sep 2015	-	●
YBI Detour	Jul 2007	39	Oct 2010	Oct 2010	-	●
YBI Transition Structures (YBITS)	Nov 2013	36			-	
YBITS 1			Feb 2014	Feb 2014	-	●
YBITS 2			Jun 2017	Nov 2017	(5)	●
Oakland Touchdown	Nov 2013	10				
OTD 1			Jun 2010	Jun 2010	-	●
OTD 2			Sep 2015	Sep 2015	-	●
Submerged Electric Cable			Jan 2008	Jan 2008	-	●
Existing Bridge Dismantling	Sep 2014	51	Dec 2018	Dec 2017	-	●
Cantilever Section ⁽²⁾			Jul 2015	Jul 2015	-	●
504/288 Sections			Mar 2018	Jun 2017*	9	●
Marine Foundations						
E3 Foundation Removal Demo Project			Jan 2016	Jan 2016	-	●
E4 - E18 Foundation Removal			Dec 2018	Dec 2017	12	●
Stormwater Treatment Measures			Mar 2008	Mar 2008	-	●
SFOBB East Span Bridge Opening and Other Milestones						
Westbound Seismic Safety Open	Sep 2011	24	Sep 2013	Sep 2013	-	●
Eastbound Seismic Safety Open	Sep 2012	12	Sep 2013	Sep 2013	-	●
Bike/Ped Path to YBI Landing			Dec 2015	Oct 2016	-	●
Eastbound On-Ramp			Jun 2016	Jun 2016		●

* Substantial completion date

- Within approved schedule and budget
- Identified potential project risks that could significantly impact approved schedules and budgets if not mitigated
- Known project impacts with forthcoming changes to approved schedules and budgets

San Francisco-Oakland Bay Bridge East Span Replacement Project

Seismic Retrofit

Rather than a seismic retrofit, the two-mile long east span of the San Francisco-Oakland Bay Bridge has been completely rebuilt. The new east span consists of several different sections, yet appears as a single streamlined span. The eastbound and westbound lanes of the east span no longer include upper and lower decks. The lanes are side-by-side, providing motorists with expansive views of the bay. These views are also enjoyed by bicyclists and pedestrians, thanks to a new bicycle/pedestrian path on the south side of the bridge that will extend all the way to Yerba Buena Island. The new span features the world's longest Self-Anchored Suspension (SAS) bridge that connects to an elegant roadway supported by piers (Skyway), which gradually slopes down toward the Oakland shoreline (Oakland Touchdown).



San Francisco-Oakland Bay Bridge East Span Replacement Project

Yerba Buena Island Transition Structures (YBITS)

YBITS 2 - Eastbound On-Ramp and Cantilever Dismantling Contract

Approved Capital Outlay Budget: \$105.9 M

Contractor: CEC & Silverado, JV

Status: 92% Complete as of June 2017

The YBITS 2 contract involves dismantling the detour viaduct, constructing a new eastbound on-ramp to the bridge, completing the bicycle/pedestrian path to Yerba Buena Island, and dismantling of the cantilever.

The contract was awarded to California Engineering Contractors Inc./Silverado Contractors Inc., Joint Venture on November 28, 2012. Initial startup activities and submittals began in March 2013, with actual dismantling starting after the seismic safety opening on Labor Day weekend 2013.

Status: Cantilever removal was completed in July 2015. The eastbound on-ramp was opened June 2, 2016. The pedestrian/bicycle path opened October 2016. Work on YBI Slope Embankment on Yerba Buena Island is ongoing.

YBI Transition Structures and Self Anchored Suspension Bridge Superstructure, looking west.



San Francisco-Oakland Bay Bridge East Span Replacement Project

Former East Span Bridge Dismantling

Marine Foundations Removal

Approved Capital Outlay Budget:

\$17.5 M for Pier E3

\$131.5 M for Piers E4 - E18

Contractor: Kiewit/Manson

The original east span of the San Francisco-Oakland Bay Bridge was supported by 21 in-water bridge piers, Piers E2 through E22, along with land based piers at Yerba Buena Island and Oakland. Part of this project is the demolition of Pier E3, which is located 1,535 feet east of Yerba Buena Island and on the east side of a 50-foot deep navigation channel.

The original authorization covered the dismantling of the piers via mechanical means such as saw cutting, flame cutting, mechanical splitting or pulverizing, and hydro-cutting, but did not cover the use of controlled implosion.

Caltrans proposed to remove Pier E3 as a pilot/ demonstration project for the effective use of controlled charges to remove the marine foundations of the original SFOBB. Dismantling of Pier E3 used controlled charges and was completed in four phases: 1) mechanical dismantling of pier cap and fender system, 2) drilling of bore holes into caisson and buttress walls and installing a blast attenuation system (BAS), 3) installing charges, activating the BAS and imploding the pier, and 4) management and removal of remaining dismantling pier debris. The pier was removed to -51 feet.

Mechanical dismantling would have required the installation of a cofferdam around Pier E3, which would have required 394 piles of various types. Pile driving alone would take approximately four years, while the four phases of the demonstration project would occur within six months. Using this method is a significant cost risk to the program.

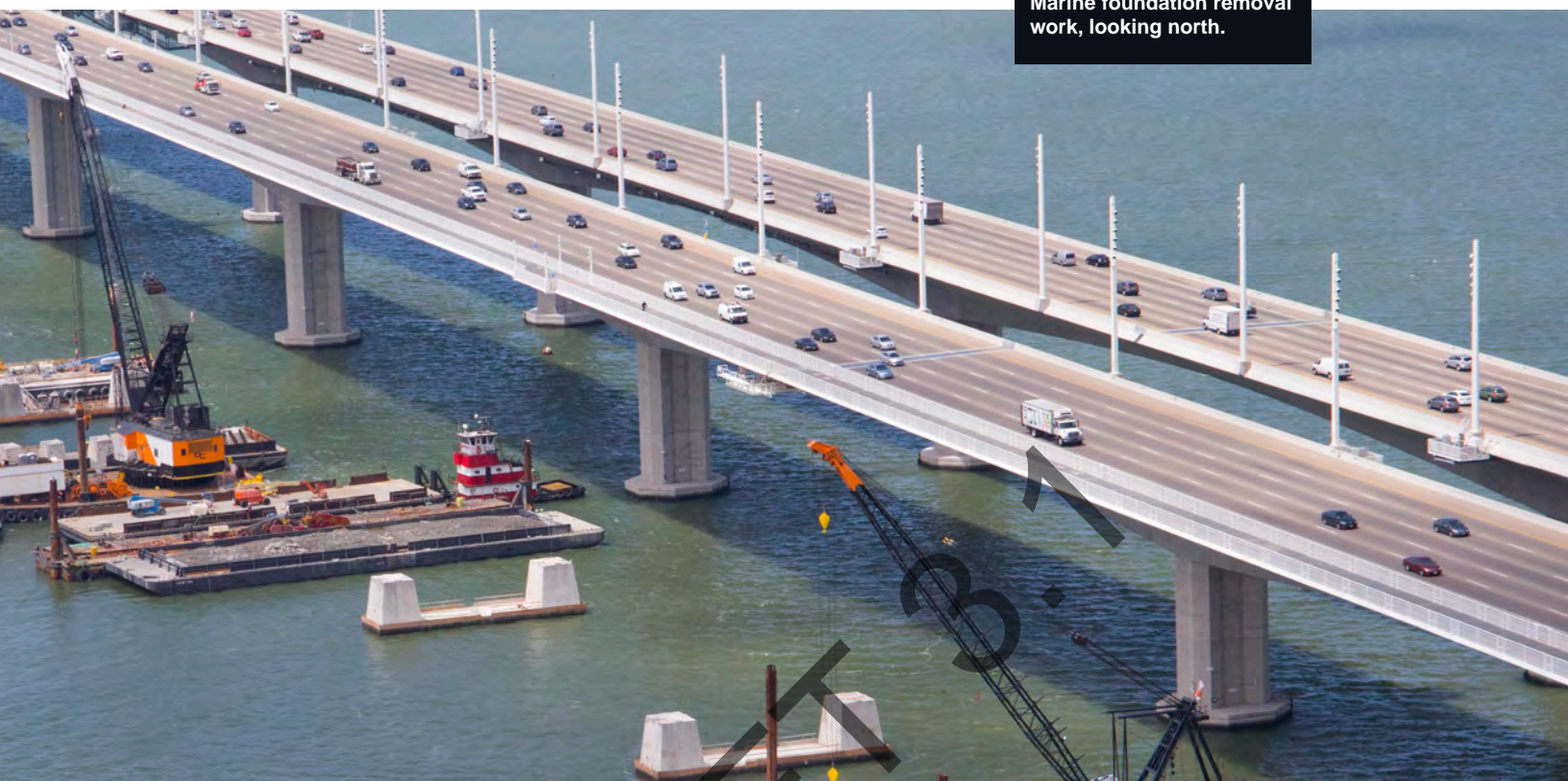
The marine foundation removal is a CMGC (Construction Manager / General Contractor) contract and the selected CMGC contractor is a Kiewit Manson team (KM).



Piers E4 - E18:

The contract was awarded to the KM team in April 2016. Marine foundations E5 and E4 were demolished by implosion in October 2016. Caltrans obtained environmental permits to remove marine foundations E4 through E18 by implosion. The removal of the superstructure trusses has advanced faster than expected, and provides Caltrans and their marine demolition contractor the opportunity to complete all implosions by the end of this year. Caltrans is currently seeking environmental approvals to implode all piers this year, and in parallel, is seeking permits from resource agencies for a "retain in place" for Foundations E2, and E19 through E22.





Marine foundation removal work, looking north.

504'/288' Superstructure Dismantling

Approved Capital Outlay Budget: \$103.5 M

Contractor: CEC & Silverado JV

Status: 99% Complete as of June 2017

The contractor sequenced the bridge removal operations into seven phases of dismantling. These phases begin with the upper deck and initial truss removal operations, through the removal of the 504' and 288' steel truss spans, to the removal of the supporting steel columns.

Status: The upper deck of the old span was removed to lighten the bridge. The first 504' main truss (out of five) was lowered down to barges in February 2016, and the last 504' section was lowered in August 2016. The first out of fourteen 288' sections was lowered in November 2016 and the last section was lowered in March 2017. The project reached substantial completed as of June 2017.

San Francisco-Oakland Bay Bridge East Span Replacement Project

Self-Anchored Suspension Bridge Superstructure Contract

Approved Capital Outlay Budget: \$2.05 B

Contractor: American Bridge/Fluor Enterprises, JV

Status: 100% Completed

The self-anchored suspension span (SAS) of the bridge is not just another suspension bridge. Rising 525 feet above mean sea level and embedded in bedrock, the single-tower SAS span is designed to withstand a massive earthquake. Traditional main cable suspension bridges have twin cables with smaller suspender cables connected to them. While there appears to be two main cables on the SAS, it is actually a single continuous cable. This single cable is anchored within the eastern end of the roadway, carried over the tower and then wrapped around the two side-by-side decks at the western end.

The single-steel tower is made up of four separate legs connected by shear link beams, which function much like a fuse in an electrical circuit. These beams will absorb most of the impact from an earthquake, preventing damage to the tower legs.



Self Anchored Suspension Bridge Superstructure, looking east.

Status: The TBPOC authorized Caltrans to close out the Self-Anchored Suspension (SAS) span contract with the joint venture of American Bridge/Fluor (ABF). The contract is to be closed out under the terms and conditions consistent with the findings of the July 2013 TBPOC meeting investigative report that found three parties – the contractor, designer, and Caltrans – responsible for the failure of the high-strength rods on the east pier (E2) of the SAS, and the \$24 million cost of the “saddle retrofit” repair. The contract was accepted in September 2015 and is currently under the Public Works Arbitration Program, where the contractor’s claim will be reviewed.

In May 2016, the Toll Bridge Program Oversight Committee (TBPOC) approved the re-grouting of the tower anchor rods based on recommendations from Caltrans and the peer review group. A contract for \$8.5 million was expeditiously awarded to the apparent low bidder on October 10, 2016. All re-grouting work was completed as of June 2017.

Risk Management Program Update

POTENTIAL DRAW ON PROGRAM RESERVE (PROGRAM CONTINGENCY)

Caltrans continues to implement comprehensive risk management on all TBSRP projects in accordance with AB 144. Cost Risk response efforts continue to focus on mitigating the estimated cost and schedule impacts of identified risks. The “bottom line” of cost risk analysis is whether the Program Contingency remains adequate to cover all identified risks.

Each contract has a contingency allowance within its budget. The sum of these contingency allowances is compared to the total of capital outlay, capital outlay support and program-wide risks. Any excess of the risks over the contingency allowances represents a potential draw on the program contingency. The program contingency, as of the second quarter 2017, is currently \$28.3 million in accordance with the TBPOC approved budget. As of the end of the second quarter of 2017, the 50 percent probable draw on program contingency is \$100.5 million. The potential draw ranges from about \$25 million to \$175 million (refer to Figure 1). The \$100.5

million probable draw on program contingency gives a forecast deficit of \$72.2 million at program completion to the current approved program budget. This represents an \$8.9 million improvement in the program’s bottom line since last quarter. The bottom line trend has been improving for the last six quarters, with the forecast deficit decreasing by \$71 million (50%) since in peaked at \$143.2 million in the third quarter of 2015.

Since 2010, the TBPOC has approved the removal of \$483 million from the TBSRP budget (consisting of Antioch Savings (4/12/10) \$137 million, Dumbarton Savings (9/02/10) \$216 million and Program Contingency Redirection (11/05/13) \$130 million), bringing the current approved program budget to \$8.952 billion. The program contingency is currently insufficient to cover the cost of identified risks and it is likely that BATA will need to allocate additional toll funds from its reserves to pay for the remainder of the work.

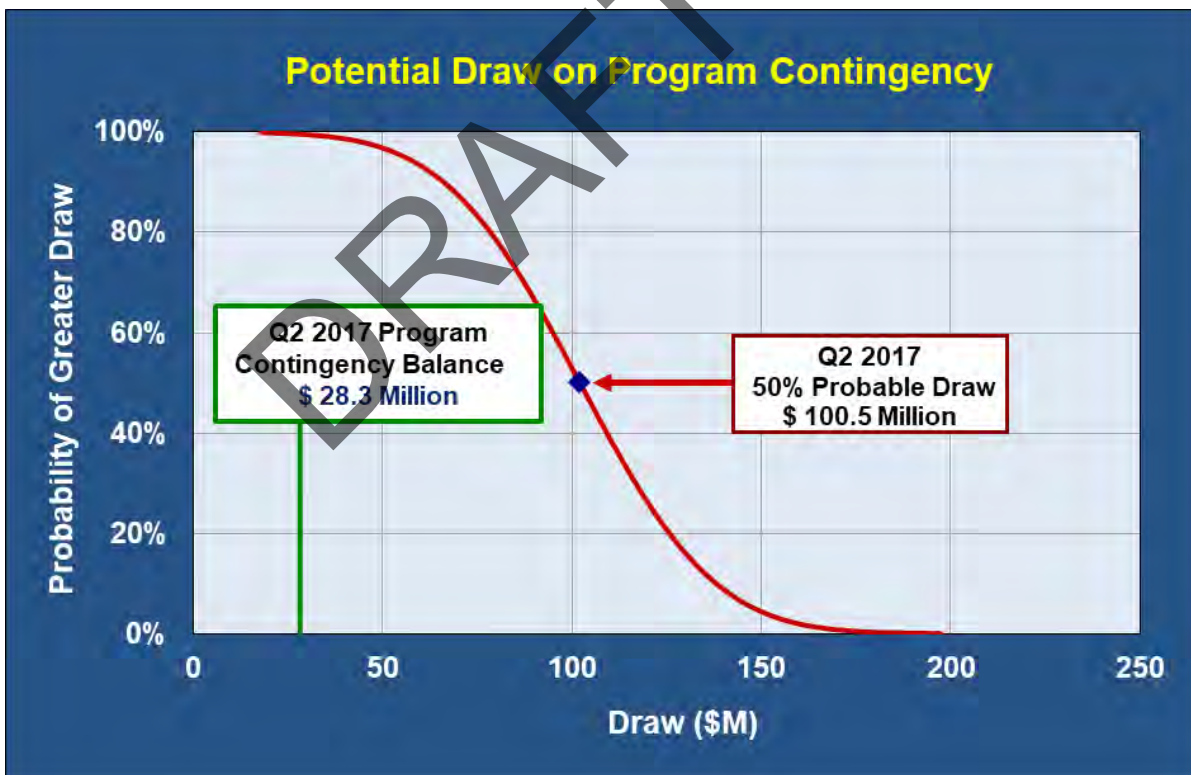


Figure 1 – Potential Draw on Program Contingency¹

1. Proposed architectural enhancements and project improvements are excluded unless approved by the TBPOC.

RISK MANAGEMENT DEVELOPMENTS

SFOBB East Span COS Budget

Budget to Completion: The second quarter 2017 COS forecast to completion is \$1,383.4 million, which results in a cost variance of \$47.5 million to the current budget. This is a \$1.3 million improvement in the forecast over the last quarter and a \$21.5 million improvement over the fourth quarter 2015 forecast, when the COS forecast peaked at \$1,404.8 million. The current approved budget of \$1,335.9 million for SFOBB East Span COS will fund the program COS through the end of the September 2017.

Expenditures vs. Budget for 2016/17 Fiscal Year:

On September 8, 2016, the TBPOC approved a total COS budget of \$23 million for the 2016/17 fiscal year, an additional \$1 million COS budget for advancement of the Marine Foundation removal work was approved by the TBPOC on February 7, 2017, bringing the final COS budget for 16/17 fiscal year to \$24 million. Total expenditures for 2016/17 are estimated at \$18 million, well within the approved budget.

Self-Anchored Suspension Span Contract

Contract Close Out: The SAS contract was accepted on September 24, 2015. The estimate after acceptance included several deductions as credit for issues that Caltrans determined were the responsibility of the contractor. The proposed final estimate was forwarded to the contractor on November 5, 2015 and since the total amount paid exceeded the amount due by \$8.5 million, the contractor owed a payment to Caltrans for that amount. The contractor submitted his exceptions to the proposed final estimate on November 6, 2015. The contractor documented twelve outstanding disputes totaling \$49.2 million in claims and filed for arbitration on May 23, 2016. The claims are now subject to the Public Works Contract Arbitration Program and could take many quarters to reach a conclusion.

SAS Tower Anchor Rod Grouting Contract

Completion of Repair Work: The scope of work for the repair of the Tower Anchor Rod Grouting was approved by the TBPOC on May 12, 2016. The TBPOC authorized \$12 million in Capital funds and \$3 million in COS costs to inspect and administer that contract. Caltrans procured the contract with a low bid Director's Order which helps expedite the work, yet achieves the best price possible. A contract for \$8.5 million was expeditiously awarded to the apparent low bidder on October 10, 2016. As of June 30, 2017 the project has successfully water-jetted, retensioned and re-grouted 100% of the rods, the contractor is now removing his marine access and replacing utilities that were removed to facilitate the work.

Yerba Buena Island Transition Structure #2 Contract

Unstable Slopes: During the winter of 2015/16, the YBITS #2 contractor began constructing some of the YBITS #2 slope work and encountered two significant slope failures. The work on these slopes was affected by the late winter and the slope failures. The project had identified several risks to the construction of the project's slope stabilization (e.g. unstable slopes, extra SWPPP required, differing site conditions) that could potentially increase the costs of this work.

The implementation of the new Southgate Road Realignment alternative has significantly reduced this risk by deleting the large retaining wall work from this contract and transferring it to the SF Ramps project.

Because of recent storm drain improvements made on YBI, the project team has been successful in preventing water from outside the Goat Slope getting to the slope this past winter season, and thus avoided the likelihood of slope stability issues this year.

504'/288' Dismantling Contract

Successful Completion of Work in the Field: The successful removal of the last superstructure span almost one year ahead of schedule, gives the program the opportunity to remove all the E4 to E18 piers by implosion in 2017. This has allowed the program to achieve significant COS savings on the 504'/288' Dismantling Contract and also advance the Marine Foundation Removal E4 to E18 contract to completion in the first half of 2018.

Marine Foundation Removal Contract (E4 to E18)

Opportunity to Finish Work in the 2017 Implosion Season: The early completion of the 504/288 contract gives the Marine Structures Dismantling contract the opportunity to deliver the contract a year early. Allowing the Marine Structure Dismantling contractor to begin mechanical dismantling by March 1, 2017 and allowing him implode multiple footings during the 2017 three-month window will help enable this opportunity to be realized in the coming quarters.

Marine Foundation Removal Contract (E2, E19 to E22)

Discussions with Environmental Agencies on the retention of the footings: The Environmental team has had discussions with the Environmental Agencies on the feasibility of retaining the remaining marine foundations. Initial discussions indicate that the Army Corp of Engineers will require a new environmental impact assessment if the footings are to be left in place, a new environmental document could take several years to complete. Per the TBPOC's request, the project team has developed

an advanced planning study to show the possibilities of incorporating the old piers into a public access facility to the Bay. The goal is to develop a plan that results in net savings over the cost of removing all the piers, but it is likely that the cost of retaining piers E18 to E22 on the Oakland side will exceed the cost of removing the piers, while the cost of retaining the E2 will likely be less than removing that pier.

RISK MANAGEMENT LOOK AHEAD

SFOBB East Span COS Budget

Budget Increase: The current approved budget of \$1,335.9 million for SFOBB East Span COS will run out by the end of September 2017. In the third quarter of 2017, the BATA board will need to approve the TBPOC approved 2017/18 COS allocation and an increase in the overall SFOBB East Span COS budget by a commensurate amount. Additional budget adjustments from program contingency will be required for each fiscal year through program completion.

Self-Anchored Suspension Span Contract

The contract close-out effort will continue. The support cost budget will continue to accrue until final close-out is achieved.

Yerba Buena Island Transition Structure #2 Contract

Completion of the Slope Work: Contract and CCO #44 slope work represent the biggest risk to the project going forward, work will continue through the summer and into the fall of 2017, project plans to complete the contractual and added work by October 30th 2017.

504'/288' Dismantling Contract

Close Out of the Project: All work in the field was completed in the 2nd quarter 2017. The project team expects to expedite close out as no claims are outstanding on the project. The Proposed Final Estimate is expected to be completed in the 3rd quarter 2017.

Marine Foundation Removal Contract (E4 to E18)

Advancing All Implosions (E6 through E18) into 2017:

The demolition work to date has been completed well and offers opportunities for the remaining piers to be removed from the waters of the bay with environmental stewardship and efficiency. The original contract schedule had the implosions of Piers E6 through E11 during September 1, 2017 through November 30, 2017 and Piers E12 through E18 during September 1, 2018 through November 30, 2018. These dates were established based on the contracted date for the 504-288 contractor to deliver the last pier to the State in March 2018. With the 504-288

contractor having now delivered all the piers by April 2017, an opportunity has become available to complete the work imploding Piers E6 through E18 an entire year early. The project team will work with the Contractor, the environmental agencies and the TBPOC to avail of this opportunity that will significantly reduce COS and Capital risk costs going forward.

Marine Foundation Removal Contract (E2, E19 to E22)

Review Advanced Planning Study (APS): The project team will present an advanced planning study to the TBPOC that shows the possibilities of incorporating the old piers into a public access facility to the Bay. The APS presents the scope, cost and schedule of a potential project(s) to retain up to five of the historic old bay bridge marine foundations in lieu of removing them. This plan will need to be reviewed and approved by the TBPOC prior to submitting to the environmental agencies for consideration.

Program Funding Status

AB 144 established a funding level of \$8.685 billion for the TBSRP. As of January 1, 2010, seismic retrofitting of Antioch and Dumbarton Bridges became part of the Toll Bridge Seismic Retrofit Program with the passage of AB 1175, which provided another \$750 million bringing the total funding to \$9.435 billion. On April 9, 2010, the TBPOC approved a \$137 million reduction in the TBSRP program budget as a result of savings from the Antioch Bridge Retrofit. On September 2, 2010, the TBPOC approved a \$216 million reduction in the TBSRP program budget as a result of savings from the Dumbarton Bridge Retrofit. And finally, on November 5, 2013, the TBPOC approved a \$130 million reduction in the TBSRP program budget as a result of a reduction in the program contingency, bringing the current approved TBSRP budget to \$8.952 billion (see Appendix A-1). The program funding sources are shown in Table 1 - Program Budget.

Table 1 - Program Budget as of March 31, 2017		Budgeted	Funding Available & Contribution
Financing			
Seismic Surcharge Revenue AB 1171		2,282.0	2,282.0
Seismic Surcharge Revenue AB 144		2,150.0	2,150.0
Seismic Surcharge Revenue AB 1175 ⁽²⁾		750.0	750.0
BATA Consolidation		820.0	820.0
Subtotal - Financing		6,002.0	6,002.0
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⁾		745.0	745.0
Public Transportation Account ⁽¹⁾		130.0	130.0
ITIP/SHOPP/Federal Contingency ⁽³⁾		448.0	448.0
Federal Highway Bridge Replacement and Rehabilitation (HBRR) ⁽³⁾		642.0	642.0
SHA - East Span Dismantling		300.0	300.0
SHA - "Efficiency Savings"		130.0	130.0
Redirect Spillover		125.0	125.0
Motor Vehicle Account		75.0	75.0
Subtotal - Contribution		3,433.0	3,423.9
Total Funding		9,435.0	9,425.9
Encumbered to Date			8,831.6
Remaining Unallocated			594.3
Expenditures :			
Capital Outlay			6,783.4
State Operations			1,868.8
Antioch and Dumbarton Expenditures by BATA			14.6
Total Expenditures			8,666.9
Encumbrances :			
Capital Outlay			164.6
State Operations			0.2
Total Encumbrances			164.7
Total Expenditures and Encumbrances			8,831.6

⁽¹⁾ The Vincent Thomas Bridge state funds contribution was finalized in legislation and statutes to be \$6.9 million and no additional funds were identified. The program has identified an opportunity for an additional funding of \$14.8 million from Toll Bridge excess right of way sales, which will be credited to be program in the coming quarters.

⁽²⁾ The California Transportation Commission adopted a new schedule and changed the PTA/SHA split on December 15, 2005.

⁽³⁾ As of January 1, 2010, seismic retrofitting of Antioch and Dumbarton Bridges became part of the Toll Bridge Seismic Retrofit Program with the passage of AB 1175.

⁽³⁾ The Skyway contract is the only contract in the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project with federal funds. The Federal Aid Project No. is 0801(090) for the amount of \$321,645,209.22. No other federal funds will be used on this project in the future.

Summary of the Toll Bridge Oversight Committee (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 3 -Toll Bridge Program Oversight Committee Estimated Expenses: July 1, 2005, through June 30, 2017, for TBPOC functioning, support, and monthly and quarterly reporting.

Table 2—CTC Toll Bridge Seismic Retrofit Program 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 (Actual)	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (Actual)	2013-14 (Actual)	Total
AB 1171	SHA	290									290
	PTA	80	40								120
	Highway Bridge Replacement and Rehabilitation (HBRR)	100	100	100	42						342
	Contingency				1	99	100	100	148		448
AB 144	SHA*	2	8				53	50	17		130
	Motor Vehicle Account (MVA)	75									75
	Spillover		125								125
	SHA**									300	300
	Total	547	273	100	43	99	153	150	165	300	1830
* Caltrans Efficiency Savings ** SFOBB East Span Dismantling Cost. The last contribution of \$300 million from SHA was made in October 2013 as scheduled. *** Actual as of June 2017											

Table 3—Toll Bridge Program Oversight Committee
Estimated Expenses: July 1, 2005 through June 30, 2017 (\$ Millions)

Agency/Program Activity	Expenses
BATA	3.0
Caltrans	3.6
CTC	3.3
Reporting	5.9
Total Program	15.8

Quarterly Environmental Compliance Highlights

Overall environmental compliance for the San Francisco-Oakland Bay Bridge (SFOBB) East Span Seismic Safety Project (SFOBB Project) has been a success during the second quarter of 2017. The tasks for the current quarter were focused on environmental permitting for early completion, compliance, and mitigation.

Key Successes

Bird monitoring was conducted weekly in compliance with the project's Bird Monitoring Plans. The goal of this monitoring was to document potential impacts to birds from construction activities. Removal of the final steel trusses under the 504/288 contract meant a shift in focus from the trusses, to the tower legs and marine foundations.

There was a significant increase in nesting bird activity on both the tower foundations and contractor barges and equipment beginning in May and continuing through June. The environmental monitoring team was very effective in working collaboratively with the marine foundation contractor to remove nest starts, nests, and eggs from the construction area to avoid delays to the work. There was one incident in which a nest was inadvertently destroyed by the contractor, which was reported to the appropriate regulatory agencies. Improved communication and protocols between the contractor, contractor-supplied biologists, and environmental team have greatly improved the process for managing nesting birds and avoided any other incidents on site.

In compliance with the project's Bay Conservation and Development Commission (BCDC) permit, the project team presented the results of the implosions of Piers E4 and E5, as well as a general project update, at a BCDC commission hearing on June 1, 2017. The results were received with positive review from the commission members.

The environmental team worked with the overall project team to continue to obtain all approvals needed for the early completion of marine foundation removal contract.

The environmental team in particular continued to coordinate with the National Marine Fisheries Service (NMFS) to confirm that no reinitiation of consultation under Section 7 of the Endangered Species Act would be warranted.

The environmental team submitted the Incidental Harassment Authorization (IHA) application package for submittal to the NMFS Office of Protected Resources. This IHA will authorize limited take of marine mammals resulting from implosion activities in 2017. The team also submitted a request to the California Department of Fish and Wildlife (CDFW) amend the project Incidental Take Permit to allow for post-blast clean-up between December 15 and December 31.

The environmental team, at the request of BATA and the TBPOC, continued to support the analysis associated with retention of Piers E2 and Piers E19 to E23 of the SFOBB original east span during the 2nd quarter of 2017. Environmental attended meetings and continued an analysis of the design alternatives in support of the Advanced Planning Study for Piers E2 and E19 to E23.

The environmental team coordinated a meeting with Golden Gate Audubon Society and Sierra Club on May 19, 2017 to discuss opportunities to satisfy the SFOBB Project shorebird roosting habitat mitigation requirement through a funding transfer for improvements to existing shorebird habitat in Hayward Regional Shoreline. The proposal was met with some hesitation from these local stakeholders. The environmental team continues to explore opportunities to fulfill this mitigation requirement in the BCDC permit.



APPENDICES

A. TBSRP AB 144/SB 66/ AB 1175 Baseline Budget, Forecasts and Expenditures through June 30, 2017 (A-1 and A-2).....16

B. TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through June 30, 2017.....20

Glossary of Terms.....25



Appendix A-1: TBSRP AB 144/SB 66/AB 1175 Baseline Budget, Forecasts and Expenditures

Through June 30, 2017, by bridge including program contingency (\$ Millions)

Contract	AB 144/SB 66/AB 1175	Approved Changes	Current Approved Budget (6/2017)	Cost to Date (6/2017)	Cost Forecast (6/2017)	At-Completion Variance
a	c	d	e = c + d	f	g	h = g - e
SFOBB East Span Replacement Project						
Capital Outlay Support	959.3	376.6	1,335.9	1,320.9	1,383.4	47.5
Capital Outlay Construction	4,492.2	685.5	5,177.7	4,967.8	5,225.6	47.9
Other Budgeted Capital	35.1	(32.8)	2.3	0.7	0.7	(1.6)
Total	5,486.6	1,029.3	6,515.9	6,289.4	6,609.7	93.8
SFOBB West Approach Replacement						
Capital Outlay Support	120.0	(0.5)	119.5	119.4	119.5	-
Capital Outlay Construction	309.0	31.0	340.0	333.0	338.1	(1.9)
Total	429.0	30.5	459.5	452.4	457.6	(1.9)
SFOBB West Span Retrofit						
Capital Outlay Support	75.0	(0.2)	74.8	74.8	74.8	-
Capital Outlay Construction	232.9	(2.4)	230.5	230.5	230.5	-
Total	307.9	(2.6)	305.3	305.3	305.3	-
Richmond-San Rafael Bridge Retrofit*						
Capital Outlay Support	134.0	(7.0)	127.0	126.7	126.7	(0.3)
Capital Outlay Construction	698.0	(94.9)	603.1	668.1	668.1	(17.0)
Total	832.0	(101.9)	730.1	794.8	794.8	-
Benicia-Martinez Bridge Retrofit						
Capital Outlay Support	38.1	-	38.1	38.1	38.1	-
Capital Outlay Construction	139.7	-	139.7	139.7	139.7	-
Total	177.8	-	177.8	177.8	177.8	-
Carquinez Bridge Retrofit						
Capital Outlay Support	28.7	0.1	28.8	28.8	28.8	-
Capital Outlay Construction	85.5	(0.1)	85.4	85.4	85.4	-
Total	114.1	-	114.2	114.2	114.2	-
San Mateo-Hayward Bridge Retrofit						
Capital Outlay Support	28.1	-	28.1	28.1	28.1	-
Capital Outlay Construction	135.4	(0.1)	135.3	135.3	135.3	-
Total	163.5	(0.1)	163.4	163.4	163.4	-
Vincent Thomas Bridge Retrofit (Los Angeles)						
Capital Outlay Support	16.4	-	16.4	16.4	16.4	-
Capital Outlay Construction	42.1	-	42.1	42.0	42.0	(0.1)
Total	58.5	-	58.5	58.4	58.4	(0.1)
San Diego-Coronado Bridge Retrofit						
Capital Outlay Support	33.5	-	33.5	33.2	33.2	(0.3)
Capital Outlay Construction	70.0	-	70.0	69.4	69.4	(0.6)
Total	103.5	-	103.5	102.6	102.6	(0.9)

Appendix A-1: TBSRP AB 144/SB 66/AB 1175 Baseline Budget, Forecasts and Expenditures Cont.

Through June 30, 2017, by bridge including program contingency (\$ Millions)

Contract	AB 144/SB 66/AB 1175	Approved Changes	Current Approved Budget (6/2017)	Cost to Date (6/2017)	Cost Forecast (6/2017)	At-Completion Variance
a	c	d	e = c + d	f	g	h = g - e
Antioch Bridge						
Capital Outlay Support	0.0	24.1	24.1	17.4	24.2	0.1
Capital Outlay Support by BATA	0.0			6.7		
Capital Outlay Construction	0.0	47.0	47.0	47.0	47.0	-
Total	267.0	71.1	71.1	71.1	71.2	0.1
Dumbarton Bridge						
Capital Outlay Support	0.0	46.0	46.0	39.5	47.5	1.5
Capital Outlay Support by BATA	0.0			7.9		
Capital Outlay Construction	0.0	66.4	66.4	64.4	64.8	(1.6)
Total	483.0	112.4	112.4	111.8	112.3	(0.1)
Subtotal Capital Outlay Support	1,682.9	189.4	1,872.2	1,857.9	1,920.7	48.5
Subtotal Capital Outlay	6,787.1	232.2	7,019.2	6,782.7	7,045.9	26.7
Subtotal Other Budgeted Capital	35.1	(32.8)	2.3	0.7	0.7	(1.6)
Miscellaneous Program Costs	30.0	-	30.0	25.5	25.5	(4.5)
Subtotal Toll Bridge Seismic Retrofit Program	8,535.0	388.7	8,923.7	8,666.8	8,992.8	69.1
Net Programmatic Risks**	0.0	-	-	-	31.4	31.4
Program Contingency	900.0	(871.7)	28.3	-	-	13.7
Total Toll Bridge Seismic Retrofit Program***	9,435.0	(483.0)	8,952.0	8,666.8	9,024.2	72.2
Forecast Deficit To Current TBPOC Approved Budget:					(72.2)	
Forecast Surplus To Total TBSRP Budget	410.8					
Forecast Deficit To Current TBPOC Approved Budget:				(72.2)		

* Budget for Richmond-San Rafael Bridge includes \$16.9 million of deck joint rehabilitation work that considered to be eligible for seismic retrofit program funding.

** Programmatic Risks: Consists of \$14.51 million in Q2 2016 Program Risk Register costs plus, \$16.9 in Richmond-San Rafael (R/SR) Bridge project contingency used for R/SR deck joint replacement.

*** AB144/SB66 established a funding level of \$8.685 Billion in July 2005 for TBSRP. AB1175 added the retrofitting of the Antioch and Dumbarton Bridges in January 2010, providing another \$750 million in funding, bringing Total Toll Seismic Retrofit Program funding to \$9.435 Billion. Since 2010, \$483 million has been removed from the program, bringing the current TBPOC Approved Budget to \$8.952 billion. The \$483 million removed consisted of:

- Antioch Savings (4/12/10) \$137 million
- Dumbarton Savings (9/02/10) \$216 million
- Program Contingency Redirection (11/05/13) \$130 million.

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

Appendix A-2: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures

Through June 30, 2017, by major contract, without program contingency (\$ Millions)

Bridge	AB 144 Baseline Budget	TBPOC Current Approved Budget	Expenditures to date and encumbrances as of (6/2017) see Note (1)	Estimated costs not yet spent or encumbered as of (6/2017)	Total Forecast as of (6/2017)
a	b	c	d	e	f = d + e
Other Completed Projects					
Capital Outlay Support	144.9	144.9	144.6	-	144.6
Capital Outlay	472.6	472.6	471.9	(0.1)	471.8
Total	617.5	617.5	616.5	(0.1)	616.4
Richmond-San Rafael					
Capital Outlay Support	134.0	127.0	126.8	(0.1)	126.7
Capital Outlay	698.0	685.1	667.5	0.6	668.1
Project Reserves	82.0	-	-	-	-
Total	914.0	812.1	794.3	0.5	794.8
West Span Retrofit					
Capital Outlay Support	75.0	74.8	74.8	-	74.8
Capital Outlay	232.9	230.5	227.4	3.1	230.5
Total	307.9	305.3	302.2	3.1	305.3
West Approach					
Capital Outlay Support	120.0	119.5	119.5	-	119.5
Capital Outlay	309.0	340.0	332.2	5.9	338.1
Total	429.0	459.5	451.7	5.9	457.6
SFOBB East Span -Skyway					
Capital Outlay Support	197.0	181.2	181.2	-	181.2
Capital Outlay	1,293.0	1,237.2	1,237.3	(1.2)	1,236.1
Total	1,490.0	1,418.4	1,418.5	(1.2)	1,417.3
SFOBB East Span -SAS- Superstructure					
Capital Outlay Support	214.6	489.1	511.6	2.8	514.4
Capital Outlay	1,753.7	2,034.8	2,046.9	(10.1)	2,036.8
Total	1,968.3	2,523.9	2,558.5	(7.3)	2,551.2
SFOBB East Span -SAS- Tower Anchor Rod Grouting					
Capital Outlay Support	0.0	3.0	1.7	1.5	3.2
Capital Outlay	0.0	12.0	9.2	0.1	9.3
Total	0.0	15.0	10.9	1.6	12.5
SFOBB East Span -SAS- Foundations					
Capital Outlay Support	62.5	37.6	37.6	-	37.6
Capital Outlay	339.9	301.3	301.3	-	301.3
Total	402.4	338.9	338.9	-	338.9
Small YBI Projects					
Capital Outlay Support	10.6	10.2	10.2	-	10.2
Capital Outlay	15.7	15.2	15.2	-	15.2
Total	26.2	25.4	25.4	-	25.4
YBI Detour					
Capital Outlay Support	29.5	87.7	87.9	-	87.9
Capital Outlay	131.9	473.3	473.3	0.1	473.4
Total	161.4	561.0	561.2	0.1	561.3

Appendix A-2: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures Cont.

Through June 30, 2017, by major contract, without program contingency (\$ Millions)

Contract	AB 144 Baseline Budget	TBPOC Current Approved Budget	Expenditures to date and encumbrances as of (6/2017) see Note (1)	Estimated costs not yet spent or encumbered as of (6/2017)	Total Forecast as of (6/2017)
a	b	c	d	e	f = d + e
YBI - Transition Structures					
Capital Outlay Support	78.7	146.9	138.9	27.1	166.0
Capital Outlay	299.4	312.9	309.1	10.2	319.3
Total	378.0	459.8	448.0	37.3	485.3
Oakland Touchdown					
Capital Outlay Support	74.4	119.4	117.5	1.5	119.0
Capital Outlay	283.8	330.6	325.4	1.1	326.5
Total	358.2	450.0	442.9	2.6	445.5
East Span Other Small Projects					
Capital Outlay Support	212.3	197.9	197.9	-	197.9
Capital Outlay	170.8	141.3	126.5	9.4	135.9
Total	383.1	339.2	324.4	9.4	333.8
Existing Bridge Demolition					
Capital Outlay Support	0.0	0.0	0.0	0.0	0.0
Capital Outlay	79.7	62.9	36.4	29.6	66.0
Capital Outlay	239.2	321.5	293.0	79.5	372.5
Total	318.9	384.4	329.4	109.1	438.5
Antioch Bridge					
Capital Outlay Support	0.0	24.1	17.4	0.1	17.5
Capital Outlay Support by BATA	0.0	0.0	6.7	-	6.7
Capital Outlay	0.0	47.0	47.0	-	47.0
Total	267.0	71.1	71.1	0.1	71.2
Dumbarton Bridge					
Capital Outlay Support	0.0	46.0	39.6	-	39.6
Capital Outlay Support by BATA	0.0	0.0	7.9	-	7.9
Capital Outlay	0.0	66.4	64.7	0.1	64.8
Total	483.0	112.4	112.2	0.1	112.3
Miscellaneous Program Costs	30.0	30.0	25.5	-	25.5
Total Capital Outlay Support ⁽²⁾	1,712.9	1,902.1	1,883.7	62.5	1,946.2
Total Capital Outlay	6,822.1	7,021.6	6,947.9	98.7	7,046.6
Program Total	8,535.0	8,923.7	8,831.6	161.2	8,992.8

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

(2) BSA provided a distribution of program contingency in December 2004 based on Bechtel Infrastructure Corporation input.

(3) Construction administration of the OTD Detour is under the YBITS1 contract. Encumbrance is included in YBITS1 contract.

(4) Construction administration of the cantilever segment is under the YBITS2 contract. Encumbrance is included in YBITS2 contract.

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

Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures

Through June 30, 2017 (\$ Millions)

Contract a	AB 144 / SB 66 Budget (07/2005) c	Approved Changes d	Current Approved Budget (6/2017) e = c + d	Cost to Date (6/2017) f	Cost Forecast (6/2017) g	At- Completion Variance h = g - e
San Francisco-Oakland Bay Bridge East Span Replacement Project						
East Span - SAS Superstructure						
Capital Outlay Support	214.6	274.5	489.1	512.0	514.4	25.3
Capital Outlay Construction	1,753.7	281.1	2,034.8	1,973.3	2,036.8	2.0
Total	1,968.3	555.6	2,523.9	2,485.3	2,551.2	27.3
SAS Tower Anchor Rod Grouting						
Capital Outlay Support	0.0	-	3.0	1.3	3.2	0.2
Capital Outlay Construction	0.0	-	12.0	7.0	9.3	(2.7)
Total	0.0	-	15.0	8.3	12.5	(2.5)
SAS W2 Foundations						
Capital Outlay Support	10.0	(0.8)	9.2	9.2	9.2	-
Capital Outlay Construction	26.4	0.1	26.5	26.5	26.5	-
Total	36.4	(0.7)	35.7	35.7	35.7	-
YBI South/South Detour						
Capital Outlay Support	29.5	58.3	87.7	87.9	87.9	0.2
Capital Outlay Construction	131.9	341.4	473.3	473.4	473.4	0.1
Total	161.4	399.7	561.0	561.3	561.3	0.3
East Span - Skyway						
Capital Outlay Support	197.0	(15.8)	181.2	181.2	181.2	-
Capital Outlay Construction	1,293.0	(55.8)	1,237.2	1,235.6	1,236.1	(1.1)
Total	1,490.0	(71.6)	1,418.4	1,416.8	1,417.3	(1.1)
East Span - SAS E2/T1 Foundations						
Capital Outlay Support	52.5	(24.1)	28.4	28.4	28.4	-
Capital Outlay Construction	313.5	(38.7)	274.8	274.8	274.8	-
Total	366.0	(62.8)	303.2	303.2	303.2	-
YBI Transition Structures (see notes below)						
Capital Outlay Support	78.7	68.2	146.9	137.6	166.0	19.1
Capital Outlay Construction	299.4	13.6	312.9	299.6	319.3	6.4
Total	378.0	81.8	459.8	437.2	485.3	25.5
* YBI- Transition Structures						
Capital Outlay Support			22.8	16.4	22.8	-
Capital Outlay Construction			-	-	-	-
Total			22.8	16.4	22.8	-
* YBI- Transition Structures Contract No. 1						
Capital Outlay Support			72.1	69.9	70.7	(1.4)
Capital Outlay Construction			203.7	203.2	203.8	0.1
Total			275.8	273.1	274.5	(1.3)
* YBI- Transition Structures Contract No. 2						
Capital Outlay Support			51.0	51.0	71.5	20.5
Capital Outlay Construction			105.9	96.4	115.5	9.6
Total			156.9	147.4	187.0	30.1
* YBI- Transition Structures Contract No. 3 Landscape						
Capital Outlay Support			1.0	0.3	1.0	-
Capital Outlay Construction			3.3	-	-	(3.3)
Total			4.3	-	1.0	(3.3)

Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures

Through June 30, 2017 (\$ Millions) Cont.

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (6/2017)	Cost to Date (6/2017)	Cost Forecast (6/2017)	At-Completion Variance
a	c	d	e = c + d	f	g	h = g - e
Oakland Touchdown (see notes below)						
Capital Outlay Support	74.4	45.0	119.4	119.0	119.0	(0.4)
Capital Outlay Construction	283.8	46.8	330.6	326.5	326.5	(4.1)
Total	358.2	91.8	450.0	445.5	445.5	(4.5)
* OTD Prior-to-Split Costs						
Capital Outlay Support			20.1	20.0	20.0	(0.1)
Capital Outlay Construction			-	-	-	-
Total			20.1	20.0	20.0	(0.1)
* OTD Submarine Cable(1)						
Capital Outlay Support			0.9	0.9	0.9	-
Capital Outlay Construction			5.7	5.7	5.7	-
Total			6.6	6.6	6.6	-
* OTD No. 1 (Westbound)						
Capital Outlay Support			51.2	51.2	51.2	-
Capital Outlay Construction			205.3	202.8	202.8	(2.5)
Total			256.5	254.0	254.0	(2.5)
* OTD No. 2 (Eastbound)						
Capital Outlay Support			37.6	38.1	38.1	0.5
Capital Outlay Construction			72.6	71.2	71.2	(1.4)
Total			110.2	109.3	109.3	(0.9)
* OTD Touchdown 2 Detour ⁽²⁾						
Capital Outlay Support			8.1	8.0	8.0	(0.1)
Capital Outlay Construction			47.0	46.7	46.7	(0.3)
Total			55.1	54.7	54.7	(0.4)
* OTD Electrical Systems						
Capital Outlay Support			1.5	0.8	0.8	(0.7)
Capital Outlay Construction			-	-	-	-
Total			1.5	0.8	0.8	(0.7)
Existing Bridge Dismantling						
Capital Outlay Support	79.7	(16.8)	62.9	36.4	66.0	3.1
Capital Outlay Construction	239.2	82.3	321.5	209.8	372.5	51.0
Total	318.9	65.5	384.4	246.2	438.5	54.1
* Bridge Dismantling Prior-to-Split Cost						
Capital Outlay Support			3.9	3.9	3.9	-
Capital Outlay Construction			-	-	-	-
Total			3.9	3.9	3.9	-
* Cantilever Section						
Capital Outlay Support			1.6	1.6	1.6	-
Capital Outlay Construction			69.0	68.5	69.0	-
Total			70.6	70.1	70.6	-
* 504/288 Sections						
Capital Outlay Support			21.0	9.2	13.7	(7.3)
Capital Outlay Construction			103.5	72.2	82.2	(21.3)
Total			124.5	81.4	95.9	(28.6)

Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures

Through June 30, 2017 (\$ Millions) Cont.

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (6/2017)	Cost to Date (6/2017)	Cost Forecast (6/2017)	At-Completion Variance
a	c	d	e = c + d	f	g	h = g - e
*Marine Foundations						
Capital Outlay Support			36.4	21.7	46.8	10.4
Capital Outlay Construction			149.0	69.2	221.4	72.4
Total			185.4	90.9	268.2	82.8
Sunk Cost for Marine Foundation			-	5.8	5.8	5.8
Pier-3 Demonstration Project						
Capital Outlay Support			-	4.0	4.0	4.0
Capital Outlay Construction			17.5	16.8	16.8	(0.7)
Total			17.5	20.8	20.8	3.3
Remaining Marine Foundations²						
Capital Outlay Support			-	11.9	37.1	37.1
Capital Outlay Construction			131.5	52.3	204.5	73.0
Total			131.5	64.2	241.6	110.1
Pier-E4 to Pier-E18						
Capital Outlay Support			-	11.3	24.3	24.3
Capital Outlay Construction			131.5	52.3	156.8	25.3
Total			131.5	63.6	181.1	49.6
Pier-E2 and Pier-E19 to Pier-E22						
Capital Outlay Support			-	0.6	12.8	12.8
Capital Outlay Construction			-	-	47.8	47.8
Total			-	0.6	60.6	60.6
YBI/SAS Archeology						
Capital Outlay Support	1.1	-	1.1	1.1	1.1	-
Capital Outlay Construction	1.1	-	1.1	1.1	1.1	-
Total	2.1	-	2.2	2.2	2.2	-
YBI - USCG Road Relocation						
Capital Outlay Support	3.0	(0.3)	2.7	2.7	2.7	-
Capital Outlay Construction	3.0	(0.2)	2.8	2.8	2.8	-
Total	6.0	(0.5)	5.5	5.5	5.5	-
YBI - Substation and Viaduct						
Capital Outlay Support	6.5	(0.1)	6.4	6.4	6.4	-
Capital Outlay Construction	11.6	(0.3)	11.3	11.3	11.3	-
Total	18.1	(0.4)	17.7	17.7	17.7	-
Oakland Geofill						
Capital Outlay Support	2.5	-	2.5	2.5	2.5	-
Capital Outlay Construction	8.2	-	8.2	8.2	8.2	-
Total	10.7	-	10.7	10.7	10.7	-
Pile Installation Demonstration Project						
Capital Outlay Support	1.8	-	1.8	1.8	1.8	-
Capital Outlay Construction	9.2	(0.1)	9.2	9.3	9.3	-
Total	11.0	(0.1)	11.0	11.1	11.1	-

Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures

Through June 30, 2017 (\$ Millions) Cont.

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (6/2017)	Cost to Date (6/2017)	Cost Forecast (6/2017)	At-Completion Variance
a	c	d	e = c + d	f	g	h = g - e
Stormwater Treatment Measures						
Capital Outlay Support	6.0	2.2	8.2	8.2	8.2	-
Capital Outlay Construction	15.0	3.3	18.3	16.9	16.9	(1.4)
Total	21.0	5.5	26.5	25.1	25.1	(1.4)
Right-of-Way and Environmental Mitigation						
Capital Outlay Support	0.0	-	-	-	-	-
Capital Outlay & Right-of-Way	72.4	-	72.4	60.9	70.0	(2.4)
Total	72.4	-	72.4	60.9	70.0	(2.4)
Sunk Cost - Existing East Span Retrofit						
Capital Outlay Support	39.5	-	39.5	39.5	39.5	-
Capital Outlay Construction	30.8	-	30.8	30.8	30.8	-
Total	70.3	-	70.3	70.3	70.3	-
Other Capital Outlay Support						
Environmental Phase	97.7	0.1	97.8	97.8	97.8	-
Pre-Split Project Expenditures	44.9	-	44.9	44.9	44.9	-
Non-Project Specific Costs	20.0	(16.8)	3.2	3.2	3.2	-
Total	162.6	(16.7)	145.9	145.9	145.9	-
Subtotal Capital Outlay Support	959.3	376.6	1,335.9	1,320.9	1,383.4	47.5
Subtotal Capital Outlay Construction	4,492.2	685.5	5,177.7	4,967.8	5,225.6	47.9
Other Budgeted Capital	35.1	(32.8)	2.3	0.7	0.7	(1.6)
Total SFOBB East Span Replacement Project	5,486.6	1,029.3	6,515.9	6,289.4	6,609.7	93.8

(1) Current contract allotment to install two submarine electrical cables is \$5.7 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.

(2) Construction administration of the OTD Detour is under the YBITS#1 contract.

(3) Construction administration of the Cantilever segment is under the YBITS#2 contract.

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



Glossary of Terms

AB 144/SB 66 BUDGET: The planned allocation of resources for the Toll Bridge Seismic Retrofit Program, or subordinate projects or contracts, as provided in Assembly Bill 144 and Senate Bill 66, signed into law by Governor Schwarzenegger on July 18, 2005, and September 29, 2005, respectively.

AB 144/SB 66/AB1175 PROJECT COMPLETE BASELINE: The planned completion date for the Toll Bridge Seismic Retrofit Program or subordinate projects or contracts.

APPROVED CHANGES: For cost, changes to the AB 144/SB 66 Budget or BATA Budget as approved by the Bay Area Toll Authority Commission. For schedule, changes to the AB 144/SB 66 Project Complete Baseline approved by the Toll Bridge Program Oversight Committee, or changes to the BATA Project Complete Baseline approved by the Bay Area Toll Authority Commission.

AT COMPLETION VARIANCE or VARIANCE (cost): The mathematical difference between the Cost Forecast and the Current Approved Budget.

BATA PROJECT COMPLETE BASELINE: The planned completion date for the Regional Measure 1 Program or subordinate projects or contracts.

CAPITAL OUTLAY SUPPORT (COS): Cost of developing and administering a capital project.

COST FORECAST: The current forecast of all of the costs that are projected to be expended so as to complete the given scope of the program, project, or contract.

COST TO DATE: The actual expenditures incurred by the program, project or contract as of the month and year shown.

CURRENT APPROVED BUDGET: The sum of the AB 144/SB 66 Budget or BATA Budget and Approved Changes.

HINGE PIPE BEAMS: Pipes between roadway sections designed to move within their sleeves during expansion or contraction of the decks during minor events, such as changes in temperature. The beams are designed to absorb the energy of an earthquake by deforming in their middle or "fuse" section. Hinge pipe beams are also found at the western piers where the SAS connects to the YBITS (Hinge "K" pipe beams).

PROJECT COMPLETE CURRENT APPROVED SCHEDULE: The sum of the AB 144/SB 66 Project Complete Baseline or BATA Project Complete Baseline and Approved Changes.

PROJECT COMPLETE SCHEDULE FORECAST: The current projected date for the completion of the program, project, or contract.

SCHEDULE VARIANCE or VARIANCE (schedule): The mathematical difference expressed in months between the Project Complete Schedule Forecast and the Project Complete Current Approved Schedule.

% COMPLETE: % Complete is based on an evaluation of progress on the project, expenditures to date, and schedule.



The information in this report is provided in accordance with California Government code Section 755. This document is one of a series of reports prepared for the Bay Area Toll Authority (BATA)/Metropolitan Transportation Commission (MTC) on the Toll Bridge Seismic Retrofit and Regional Measure 1 Programs.

