

## PROJECT SCOPE SUMMARY REPORT (STRUCTURE REHABILITATION)

To

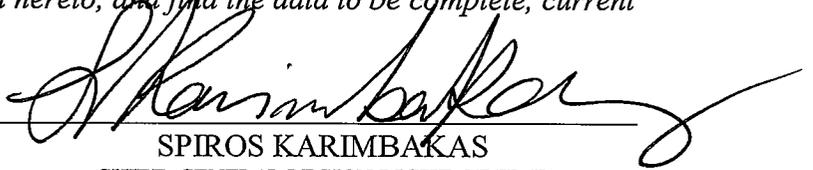
### Request Programming in the 2012 SHOPP

On Route 198

Between PM 35.3

And PM 35.6

*I have reviewed the right of way information contained in this Project Scope Summary Report and the R/W Data Sheet attached hereto, and find the data to be complete, current and accurate:*



SPIROS KARIMBAKAS  
CHIEF, CENTRAL REGION RIGHT OF WAY

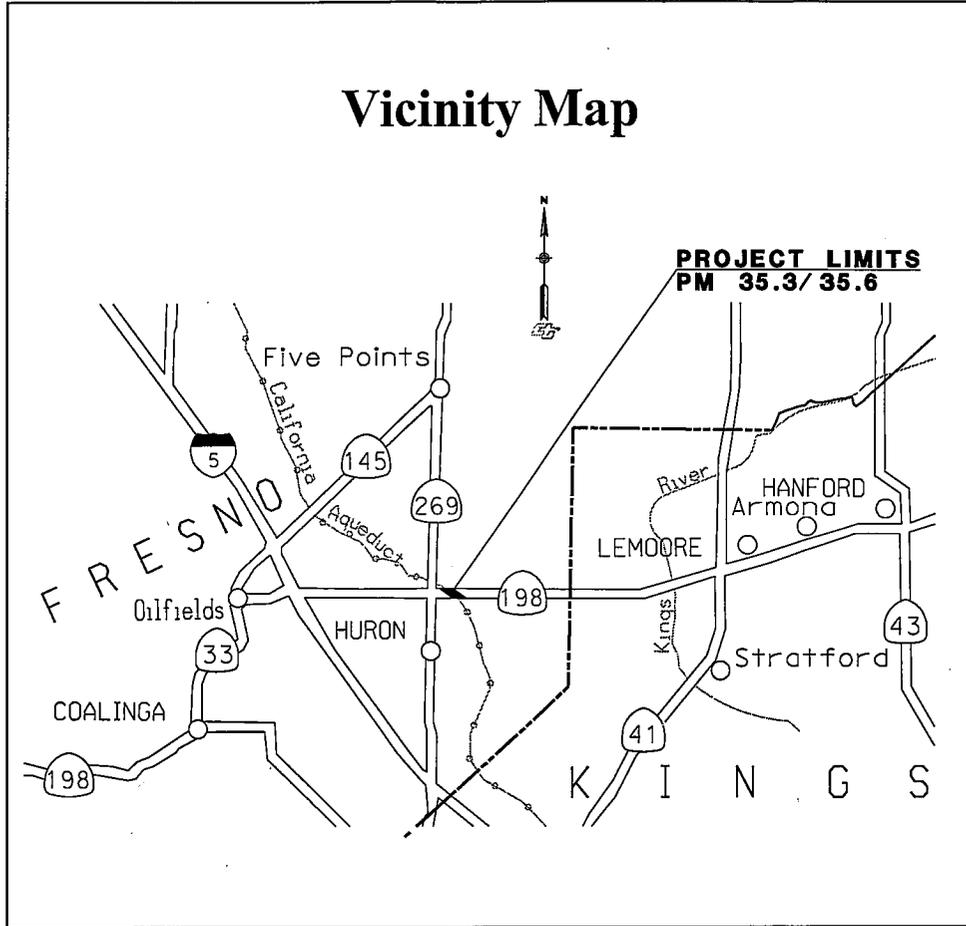
APPROVAL RECOMMENDED:

  
SUZIE HOLDRIDGE, PROJECT MANAGER

APPROVED:

  
SHARRI BENDER EHLERT,  
INTERIM DISTRICT 6 DIRECTOR

10/26/2011  
DATE



On Route 198

Between PM 35.3

And PM 35.6

06 - Fre - 198-PM 35.3/35.6

20.10.201.110

06-0M250

Project ID 0612000096

November 2011

This Project Scope Summary Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

Jonashan A. Adjei  
REGISTERED CIVIL ENGINEER

10/24/11  
DATE



## Table of Contents

1.	INTRODUCTION AND BACKGROUND .....	1
2.	RECOMMENDATION .....	1
3.	PURPOSE AND NEED .....	1
4.	EXISTING FACILITY, DEFICIENCIES AND TRAFFIC DATA .....	2
5.	CORRIDOR AND SYSTEM COORDINATION .....	5
6.	ALTERNATIVES .....	6
7.	TRANSPORTATION MANAGEMENT.....	8
8.	ENVIRONMENTAL DETERMINATION/DOCUMENT.....	9
9.	FUNDING/SCHEDULING.....	9
10.	FEDERAL COORDINATION.....	11
11.	SCOPING TEAM FIELD REVIEW ATTENDANCE ROSTER.....	11
12.	REVIEWS.....	11
13.	ATTACHMENTS.....	12

**1. INTRODUCTION AND BACKGROUND**

**Brief Project Description:**

It is proposed to replace the bridge deck on the California Aqueduct Bridge (Br. No. 42-02720) on State Route (SR) 198 in Fresno County near Huron.

The estimated construction cost is \$1,835,104 and is proposed to be funded from the 2012 SHOPP with funding from the 201.110 Bridge Rehabilitation program in the 2014/2015 Fiscal year. The escalated Right of Way cost is \$33,000.

See the Cost estimate for specific work items included in this project.

<b>Project Limits</b> [Dist., Co., Rte., PM]	06-Fre-198-PM 35.3/35.6
<b>Capital Costs:</b>	\$1.9 Million
<b>Right of way Costs:</b>	\$33,000
<b>Funding Source:</b>	20.10.201.110
<b>Number of Alternatives:</b>	3
<b>Recommended Alternative</b> <b>(for programming and scheduling):</b>	2
<b>Type of Facility</b> <b>(conventional, expressway, freeway):</b>	Conventional Highway
<b>Number of Structures:</b>	1
<b>Anticipated Environmental Determination/Document:</b>	ND/CE
<b>Legal Description</b>	In Fresno County near Huron at California Aqueduct Bridge

**2. RECOMMENDATION**

It is recommended that this PSSR be approved and be programmed into the 2012 SHOPP.

**3. PURPOSE AND NEED**

**Need:**

The structure carries an average of more than 3,750 vehicles per day of which 12% are trucks. Inspection of the structure in May 2009 found that 20% of the deck has worn out. All the construction joints have failed or are in poor condition. The presence of chloride in the concrete will cause the deck to continue to deteriorate. Without corrective action, the pavement and joints will continue to fracture causing large potholes to form, damaging the structure and

resulting in damage to vehicles.

**Purpose:**

The purpose of the project is to prevent further deterioration of the bridge by replacing the bridge deck, installing new concrete barriers, upgrading MBGR at the approaches to current standards and replacing and leveling the AC approaches.

**4. EXISTING FACILITY, DEFICIENCIES AND TRAFFIC DATA**

The California Aqueduct Bridge was built in 1967. The structure has had a long history of deck problems for nearly 30 years. In 1980 a contract was executed to remove and replace unsound concrete on approximately 15% of the deck area to an average depth of 0.35 feet. AC was applied to the full deck area.

Corrosion testing was performed in 2001 on six concrete cores. Analysis of those cores found high chloride levels in the concrete at the locations of the rebar in a state of active corrosion.

Inspection of the structure in May 2009 found that 20% of the deck has worn out. All construction joints have failed or are in poor condition.

**4A. Roadway Geometric Information**

	Facility (1)	Minimum	Through Traffic Lanes (2)			Paved Shoulder Width (3)		Median (4)	Shoulder is a Bicycle Lane (Y/N) (5)	Other Bicycle Lane Width (6)	Bicycle Route (7)	Facilities Adjacent to the Roadbed (8)
			Location	Curve Radius	No. of Lanes	Lane Width	Type (Flex, Rigid, or Composite)					
Existing	*35.3/35.6	N/A	2	12'	Rigid	8'	8'	N/A	N	N	N	
Proposed	**35.3/35.6	N/A	2	12'	Rigid	8'	8'	N/A	N	N	N	
	Min. 3R Stds.											

Column "Other Bicycle Lane Width": Width of a bicycle lane that is outside the shoulder and is part of the traveled way.

Code for Column "Facilities Adjacent to the Roadbed":

B: Bicycle Path

P: Pedestrian Walkway

B/P: Shared Bicycle and Pedestrian Path

L: Landscaped area between the curb and sidewalk

\* Enter *EXISTING* Post Mile limits (Expand as needed, for varied geometrics.)

\*\* Enter *PROPOSED* Post Mile (Expand as needed, for varied geometrics.)

Remarks:

N/A.

**4B. Condition of Existing Facility (Repeat info for each homogeneous segment):**

(1) Pedestrian Facility Data

<b>Facility Type and Location(s)</b> <i>(Station, post mile or other reference point)</i>	<b>Meets ADA Standards?</b> <i>(Yes or No for each listed location)</i>	<b>If Facility does not meet ADA Standards, what feature(s) are not ADA compliant?</b> <i>(List features per location)</i>	<b>Status of Each Noncompliant Location</b> <i>[Use the following statements, as appropriate:</i> <ul style="list-style-type: none"> <li>• <i>Will be corrected as part of this project;</i></li> <li>• <i>Will not be corrected because it is technically infeasible to correct;</i></li> <li>• <i>This work is outside the scope of this project. This facility and its location have been so documented in the Project History File and this information was submitted to the District ADA Coordinator on (Date) for inclusion in the Department's Transition Plan. ]</i> </li></ul>
<b>Sidewalks:</b> <i>(List locations as appropriate)</i>	<u>N/A</u>		
<b>Curb Ramps:</b> <i>(List locations as appropriate)</i>	<u>N/A</u>		
<b>Crosswalks:</b> <i>(List locations as appropriate)</i>	<u>N/A</u>		
<b>Driveways:</b> <i>(List locations as appropriate)</i>	<u>N/A</u>		
<b>Shared bicycle/ pedestrian path:</b> <i>(List locations as appropriate)</i>	<u>N/A</u>		
<b>Others:</b> <i>(List locations as appropriate)</i>	<u>N/A</u>		

Remarks:

N/A.

(2) Bicycle Path Data

<b>Deficiency</b>	<b>Location</b> <i>(Station, post mile limits or other reference points)</i>
N/A	

Remarks:

N/A.

**4C. Structures Information**

Structures	Width Between Curbs			Replace Bridge Railings (Y or N)	Vertical Clearance			Work Identified in STRAIN (Y or N)	Replace Bridge Approach Rail (Y or N)	Replace Bridge Approach Slab (Y/N)	#
	Exist	3R Std	Prop		Exist	3R Std	Prop				
42-02720				Y				N	Y	Y	2

**Remarks**

Bridge has 24' of travel lanes and 16' of shoulders.

**4D. Vehicle Traffic Data**

Present Year ADT 2011

Construction Year ADT 9,400

DHV 1,200

D 55%

\*T.I. (10-Year) 10

\*T.I. (20-Year) 11

10-Year ADT 2022

20-Year ADT 2032

% Trucks 12%

ESAL (10-Year) 2,530,000

ESAL (20-Year) 6,300,000

- Must correlate with T.I. in Materials Report

Safety Review 10/19/2011

(date)

Latest 3-Year Accident Data: 07/01/2007-06/30/2010

(average vs. actual rates)

	FATAL	F+I	TOTAL
Average	0.025	0.34	0.80
Actual	0.000	0.45	1.80

Location(s) of Accident Concentration: PM 35.3/35.6

Corrective Strategy: The accidents were caused by vehicles slowing down or stopping at the location, which constitutes driver inattention. There is, therefore, no corrective strategy to take.

**5. CORRIDOR AND SYSTEM COORDINATION**

The Surface Transportation Assistance Act (STAA) of 1982 designated SR 198 as part of the National Network (NN) for large trucks between I-5 and SR 99, with truck volumes ranging from 7 to 25 percent. SR 198 is also designated as a State

Terminal Access Route from SR 99 to the end of the route. SR 198 serves as an interregional corridor between the central coastal areas of California, the Sand Joaquin Valley, and the Sierra Nevada Mountains.

The project is within the segment 4 of SR 198. It is a 2-lane Conventional Highway in Fresno County beginning at the SR 198/I-5 Separation and ending at the Kings County line. Under the Federal Aid programs, SR 198 from I-5 to the Lemoore Naval Air Station (LNAS) is recognized as a Strategic Highway Corridor Network route, and part of National Highway System from LNAS east to the end of the route. The land use consists of an airstrip, agricultural land, oil fields on the east and west of I-5, and the California Aqueduct north of Huron, which is in a flood plain.

With improvement from a 2-lane Conventional to a 4-lane Expressway, this segment will operate at LOS A by 2025. It has a concept LOS of C because of the rural interregional importance of the segment.

## **6. ALTERNATIVES**

Alternative 1 – Do nothing. This would remove the existing recommendation to replace the bridge and make no recommendation for rehabilitation of the structure.

Alternative 2 – Repair the bridge. The Structures Department has determined that this alternative is the most cost effective and reliable. It is the preferred alternative. This alternative has a short lead time.

Alternative 3 – Replace the bridge. This alternative would involve District 6 proceeding with a project for replacement of the bridge. This alternative has a long lead time.

### **6A. Rehabilitation Strategy:**

Structure Maintenance and Investigation (SM&I) unanimously recommended that District 6 program a project in the SHOPP to replace the deck as the preferred engineering and most cost effective alternative to ensure the safety and reliability of this portion of the California transportation system.

### **6B. Design Exceptions:**

The structure meets the design requirement. The structure has two 12' travel lanes and two 8' shoulders. There are no design exceptions needed.

### **6C. Environmental Compliance:**

The anticipated environmental document is a Negative Declaration/Categorical Exclusion. See attachment D for more information.

**6D. Hazardous waste disposal site required? If yes, where are sites?**

The following hazardous waste concerns have been identified: asbestos, treated wood waste, lead paint and yellow thermoplastic paint striping. Hazardous waste removal will be handled with a hazardous waste plan set forth in the standard provisions.

**6E. Other Agencies Involved (Permits/Approvals from Fish & Game, Corps of Engineers, Coastal Commission, etc.):**

Permits will be required from the United States Corps of Engineers and the Regional Water Quality Control Board.

**6F. Materials and or disposal site needs and availability?**

Temporary concrete washout will be placed onsite. Commercial disposal/recycle site for bridge demolition and steel are to be supplied by contractor.

**6G. Highway planting and irrigation:**

N/A.

**6H. Roadside Design and Management:**

A safety review was conducted on 10/19/2011. The Safety Review Committee recommended crash cushions be installed in place of the existing MBGR end treatments. The committee will revisit this project at the PS&E phase.

**6I. Stormwater Compliance:**

An estimated cost of \$39,200 for storm water compliance items has been included in the total project cost. The storm water management strategy would be continuously updated throughout construction, (Attachment H).

**6J. Right of way Issues: include in guidance:**

There are no additional Right of Way requirements. There is a high voltage power line that crosses the aqueduct at a distance of 10 feet north of the bridge. The power line has significant sag that has to be eliminated to avoid potential interference with construction equipment. The cost to adjust the utility is estimated to be \$33,000.

**6K. Railroad Involvement:**

There is no Railroad involvement.

**6L. Salvaging and recycling of hardware and other non-renewable resources:**

Materials to be salvaged shall be hauled to the District Recycle Center at the Lemoore Maintenance Station, 455 South Lemoore Avenue, Lemoore, CA, 93245.

**6M. Prolonged temporary ramp closures:**

N/A.

**6N. Recycled Materials:**

There will be a minor quantity of AC available for recycling.

**6O. Local and Regional Input:**

N/A.

**6P. What are the consequences of not doing this entire project?**

Without corrective action, the pavement and joint headers will continue to fracture causing large potholes to form, damaging the structure and resulting in damage to vehicles.

**7. TRANSPORTATION MANAGEMENT**

**7A. Transportation Management Plan**

Preliminary traffic impacts and mitigation for this project have been outlined in the attached Transportation Management Plan Data Sheet (TMP Data Sheet). Costs associated with the traffic impact mitigation measures are listed in the TMP Data Sheet have been included in this documents estimate.

A TMP for this project is required and should be requested when the design is complete enough to determine specific traffic impacts, but yet early enough to make design changes/additions required for traffic mitigation.

Lane closure charts and a detailed TMP will be provided during the PS&E stage.

Daytime work is anticipated for this project. Alternate one-way (reversing) traffic control will be implemented.

**7B. Vehicle Detection Systems**

N/A.

**8. ENVIRONMENTAL DETERMINATION/DOCUMENT**

The anticipated environmental document is a Negative Declaration/  
 Categorical Exclusion. See Attachment D for more information.

Date Approved: 10/25/11

**9. FUNDING/SCHEDULING**

**9A. Cost Estimate:**

Proposed funding \$1,869,000

	<u>Yes/No</u>	<u>*Cost</u>
STRAIN and other Structural Work (by Structure)		
(A) Replace		
(B) Rehab	<u>Yes</u>	<u>\$1,294,000</u>
(a) Deck	<u>Yes</u>	<u>**</u>
(b) Superstructure	<u>No</u>	_____
(c) Substructure	<u>No</u>	_____
(d) Joints	<u>Yes</u>	<u>**</u>
(e) Bearings	<u>No</u>	_____
(f) Other	<u>No</u>	_____
(C) Scour Correction	<u>No</u>	_____
(D) Painting	<u>No</u>	_____
(E) Widening	<u>No</u>	_____
(F) Rail Replacement (without widening)	<u>Yes</u>	<u>**</u>
(G) Strengthen	<u>No</u>	_____
(H) Seismic Retrofit	<u>No</u>	_____
(I) Vertical Clearance Adjustment	<u>No</u>	_____
(J) Other	<u>No</u>	_____
		<u>\$1,294,000</u>

**STRUCTURE COSTS SUBTOTALS (included 25% Contingency)**

District Work		
(A) Traffic Control	<u>Yes</u>	<u>\$150,000</u>
(B) Pavement (include remove and replace)	<u>Yes</u>	<u>\$9,000</u>
(C) Bridge Approach Slab		_____
(D) Bridge Approach Guardrail (include remove/replace)	<u>Yes</u>	<u>\$35,080</u>
(E) Drainage Adjustment and Rehab	<u>No</u>	_____
(F) Rock Slope Protection	<u>No</u>	_____
(G) Utility Relocation	<u>No</u>	_____

(H) Railroad Agreements	No	_____
(I) Environmental Compliance	Yes	<u>\$50,640</u>
(J) Storm water Compliance	Yes	<u>\$39,200</u>
(K) Traffic Management Plan	Yes	<u>\$43,000</u>
(L) Other (Const. Area Sign, Traffic Delineation)	Yes	<u>\$20,000</u>
(M) Crash Cushion (Quad guard)	Yes	<u>\$104,000</u>
	<b>SUBTOTALS</b>	<u>\$450,920</u>
	<b>20% Contingency</b>	<u>\$90,184</u>

**DISTRICT COSTS SUBTOTALS** \$541,104

**ESCALATED RIGHT OF WAY COST** \$33,000

**TOTAL PROJECT COST** \$1,868,104

Notes: \* If duplicated in other items, show cost in parenthesis.  
Do not include support costs.  
\*\* Included in STRUCTURE COSTS SUBTOTAL per  
HQ Structure Cost Estimate.

## 9B. Project Support:

### Cost Breakdown:

(Capital Cost Estimate provided by Design & R/W, Support Cost Estimate from XPM.)

Project Cost Component	Fiscal Years					Total
	12/13	13/14	14/15	15/16		
R/W Capital		\$ 33				\$ 33
Const. Capital**				\$ 2,082		\$ 2,082
PA&ED*	\$ 245					\$ 245
PS&E*		\$ 617				\$ 617
R/W Support*		\$ 17				\$ 17
Const. Support*				\$ 766		\$ 766
<b>Total</b>	<b>\$ 245</b>	<b>\$ 667</b>	<b>\$ -</b>	<b>\$ 2,848</b>	<b>\$ -</b>	<b>\$ 3,760</b>

All costs X\$1000. Support Categories are the same as those identified by SB 45.

Construction Capital escalated at 3%. Right of Way Capital estimate is escalated.

Support cost escalated at 3.1%

Support Cost ratio: 78% [All Support Costs (\*) divided by the sum of the escalated Construction Capital (\*\*) and the escalated R/W Capital]

**9C. Project Schedule:**

<b>Milestones</b>	<b>Delivery Date (Month, Day, Year)</b>
Begin Environmental	10/1/2012
Circulate DED	5/1/2013
PA & ED	11/1/2013
Regular Right of way	3/1/2014
Project PS&E	3/1/2015
Right of way Certification	8/1/15
Ready to List	11/1/2015
Approve Contract	4/1/2016
Contract Acceptance	2/1/2017
End Project	8/1/2019

**10. FEDERAL COORDINATION**

Federal Aid is anticipated for this project.

**11. SCOPING TEAM FIELD REVIEW ATTENDANCE ROSTER**

Attachment F

Date September 30, 2011

**12. REVIEWS**

Scoping team field review attendance roster (attached).

Project Reviewed by:

District Maintenance Bill Moses Date 8/12/10

District Safety Review Committee \_\_\_\_\_ Date 10/19/11

HQ Division of Design \_\_\_\_\_ Date \_\_\_\_\_

HQ Program Advisor \_\_\_\_\_ Date \_\_\_\_\_

FHWA \_\_\_\_\_ Date \_\_\_\_\_

Others \_\_\_\_\_ Date \_\_\_\_\_

### **13. ATTACHMENTS**

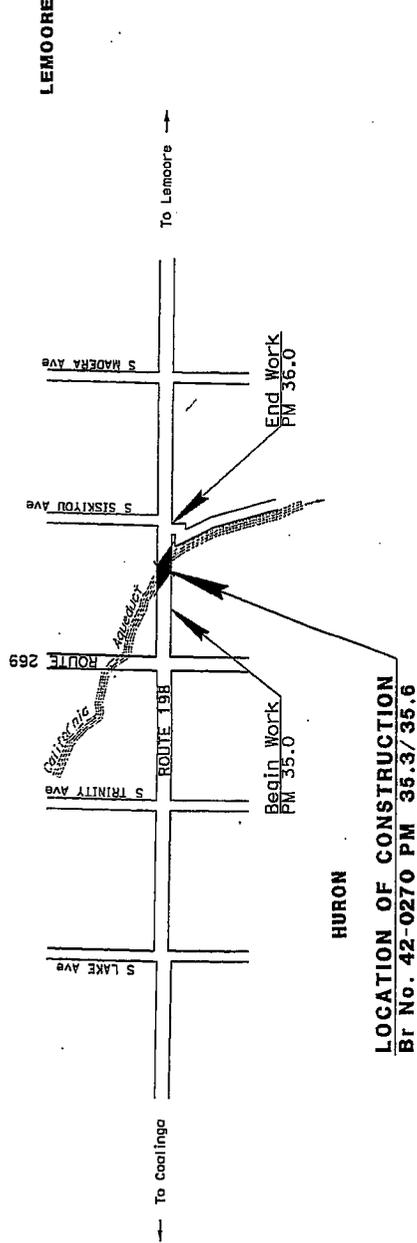
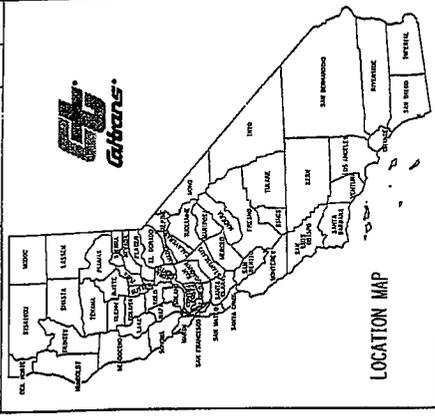
- A. Title Sheet
- B. Transportation Management Plan Data Sheet
- C. Preliminary Environmental Analysis Report
- D. Right of Way Data Sheet
- E. Field Review Attendance Roster
- F. Bridge Inspection Report
- G. Advance Planning Study Transmittal
- H. Storm Water Data Report
- I. Risk Management Plan

INDEX OF PLANS

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 PROJECT PLANS FOR CONSTRUCTION ON  
 STATE HIGHWAY  
 IN FRESNO COUNTY  
 NEAR HURON  
 AT CALIFORNIA AQUEDUCT BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

DIST	COUNTY	ROUTE	TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fres	198	35.3/35.6		



NO SCALE

THE CONTRACTOR SHALL PROTECT THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

BORDER LAST REVISED 7/2/2010 CALTRANS WEB SITE IS: [HTTP://WWW.DOT.CA.GOV/](http://www.dot.ca.gov/)

RELATIVE BORDER SCALE 0 1 2 3 USER USERNAME: USER JOB FILE: REQUEST



PROJECT ENGINEER  
 REGISTERED CIVIL ENGINEER  
 DATE \_\_\_\_\_  
 PLANS APPROVAL DATE \_\_\_\_\_  
 I, \_\_\_\_\_, CIVIL ENGINEER, STATE OF CALIFORNIA, LICENSE NO. \_\_\_\_\_, HEREBY APPROVE THE ACCURACY AND COMPLETENESS OF THESE PLANS SHEET.

CONTRACT NO. **06-0M2504**  
 PROJECT ID **0612000096**

UNIT 1476 PROJECT NUMBER & PHASE 0612000096

DATE PLOTTED => 00-00-00  
 TIME PLOTTED => 09:45

DESIGN ENGINEER	ABDUL BAKER
PROJECT MANAGER	SUZIE HOLLDRIDGE

ATTACHMENT A

# DISTRICT 6 - TRANSPORTATION MANAGEMENT PLAN

## DATA SHEET

(TMP Elements and Costs)

<b>CO/RTE/PM</b>	FRE 198	<b>PM</b>	35.3/35.6	<b>PROJ. NO.</b>	06120000960
<b>PROJECT NAME</b>	CALIFORNIA AQUEDUCT BRIDGE DECK REPLACEMENT				
<b>PROJECT LIMIT</b>	On State Route 198 in Fresno County near Huron at California Aqueduct Bridge (Br. No. 42-270)				
<b>PROJECT DESCRIPTION</b>	Remove and Replace the Deck, Install New Concrete Barrier, Upgrade the MBGR Approach to Current Standards, Replace and Level AC Approaches				

A) *The project includes the following:*  
 (Check all that applicable type of facility closures.)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Highway or Freeway Lanes     | <input type="checkbox"/> Freeway Off-ramps |
| <input checked="" type="checkbox"/> Highway or Freeway Shoulders | <input type="checkbox"/> Freeway On-ramps  |
| <input type="checkbox"/> Freeway Connectors                      | <input type="checkbox"/> Local Streets     |

B) *Are there any construction strategies that can restore existing number of lanes?*  
 No       Yes (Check all applicable strategies.)

- |  |                              |  |
|--|------------------------------|--|
| <input type="checkbox"/> Temporary Roadway Widening Structure Involvement? | <input type="checkbox"/> Yes | <input type="checkbox"/> No (If yes, notify Project Manager) |
| <input type="checkbox"/> Lane Restriping (Temporary narrow lane widths)    |                              |  |
| <input type="checkbox"/> Roadway Realignment (Detour around work area)     |                              |  |
| <input type="checkbox"/> Median and/or Right Shoulder Utilization          |                              |  |
| <input type="checkbox"/> Use of HOV lane as Temporary Mixed Flow Lane      |                              |  |
| <input type="checkbox"/> Staging Alternatives (Explain Below)              |                              |  |

C) *Calculated Delay*  
 (To be performed if construction strategies in Item B do not mitigate congestion resulting from Item A or on all projects along Interstate 5 and Route 99)

- |  |       |           |
|--|-------|-----------|
| 1. Estimated Maximum Individual delay                      | _____ | minutes   |
| 2. Existing or Acceptable Individual Vehicle Delay         | _____ | minutes   |
| 3. Estimated Individual Vehicle Delay Requiring Mitigation | _____ | minutes   |
| 4. Estimate Delay Cost (Most Applicable)                   |       |           |
| <input type="checkbox"/> Extended Weekend Closure          |       |           |
| <input type="checkbox"/> Weekly (7 days)                   |       |           |
| 5. Estimated Duration of Project Related Delays            | _____ | # of Days |
| 6. Cost of Construction Related delays                     | _____ |           |

TMP Estimates based on X-Number of Working Days  
 requiring Lane/Shoulder/Ramp/Freeway/Highway Closures:      101 Working Days

**TMP DATASHEET**

PAGE 2 OF 2

Date: October 10, 2011  
 Design Senior: Abdul Baker  
 Office of Design: I

Branch: A

Cnty/Rte: FRE 198  
 PM: 35.3/35.6  
 Project No: 06120000960

D) Preliminary TMP Elements and cost: (Identify all elements and estimated costs that will be used to mitigate congestion resulting from the proposed construction activities.)

<p><b>1. Public Information - Bees # 066063</b></p> <p><input type="checkbox"/> Brochures &amp; Mailers</p> <p><input checked="" type="checkbox"/> Press Release/Media Alerts</p> <p><input type="checkbox"/> Paid Advertisements</p> <p><input type="checkbox"/> Public Information Center/Kiosks</p> <p><input type="checkbox"/> Telephone Hotline</p> <p><input checked="" type="checkbox"/> Planned Lane Closure Website</p> <p><input type="checkbox"/> Project Website</p> <p><input type="checkbox"/> Pubic Meetings</p> <p><input type="checkbox"/> Freight Travel Information</p>	<p>\$5,000</p> <p>\$0</p>	<p><b>4. Construction Strategies (In Addition to Elements Identified on Item B)</b></p> <p><input type="checkbox"/> Two-way Traffic On One Side</p> <p><input type="checkbox"/> Reversible Lanes</p> <p><input type="checkbox"/> Ramp/Connector Closure</p> <p><input type="checkbox"/> Night Work</p> <p><input type="checkbox"/> Extended Weekend Work</p> <p><input type="checkbox"/> Ped/Bicycle Access Improvements</p> <p><input type="checkbox"/> Maintain Business Access</p> <p><input type="checkbox"/> A + B Bidding</p> <p><input type="checkbox"/> Innovative Const. Techniques</p> <p><input checked="" type="checkbox"/> Coordination w/ Adj. Const. Site</p> <p><input type="checkbox"/> Speed Limit Reduction</p> <p><input type="checkbox"/> Traffic Screens</p>	<p>\$0</p> <p>\$0</p>
<p><b>2. Motorist Information Strategies</b></p> <p><input checked="" type="checkbox"/> Traffic Radio Announcements</p> <p><input type="checkbox"/> Fixed CMS</p> <p><input checked="" type="checkbox"/> Portable CMS BEES 128650</p> <p><input type="checkbox"/> Temporary Motorist Information Signs</p> <p><input type="checkbox"/> Ground Mounted Signs (Detour)</p> <p><input type="checkbox"/> Dynamic Speed Message Sign</p> <p><input type="checkbox"/> Highway Advisory Radio</p> <p><input checked="" type="checkbox"/> CT Hwy Infom. Network (CHIN)</p>	<p>\$0</p> <p>\$33,000</p> <p>\$0</p>	<p><b>5. Demand Management</b></p> <p><input type="checkbox"/> HOV Lane/Ramps</p> <p><input type="checkbox"/> Variable Work Hours</p> <p><input type="checkbox"/> Telecommuting</p> <p><input type="checkbox"/> Truck/Heavy Vehicle Restrictions</p> <p><input type="checkbox"/> Rideshare Promotions</p> <p><input type="checkbox"/> Ramp Metering</p> <p><input type="checkbox"/> Transit Incentives</p> <p><input type="checkbox"/> Shuttle Services</p> <p><input type="checkbox"/> Ridesharing/Carpooling Incentives</p> <p><input type="checkbox"/> Park &amp; Ride Promotion</p>	<p>\$0</p> <p>\$0</p>
<p><b>3. Incident Management</b></p> <p><input checked="" type="checkbox"/> Transportation Management Center</p> <p><input type="checkbox"/> Traffic Management Team (TMT)</p> <p><input type="checkbox"/> Intelligent Transportation Systems</p> <p><input type="checkbox"/> Traff. Surveillance (Loop &amp; CCTV)</p> <p><input type="checkbox"/> Helicopter Surveillance</p> <p><input type="checkbox"/> Tow/Freeway</p> <p><input type="checkbox"/> COZEEP BEES 066062</p>	<p>\$0</p>	<p><b>6. Alternative Route Strategies</b></p> <p><input type="checkbox"/> Off-site Detours/Use of Alt. Rtes</p> <p><input type="checkbox"/> Signal Timing/Coord. Improvements</p> <p><input type="checkbox"/> Temporary Traffic Signals</p> <p><input type="checkbox"/> Signal Retiming</p> <p><input type="checkbox"/> Street/Intersection Improvements</p> <p><input type="checkbox"/> Turn Restrictions</p> <p><input type="checkbox"/> Parking Restrictions</p>	<p>\$0</p> <p>\$0</p>
<p><b>4. Construction Strategies (In Addition to Elements Identified on Item B)</b></p> <p><input checked="" type="checkbox"/> Lane Requirement Chart</p> <p><input type="checkbox"/> Construction Staging</p> <p><input type="checkbox"/> Traffic Handling Plans</p> <p><input type="checkbox"/> Full Facility Closures</p> <p><input type="checkbox"/> Local Road Closures</p> <p><input type="checkbox"/> Lane Modifications</p> <p><input checked="" type="checkbox"/> One-Way Reversing Operation</p>	<p>\$0</p> <p>\$0</p>	<p><b>7. Other Considerations</b></p> <p><input type="checkbox"/> Application of New Technologies</p> <p><input type="checkbox"/> Other</p>	<p>\$0</p>

<b>TOTAL ESTIMATED COST OF TMP</b>	<b>\$43,000</b>
------------------------------------	-----------------

**PROJECT NOTES:**

1. Current dollar values used. Inflation was not factored into the estimate.
2. There are no noise restrictions / moratoriums for night work.
3. Traffic Control/Maintain Traffic costs was not provided. Please consult with the OE or construction office for this estimate.
4. Portable CMS specified for this project by this estimate is designed for congestion relief as outlined by DD-60. Portable CMS required for other purposes should be included under other specifications.
5. COZEEP specified for this project by this estimate is designated for congestion relief as outlined by DD-60. COZEEP required for other purposes should be included under other specifications.
6. The TMP is a living document that is subject to change if material changes take place in the final version of the project phase or if changes are required during construction to respond to excessive levels of congestion.

PREPARED BY: Jose D. Fernandez, Jr.	OFFICE OF TRAFFIC MANAGEMENT	DATE: October 10, 2011
--	------------------------------	---------------------------



## Preliminary Environmental Analysis Report

### Project Information

District	<u>06</u>	County	<u>FRE</u>	Route	<u>198</u>	Post Mile	<u>35.3/35.6</u>	EA	<u>06-0M250</u>
Project ID#:	<u>06-1200-0096</u>								
Project Title:	<u>Highway 198 Bridge Deck Replacement</u>								
Project Manager:	<u>Suzie Holdridge</u>	Phone #:	<u>559-243-3432</u>						
Design Manager:	<u>Abdul Baker</u>	Phone #:	<u>559-243-8037</u>						
Design Engineer:	<u>Thuylinh Nguyen</u>	Phone #:	<u>559-243-3853</u>						
Environmental Manager:	<u>Kelly Hobbs</u>	Phone #:	<u>559-445-5286</u>						
Environmental Planner:	<u>Shane Gunn</u>	Phone #:	<u>559-445-5329</u>						

### PSR Summary Statement

The anticipated environmental document for the proposed project is a Negative Declaration (Appendix G)/Categorical Exclusion. The California Department of Transportation (Caltrans) would act as the lead agency in the preparation of a joint CEQA/NEPA environmental document. This document level has been selected based on the minimal impact to the watercourse and bridge in the project description, where no mitigation is anticipated as defined by CEQA. Caltrans will serve as the NEPA lead agency under its assumption of responsibility pursuant to 23 U.S. Code 327. The estimated time to obtain environmental approval is 12 months from the start of environmental studies. Assuming a start date of October 2012, environmental studies would begin November 2012 after preliminary project maps and permits to enter are completed. The final environmental document would be anticipated by November 2013.

It is anticipated that environmental studies and reports will be required for this project, including, but not limited to: historic resource evaluation report, historic property survey report, and biological surveys and permits. It is currently estimated that cultural resource studies will be the critical path for the delivery of the environmental document. A 401, 404, and 1600 permit will be required to be issued by the Regional Water Quality Control Board and Army Corps of Engineers, and California Department of Fish and Game respectively. Swallow and Bat exclusion is expected as a requirement for this project with an estimated cost of \$50,000.

### Project Description

Caltrans proposes to replace the bridge deck, install a new concrete barrier, upgrade the metal beam guardrail (MBGR) approaches to current standards and replace and level the AC approaches on the Highway 198 bridge that crosses the California Aqueduct. This 236-foot-long bridge carries Highway 198 (Dorris Avenue) over the California Aqueduct in southern Fresno County, about 9 miles west of Interstate 5 and four miles east of Lemoore Naval Air Station.

The Structure, which was built in 1967, features five precast, pre-stressed I-girders on reinforced concrete pier walls and open-end seat type abutments.

**Purpose and Need**

The purpose of the project is to extend the life of the bridge by halting further corrosion of the bridge deck through replacement.

**Description of Work**

Caltrans proposes to rehabilitate the California Aqueduct Bridge on Highway 198 between post miles 35.3 and 35.6 in Fresno County near the City of Huron.

**Alternatives**

There are two alternatives being considered for this project. Alternative 1 is proposed to rehabilitate the bridge. Alternative 2 is the "No-Build alternative."

**Funding**

State     Federal

This project is proposed to be funded from the State Highway Operation and Protection Program (SHOPP) Bridge Rehabilitation Program.

**Anticipated Environmental Approval**

**CEQA**

- Categorical Exemption/Statutory Exemption
- Negative Declaration/Mitigated ND ( Appendix G)
- Environmental Impact Report

**NEPA**

- Categorical Exclusion ( 6004 /  6005)
- Finding of No Significant Impact
- Environmental Impact Statement

**Anticipated Environmental Schedule**

Total Time for Environmental Approval	12 months
Start Date	October 1, 2012
Begin Environmental	November 1, 2012
Draft Environmental Document	May 30, 2013
Final Environmental Document	September 23, 2013
PA&ED*	November 1, 2013

\*PA&ED is generally 1 month following the FED date

**Assumptions and Risks**

Assumptions:

- No right-of-way acquisition is anticipated.
- An opportunity for Public Hearing would be required but not requested.
- SHPO will concur with a Finding of No Adverse Effect.

- No right-of-way acquisition is anticipated.
- An opportunity for Public Hearing would be required but not requested.
- SHPO will concur with a Finding of No Adverse Effect.

**Risks:**

- If a new alternative is presented there would be an impact to Scope, Cost and Schedule. Probability of occurrence is a 1, the impact to Scope would be Moderate, impact to Cost would be Low and impact to Time would be Moderate.
- If the bridge is closed for construction, rather than leaving one lane open for travel it could trigger additional environmental studies of possible detours. Probability of occurrence is a 1, the impact to Scope would be Moderate, impact to Cost would be High, impact to Time would be Very High.

Risk Probability Ranking	
Ranking	Probability of Risk Event
5	60-99%
4	40-59%
3	20-39%
2	10-19%
1	1-9%

Evaluating Impact of a Threat on Project Objectives						
Impact		Very Low	Low	Moderate	High	Very High
<b>Objectives</b>	Time	Insignificant Schedule Slippage	Delivery Plan Milestone Delay within quarter	Delivery Plan milestone delay of one quarter	Delivery Plan milestone delay of more than 1 quarter	Delivery Plan milestone delay outside fiscal year
	Cost	Insignificant Cost Increase	<5% Cost Increase	5-10% Cost Increase	10-20% Cost Increase	>20% Cost Increase
	Scope	Scope decrease is barely noticeable	Changes in project limits or features with <5% Cost Increase	Changes in project limits or features with 5-10% Cost Increase	Sponsor does not agree that Scope meets the purpose and need	Scope does not meet purpose and need

**Mitigation**

**Right of Way Capital (050)**

- State Water Resources Control Board 401 Permit Fees: \$640

**Construction Capital (042)**

- Swallow Exclusion: \$10,000 (2011 dollars)

- Bat Exclusion: \$40,000 (2011 dollars)

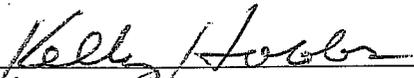
**Disclaimer**

This report is not an environmental document. Preliminary analysis, determinations, and estimates of mitigation costs are based on the project description provided in this report. The estimates and conclusions provided are approximate and are based on cursory analysis of probable effects. This report is to provide a preliminary level of environmental analysis to supplement the Project Initiation Document. Changes in project scope, alternatives, or environmental laws will require a reevaluation of this report.

**Review and Approval**

I confirm that environmental cost, scope, and schedule have been satisfactorily completed and that the PEAR meets all Caltrans requirements. Also, if the project is scoped as a routine EA, complex EA, or EIS, I verify that the HQ DEA Coordinator has concurred in the Class of Action.

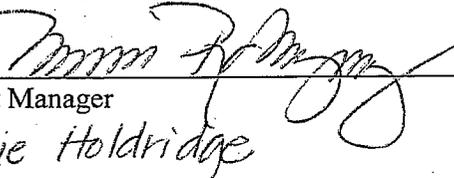
**Approved by:**

  
\_\_\_\_\_  
Environmental Manager

Date: 10/25/2011

  
\_\_\_\_\_  
Environmental Office Chief

Date: 10/25/11

for   
\_\_\_\_\_  
Project Manager  
Suzie Holdridge

Date: 10/25/11

**Environmental Technical Reports or Studies Required**

*Required*—requires analysis including field surveys, database searches, report, or memo to file and brief explanation in the environmental document.

*Not Required*—Issue is not applicable to the proposed project.

*Possible Critical Path*—Major issue that has the potential to drive the schedule and determine the length of time to reach PA&ED (can be more than one major issue).

	Required	Clearance Memo Received	Not Required	Possible Critical Path
<b>Biology</b>		<input checked="" type="checkbox"/>		<input type="checkbox"/>
Endangered Species (Federal)	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Endangered Species (State)	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Species of Concern (CNPS, USFS, BLM, S, F)	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Wetland Delineation	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Natural Environment Study	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Biological Assessment (USFWS, NMFS, State)	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>Cultural Resources</b>				<input checked="" type="checkbox"/>
ASR	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
HRER	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
HPSR/HRCR	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Screening Memo	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SHPO Concurrence	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Native American Coordination	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Finding of Effect Document	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Treatment Plan & MOA	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>Hazardous Waste</b>		<input checked="" type="checkbox"/>		<input type="checkbox"/>
ISA	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
PSI	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
ADL	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>Air Quality Analysis</b>		<input checked="" type="checkbox"/>		<input type="checkbox"/>
Hot Spot Analysis	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
MSAT	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>Noise Study</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Water Quality</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Community Impact Assessment</b>				<input type="checkbox"/>
Environmental Justice	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Growth Related Impacts	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>Cumulative Impacts</b>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Farmland</b>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Visual Resources</b>		<input type="checkbox"/>		<input type="checkbox"/>
Scenic Resource Evaluation	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Visual Impact Assessment	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>Floodplain Evaluation</b>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<b>Paleontology</b>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Section 4(f) Evaluation</b>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Wild and Scenic River Consistency</b>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Geology</b>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Topology**  
**Soils**  
**Greenhouse Emissions**

**Permits Anticipated for Construction**

	<b><u>Required</u></b>	<b><u>Not Required</u></b>
401 Permit Coordination (discharge into navigable waters)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
404 Permit Coordination (discharge into waters of the US including wetlands)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> - Nationwide		
<input type="checkbox"/> - Individual		
1600 Permit (Streambed Alteration)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
City/County Coastal Permit Coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State Coastal Permit Coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>
NPDES Coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>
US Coast Guard (Section 10)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State 2081 Permit (State only incidental take of threatened or endangered species)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion of Technical Review

### Biology

Due to the nature of the project, the lack of natural habitat and the high level of disturbance within and adjacent to the project area, construction of the proposed project will not affect any special-status species or their habitat. United States Army Corps of Engineers (ACOE) jurisdictional waterways will be affected by the proposed project. 401 and 404 permits will be required from ACOE and the Regional Water Quality Control Board. No biological permits will be required.

### Cultural Resources

It is Caltrans' assumption that current and ongoing evaluations of the California Aqueduct will determine that the California Aqueduct is eligible for inclusion in the National Register of Historic Places. If the California Aqueduct is eligible, it is further assumed that the bridges constructed as a part of the aqueduct will be identified as component parts of the aqueduct and therefore be contributing elements, also eligible for the National Register. An HPSR and HRER will be prepared and this bridge will have to be evaluated in the developed context. The HPSR will be submitted to SHPO for concurrence as well as a Finding of No Adverse Effect for SHPO concurrence.

### Hazardous Waste

Per the Hazardous Waste memo dated September 27, 2011, the following hazardous waste concerns have been identified: asbestos, treated wood waste, lead paint and yellow thermoplastic paint striping. Removal of any hazardous waste will follow the criteria set forth in standard and nonstandard special provisions.

### Air Quality Analysis

The proposed project would not impact local air quality. A clearance memo was received on October 3, 2011.

### Noise Study

The proposed project is not considered a Type 1 project, therefore additional noise investigation is not required per the Noise memo dated October 3, 2011.

### Water Quality

As stated in the Water Quality memo dated October 3, 2011, the project does not have the potential to affect long-term water quality. All short-term water quality impacts need to be addressed in the Design and Construction phases of the project. In order to address all potential impacts, Best Management Practices will be implemented in accordance with the Project Planning and Design Guide. The contractor, as required in Caltrans Standard Specification Section 7-1.01G, must address all potential water quality impacts that may occur during construction.

### Community Impact Assessment

There are no anticipated community impacts.

### Cumulative Impacts

There are no anticipated cumulative impacts.

### Farmland

There are no anticipated farmland impacts.

Visual Resources

The proposed project would not impact a visual resource.

Floodplain Evaluation

Based on the Flood Insurance Rate Map (FIRM) Community Panel Number 06019C3100H this project falls within "Zone A", which is defined as an area of special flood hazard without water surface elevations determined. A location hydraulic study or technical memo will be required.

Paleontology

The proposed project would not impact paleontological resources. A clearance memo was received on October 13, 2011.

Section 4(f) Evaluation

There are no Section 4(f) properties near the project limits; therefore there are no Section 4(f) impacts.

Wild and Scenic River Consistency

There are no Wild and Scenic Rivers near the project limits. No study is required.

Geology

The proposed project would not alter the existing conditions with respect to geology in the project area. No further study is required.

Topology

The proposed project would not alter the existing conditions with respect to topology in the project area. No further study is required.

Soils

The proposed project would not alter the existing conditions with respect to soils in the project area. No further study is required.

Greenhouse Emissions

The proposed project is not considered to be a "major project" for the consumption of energy during construction or operation and is expected to have no potential for climate change impacts.

Permits.

- 401 Permit required because of work being done on or in the California Aqueduct.
- 404 Permit required because of work being done on or in the California Aqueduct.

List of Preparers

Biology by Primavera Parker	October 10, 2011
Hazardous Waste by Juergen Vespermann	September 27, 2011
Cultural by Philip Vallejo	October 12, 2011
Air Quality by Ken Romero	October 3, 2011

Noise by Ken Romero	October 3, 2011
Water Quality by Ken Romero	October 3, 2011
Preliminary Environmental Analysis Report by Shane Gunn	October 18, 2011

**Memorandum**

To: Suzie Holdridge

Date: 10/21/2011

File: CD 06 EA 0M2501 Alt Rev1

Attn

Co FRE RTE 198

DESCRIPTION: BRIDGE DECK REPLACEMENT
---

From: Department of Transportation  
Division of Right of Way Central Region

Subject: RIGHT OF WAY DATA SHEET

We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated 10/19/2011

The following assumptions and limiting conditions were identified:

Appraisal

Utility

Per the Right of Way Data Sheet Request Form received from Jonathan Adjei, Project Engineer, there is no utility relocation involvement and no potholing is required. A utility permit search was completed. Upon a field review by the project engineer, a high voltage PG&E overhead line crosses the canal and an underground pacific telephone line runs east of the bridge.

Right of Way Lead Time will require a minimum of 8 months after we receive Certified Appraisal Maps and/or Utility Conflict Plans, obtained necessary environmental clearance and applicable freeway agreements have been approved.



NICHOLAS G DUMAS  
Assistant Region Division Chief, Right of Way  
(559) 445-6195

**Right Of Way Cost Estimate**

	Current Year 2012	Contingency Rate	Right of Way Escalation Rate	Escalated Year 2012
Acquisition:	\$0	25%	5%	\$0
Mitigation:	\$800	25%	5%	\$840
State Share of Utilities:	\$30,000	25%	5%	\$31,500
Expert Witness:	\$0	25%	5%	\$0
Relocation Assistance:	\$0	25%	5%	\$0
Demolition and Clearance:	\$0	25%	5%	\$0
Title and Escrow:	\$0	25%	5%	\$0
Ad Signs:	\$0	25%	5%	\$0
<b>Total Current Value:</b>	<b>\$30,800</b>			<b>\$32,340</b>

If RW Cost Est fields are blank, Costs = \$0

Estimated Construction Contract Work (CCW):

R/W LEAD TIME/Mo. 8

**Cost Break Down**

Pot Hole	
Mitigation	
Land	0
Bank	0
Permit Fee	640

**RR Involvement**

Railroad Facilities or Right of Way Affected?	
Const/Maint Agreement:	
Service Contract:	
Right of Entry:	
Clauses:	
Estimated Lead-time	

**Parcel Data**

# of Parcel Type X:	0		
# of Parcel Type A: less than \$10,000 non-complex	0		
# of Parcel Type B: more than \$10,000 non-complex	0		
# of Parcel Type C: complex, special valuation	0		
# of Parcel Type D: most complex and time consuming	0	# of Duals Needed:	
<b>Totals:</b>	<b>0</b>	<b>Totals:</b>	<b>0</b>

# of Excess Parcels: 0

**Misc R/W Work**

# of RAP Displacements:	0
# of Clearance/Demos:	
# of Const Permits:	
# of Condemnations:	

**Utilities**

U4-1: Owner Expense	
U4-2: State Expense, Conventional no Fed Aid	
U4-3: State Expense, Freeway no Fed Aid	
U4-4: State Expense, both with Fed Aid	
U5-7: Utility verification, no relocation/potholing	
U5-8: Utility verification, w/ some relocation/potholing	
U5-9: Utility verifications, relocation/potholing required	

EA: 06-0M2501 ALT: Rev1

Parcel Area

Total R/W Required:	0
Total Excess Area:	0

General Description of R/W and Excess Lands Required (zoning, use, major improvements, critical or sensitive parcels, etc.):

**General Description of Utility Involvement:**

The project proposes to replace the bridge deck at the California Aqueduct Bridge located in Fresno County on State Route 198 at postmile 35.3/35.6. As part of the bridge deck replacement, installation of a new concrete barrier, upgrade the approaches MBGR, replace and level AC approaches.

Is there a significant effect on assessed valuation:

No

Were any previously unidentified sites with hazardous waste or material found:

No

Are RAP displacements required:

No

# of single family:

# of multi-family:

# of business/nonprofit:

# of farms:

Sufficient replacement housing will be available without last resort housing:

Are material borrow or disposal sites required:

No

Are there potential relinquishments or abandonments:

No

Are there any existing or potential airspace sites:

No

Are environmental mitigation parcels required:

Yes

**Data for evaluation provided by:**

Estimator:

H YANG

10/21/2011

Railroad Liaison Agent:

Utility Relocation Coordinator:

Stephanie Rendon-Fuentes

10/20/2011

*I have personally reviewed this Right of Way Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.*

Date

ENTERED PMCS

10/21/2011

BY: H YANG

NICHOLAS G DUMAS

Assistant Region Division Chief, Right of Way

# FIELD REVIEW ATTENDANCE ROSTER

06-0M250K CALIFORNIA AQUEDUCT BRIDGE

September 30, 2011

<u>NAME</u>	<u>FUNTIONAL UNIT</u>	<u>PHONE</u>
Jonathan Adjei	Design I	(559)243-3868
Thuy Linh Nguyen	Design I	(559)243-3853
Michael Downs	Structure Design	(916)277-9365
Shane Gunn	Environmental Planner	(559)445-5329

ATTACHMENT E



DEPARTMENT OF TRANSPORTATION  
Structure Maintenance & Investigations

Bridge Number : 42 0270  
Facility Carried: SR 198 (DORRIS AV)  
Location : 06-FRE-198-35.4  
City  
Inspection Date : 04/09/2009

Bridge Inspection Report

Inspection Type  
Routine  EC  Underwater  Special  Other

STRUCTURE NAME: CALIFORNIA AQUEDUCT

CONSTRUCTION INFORMATION

Year Built : 1967  
Year Widened: N/A  
Length (m) : 71.9

Skew (degrees) : 27  
No. of Joints : 4  
No. of Hinges : 0

Structure Description: Precast prestressed I-girders (5) on RC pier walls and open-end seat type abutments.

Span Configuration : 3 @ 22.6 m

LOAD CAPACITY AND RATINGS

Design Live Load: MS-18 OR HS-20  
Inventory Rating: 32.4 metric tonnes  
Operating Rating: 71.3 metric tonnes  
Permit Rating: PEP  
Posting Load: Type 3: Legal

Calculation Method: LOAD FACTOR  
Calculation Method: LOAD FACTOR

Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.3 m br, 12.2 m, 0.3 m br

Total Width: 12.8 m

Net Width: 12.2 m

No. of Lanes: 2

Rail Description: Barrier Railing Type 1

Rail Code : 0000

Min. Vertical Clearance: Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description: Concrete lined channel.

CONDITION TEXT

HISTORY

This structure was built in 1967. In 1980 under contract 06-188604, unsound concrete was removed from 15% of the deck area to an average depth of 0.35 feet. AC was applied to the full deck area.

Corrosion testing was completed on 6 concrete cores collected from the bridge deck, with August 2005 test results indicating active corrosion is occurring in all 6 cores.

CONDITION OF STRUCTURE

INSPECTION ACCESS

Inspected beneath the bridge from the shores of Abutments 1 and 4 with a string line to climb down the slope paving. The deck was inspected from the shoulders.

DECK AND RAIL

The AC approaches at both ends of the bridge are becoming uneven (previously, this was reported for the approach to Abutment 4 only). About 20 percent of the AC surface on the deck has worn out. There is a 4-inch diameter pothole in the westbound lane of Span 4.

**CONDITION TEXT**

Dirt and debris are accumulating along the shoulders. Recommend this be cleaned off to inhibit deterioration of the deck.

All the construction joints (Abutment 1, Piers 2 and 3, and Abutment 4, pourable type joint seal) are in poor to failed condition. The joint at Abutment 4 is partially covered with AC. Recommend replacing all the pourable joint seals on the bridge. Photos of the joints are included with this BIR.

Corrosion testing was completed on 6 concrete cores collected from the bridge deck, with August 2005 test results indicating active corrosion is occurring in all 6 cores. Photos of the deck are attached.

**SUPERSTRUCTURE**

The RC girders were inspected from each abutment (by string line), and from the sides of the bridge. No defects were seen. Line and grade appeared straight and true.

**SUBSTRUCTURE**

Inspected beneath the bridge from the shores of Abutments 1 and 4 with a string line to climb down the slope paving. No other defects were seen from the ends of the bridge.

**SAFE LOAD CAPACITY**

The safe load capacity for this bridge appears on the September 11, 1981, output for the BDS / Frame at 1.0 inventory rating factor and 2.20 operating rating factor. The inventory rating point was set by PS criteria.

ELEMENT INSPECTION RATINGS										
F#	Elem	Element Description	Qty	Units	Qty in each Condition State					
					St. 1	St. 2	St. 3	St. 4	St. 5	
101	13	Concrete Deck - Unprotected w/ AC Overlay	2	920	sq-m	0	0	0	920	0
101	109	R/S Conc Open Girder/Beam	2	360	m	360	0	0	0	0
101	210	Reinforced Conc Pier Wall	2	29	m	29	0	0	0	0
101	215	Reinforced Conc Abutment	2	29	m	29	0	0	0	0
101	301	Pourable Joint Seal	2	55	m	0	0	55	0	0
101	311	Moveable Bearing (roller, sliding, etc)	2	15	ea	15	0	0	0	0
101	313	Fixed Bearing	2	15	ea	15	0	0	0	0
101	333	Other Bridge Railing	2	168	m	168	0	0	0	0
101	358	Deck Cracking	2	1	ea	0	0	1	0	0

**WORK RECOMMENDATIONS**

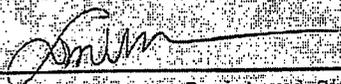
RecDate: 04/09/2009	EstCost: \$552,600	Based on the 2005 Corrosion Test Summary Report, the reinforcing steel of the structure is assumed to be in ACTIVE CORROSION, with samples showing up to 8.4 pounds per cubic yard chloride content (concentrations greater than 3 lb/yd3 are considered active corrosion).
Action: Deck-Replace	StrTarget: 2 YEARS	Considering that 14 of the 18 concrete core samples showed chloride content in the active corrosion phase, the deck should be replaced. This recommendation is an alternative to the entire bridge
Work By: MAINT. CONTRACT	DistTarget: EA	
Status: PROPOSED		

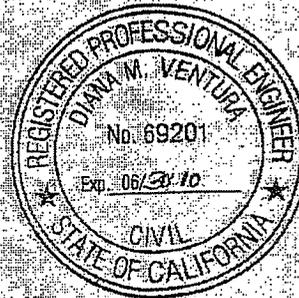
WORK RECOMMENDATIONS

replacement work recommendation made in June 2005.

<p>RecDate: 03/22/2007                  Action : Joints-Replace                  Work By: BRIDGE CREW                  Status : PROPOSED</p>	<p>EstCost: \$5,400                  StrTarget: 2 YEARS                  DistTarget:                  EA:</p>	<p>Replace the joint seals for A1, P2, P3 and A4. Cost estimated at 55 m * \$156 per meter for pourable type joint seal = \$8,580, does not include the cost of traffic control.</p>
<p>RecDate: 03/22/2007                  Action : Deck-Misc                  Work By: BRIDGE CREW                  Status : PROPOSED</p>	<p>EstCost: \$650                  StrTarget: 2 YEARS                  DistTarget:                  EA:</p>	<p>Clean the dirt accumulating along the sides of the bridge deck. Cost estimate 1/4 day bridge crew time * \$2600 per day. Does not consider the cost of traffic control.</p>
<p>RecDate: 06/16/2005                  Action : Bridge-Replace                  Work By: DISTRICT                  Status : PROPOSED</p>	<p>EstCost:                  StrTarget:                  DistTarget:                  EA:</p>	<p>Based on the recent Corrosion Test Summary Report, the reinforcing steel of the structure is assumed to be in ACTIVE CORROSION, with samples showing up to 8.4 pounds per cubic yard chloride content (concentrations greater than 3 lb/yd<sup>3</sup> are considered active corrosion). Considering that 24 of the 18 concrete core samples showed chloride content in the active corrosion phase, the bridge should be replaced.</p>

Inspected By: DM Ventura/N Semander

  
 \_\_\_\_\_  
 Registered Civil Engineer



**STRUCTURE INVENTORY AND APPRAISAL REPORT**

\*\*\*\*\* IDENTIFICATION \*\*\*\*\*

(1) STATE NAME- CALIFORNIA 069  
 (5) STRUCTURE NUMBER 42 0270  
 (5) INVENTORY ROUTE (ON/UNDER)- ON 131001980  
 (2) HIGHWAY AGENCY DISTRICT 06  
 (3) COUNTY CODE 019 (4) PLACE CODE 00000  
 (6) FEATURE INTERSECTED- CALIFORNIA AQUEDUCT  
 (7) FACILITY CARRIED- SR 198 (DORRIS AV)  
 (8) LOCATION- 06-FRE-198-35.4  
 (11) MILEPOINT/KILOMETERPOINT 35.4  
 (12) BASE HIGHWAY NETWORK- PART OF NET 1  
 (13) LRS INVENTORY ROUTE & SUBROUTE 00000019801  
 (16) LATITUDE 36 DEG 15 MIN 18 SEC  
 (17) LONGITUDE 120 DEG 05 MIN 18 SEC  
 (98) BORDER BRIDGE STATE CODE \* SHARE \*  
 (99) BORDER BRIDGE STRUCTURE NUMBER

\*\*\*\*\* STRUCTURE TYPE AND MATERIAL \*\*\*\*\*

(43) STRUCTURE TYPE MAIN MATERIAL- PRESTRESS CONC  
 TYPE- STRINGER/MULTI-BEAM OR GDR CODE 502  
 (44) STRUCTURE TYPE APPR MATERIAL- OTHER  
 TYPE- OTHER CODE 000  
 (45) NUMBER OF SPANS IN MAIN UNIT 3  
 (46) NUMBER OF APPROACH SPANS 0  
 (107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1  
 (108) WEARING SURFACE / PROTECTIVE SYSTEM  
 A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6  
 B) TYPE OF MEMBRANE- NONE CODE 0  
 C) TYPE OF DECK PROTECTION- NONE CODE 0

\*\*\*\*\* AGE AND SERVICE \*\*\*\*\*

(27) YEAR BUILT 1967  
 (106) YEAR RECONSTRUCTED 0000  
 (42) TYPE OF SERVICE: ON- HIGHWAY 1  
 UNDER- WATERWAY 5  
 (28) LANES ON STRUCTURE 02 UNDER STRUCTURE 00  
 (29) AVERAGE DAILY TRAFFIC 3750  
 (30) YEAR OF ADT 1997 (189) TRUCK ADT 12 %  
 (19) BYPASS, DETOUR LENGTH 53 KM

\*\*\*\*\* GEOMETRIC DATA \*\*\*\*\*

(48) LENGTH OF MAXIMUM SPAN 22.76 M  
 (49) STRUCTURE LENGTH 71.9 M  
 (50) CURB OR SIDEWALK LEFT 0.0 M RIGHT 0.0 M  
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 12.2 M  
 (52) DECK WIDTH OUT TO OUT 12.8 M  
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 12.2 M  
 (33) BRIDGE MEDIAN- NO MEDIAN 0  
 (34) SKEW .27 DEG (35) STRUCTURE FLARED NO  
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M  
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 12.2 M  
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M  
 (54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M  
 (55) MIN LAT UNDERCLEAR RT REF- NOT B/RR 0.00 M  
 (56) MIN LAT UNDERCLEAR LT 0.00 M

\*\*\*\*\* NAVIGATION DATA \*\*\*\*\*

(38) NAVIGATION CONTROL- NOT APPLICABLE CODE N  
 (111) PIER PROTECTION- CODE  
 (39) NAVIGATION VERTICAL CLEARANCE 0.0 M  
 (116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M  
 (40) NAVIGATION HORIZONTAL CLEARANCE 0.0 M

\*\*\*\*\* CLASSIFICATION \*\*\*\*\*

SUFFICIENCY RATING- 80.0  
 STATUS STRUCTURALLY DEFICIENT  
 HEALTH INDEX 94.1  
 PAINT CONDITION INDEX N/A

\*\*\*\*\* CLASSIFICATION \*\*\*\*\* CODE

(112) NBIS BRIDGE LENGTH- YES 3  
 (104) HIGHWAY SYSTEM- ROUTE ON NHS 1  
 (26) FUNCTIONAL CLASS- OTHER PRIN ART RURAL 02  
 (100) DEFENSE HIGHWAY- STRAHNET N  
 (101) PARALLEL STRUCTURE- NONE EXISTS 1  
 (102) DIRECTION OF TRAFFIC- 2 WAY 2  
 (103) TEMPORARY STRUCTURE-  
 (105) FED LANDS HWY- NOT APPLICABLE 0  
 (110) DESIGNATED NATIONAL NETWORK - PART OF NET 1  
 (20) TOLL- ON FREE ROAD 3  
 (21) MAINTAIN- STATE HIGHWAY AGENCY 01  
 (22) OWNER- STATE HIGHWAY AGENCY 01  
 (37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

\*\*\*\*\* CONDITION \*\*\*\*\* CODE

(58) DECK 2  
 (59) SUPERSTRUCTURE 8  
 (60) SUBSTRUCTURE 7  
 (61) CHANNEL & CHANNEL PROTECTION 8  
 (62) CULVERTS N

\*\*\*\*\* LOAD RATING AND POSTING \*\*\*\*\* CODE

(31) DESIGN LOAD- MS-18 OR HS-20 5  
 (64) OPERATING RATING METHOD- LOAD FACTOR 1  
 (64) OPERATING RATING 71.2  
 (65) INVENTORY RATING METHOD- LOAD FACTOR 1  
 (66) INVENTORY RATING 32.4  
 (70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5  
 (41) STRUCTURE OPEN, POSTED OR CLOSED-  
 DESCRIPTION- OPEN, NO RESTRICTION

\*\*\*\*\* APPRAISAL \*\*\*\*\* CODE

(67) STRUCTURAL EVALUATION 7  
 (68) DECK GEOMETRY 6  
 (69) UNDERCLEARANCES- VERTICAL & HORIZONTAL N  
 (71) WATER ADEQUACY 9  
 (72) APPROACH ROADWAY ALIGNMENT 8  
 (36) TRAFFIC SAFETY FEATURES 0000  
 (113) SCOUR CRITICAL BRIDGES 8

\*\*\*\*\* PROPOSED IMPROVEMENTS \*\*\*\*\*

(75) TYPE OF WORK- CODE  
 (76) LENGTH OF STRUCTURE IMPROVEMENT M  
 (94) BRIDGE IMPROVEMENT COST \$196,030  
 (95) ROADWAY IMPROVEMENT COST \$79,206  
 (96) TOTAL PROJECT COST \$475,236  
 (97) YEAR OF IMPROVEMENT COST ESTIMATE 2009  
 (114) FUTURE ADT 7334  
 (115) YEAR OF FUTURE ADT 2029

\*\*\*\*\* INSPECTIONS \*\*\*\*\*

(90) INSPECTION DATE 04/09 (51) FREQUENCY 24 MO  
 (92) CRITICAL FEATURE INSPECTION (93) CRT DATE  
 A) FRACTURE CRIT DETAIL- NO MO A)  
 B) UNDERWATER INSP- YES 60 MO B) 03/08  
 C) OTHER SPECIAL INSP- NO MO C)

# Memorandum

*Flex your power!  
Be energy efficient!*

To: **ABDUL BAKER**  
Senior Transportation Engineer  
Design I, Branch A  
Project Development Division  
Central Region

Date: September 23, 2011  
File: 06-Fre-198-PM 35.40  
California Aqueduct Bridge  
(Br. No. 42-0270) -  
Deck Replacement  
06-0M250K  
Project ID 0612000096

From: **MICHAEL DOWNS**   
Technical Liaison Engineer  
Office of Bridge Design Central  
Structure Design  
Division on Engineering Services

Subject: **Advance Planning Study Transmittal**

The Division of Engineering Services has completed the Advance Planning Study to replace the deck on the California Aqueduct Bridge (42-0270) on the above referenced bridge rehabilitation project.

Two alternatives have been prepared. Alternative 1 will require all through traffic to be detoured from the site. Alternative 2 will require stage construction and one-way traffic control for the duration of construction.

The forecast structure costs, including time related overhead, mobilization and contingencies, and preliminary structure working day estimates are as follows:

California Aqueduct Bridge (Br. No. 42-0270) Deck Replacement	Estimated Structure Cost	Preliminary Structure Working Day Estimate
Alternative 1 - Traffic Detoured	\$1,083,000	80 Days
Alternative 2 - Stage Construction	\$1,294,000	101 Days

The structure working day estimate should only be considered to be at a preliminary level of accuracy and without regard to specific information related to contractor submittals, procurement of material, existing or future utilities, permits or any environmental constraints.

The following table summarizes the projected structure cost based on a variable escalation rate. The escalated structure costs are provided for informational purposes only and do not replace annual cost updates as required by Department policy.

Years Beyond Midpoint	Alternative 1	Alternative 2
1	\$1,108,000	\$1,324,000
2	\$1,141,000	\$1,364,000
3	\$1,187,000	\$1,419,000
4	\$1,232,000	\$1,473,000
5	\$1,265,000	\$1,513,000

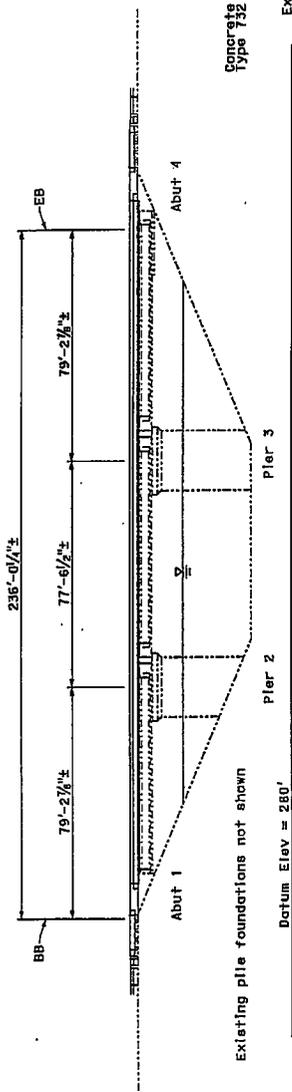
This Advance Planning Study and associated cost estimates are based on the following risks/assumptions:

1. Access below the structure will be necessary for erection/removal of debris containment system and deck formwork. No restrictions assumed.
2. For Alternative 1, through traffic will be detoured for the duration of construction.
3. For Alternative 2, a one-way traffic control will be required for the duration of construction.
4. Traffic control cost, including any necessary temporary railing, to be determined by District.
5. Bridge approach guard railing type and cost to be determined by District.
6. The cost for any necessary exclusionary netting to be determined by District.
7. Cham link or tubular bike railing assumed not required.
8. Any necessary approach pavement work to be determined by District.

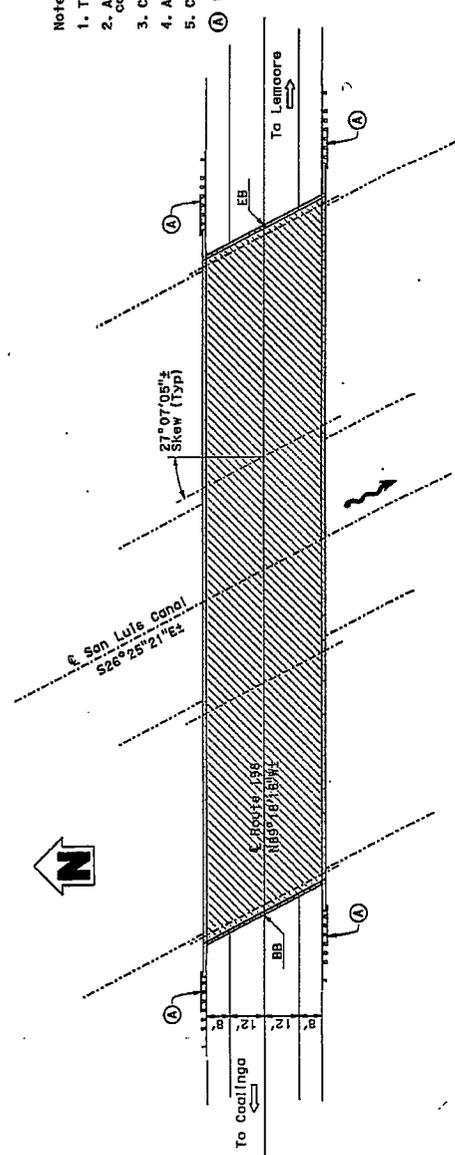
If you have any questions or need further information regarding this study, please contact me at (916) 227-9365.

- c. Peggy Lim – Project Liaison Engineer  
John Stayton – Office of Bridge Design Central/Structure OE  
Kevin Wall – Structure Maintenance & Investigations  
Pete Whitfield – Structure Maintenance & Investigations  
John Babcock – Structure Construction  
Suzie Holdridge – Project Manager, District 6  
Thuylinh Nguyen – CR Project Development  
Jonathan Adjei – CR Project Development

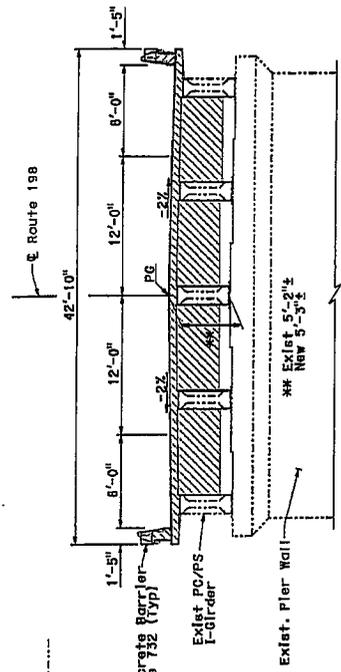
DIST	COUNTY	ROUTE	POST MILE
06	Frb	198	35.4



**ELEVATION**  
1" = 40'



**PLAN**  
1" = 40'



**TYPICAL SECTION**  
1" = 10'

**Notes:**

- Traffic will be detoured, Traffic control cost to be determined by District.
- Access below structure will be necessary for erection/removal of debris containment system and deck formwork. No restrictions assumed.
- Cost for exclusionary netting, if necessary, to be determined by District.
- Any necessary approach pavement work to be determined by District.
- Chain link or tubular bike railing assumed not required.

- (A) Bridge approach guard railing (see Road Plans)
- Indicates bridge removal (portion)
- Indicates existing structure
- Indicates new construction

DATE OF ESTIMATE 9-20-2011  
TOTAL COST = \$1,083,000 RRP

**ALTERNATIVE 1**

DESIGNED BY	M. Downs	DATE	9/11
DRAWN BY	M. Downs	DATE	9/11
CHECKED BY	X	DATE	X
APPROVED	X	DATE	X

<b>STRUCTURE DESIGN BRANCH</b>	
<b>PLANNING STUDY</b>	
<b>CALIFORNIA AQUEDUCT BRIDGE</b>	
UNIT 3565	BRIDGE No. 42-0270
SCALE: As Noted	PROJECT No. & PHASE 06.1200.0096
CONTRACT No. J 06-0M250K	

# PROBABILISTIC STRUCTURE COST ESTIMATE

GENERAL PLAN ESTIMATE  ADVANCE PLANNING ESTIMATE

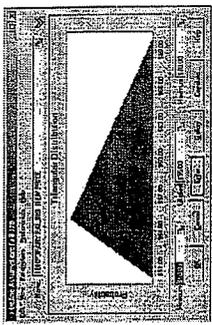
BRIDGE NAME: CALIFORNIA AQUEDUCT BRIDGE - ALT 1  
 BRIDGE NUMBER: 42-0210  
 DISTRICT: 06  
 CITY: RIVERSIDE  
 COUNTY: CALIFORNIA  
 PROJECT ID: 06-04E30K  
 DESIGN SECTION: ILE  
 # OF STRUCTURES IN PROJECT: 2  
 PREPARED BY: RWP  
 CHECKED BY: M. Downs  
 DATE: 09/12/11

ITEM NO.	DESCRIPTION	UNIT	QUANTITY RANGE		ITEM PRICE RANGE		AMOUNT
			MINIMUM	LIKELIEST	MAXIMUM	MINIMUM	
1	BRIDGE REMOVAL (PORTION)	CV		307		\$195,550	
2	STRUCTURE EXCAVATION (BRIDGE)	CV				\$700.00	
3	STRUCTURE BACKFILL (BRIDGE)	CV					
4	STRUCTURE BACKFILL (BRIDGE)	CV					
5	VARIOUS BACKFILL MATERIAL	CV					
6	CIDII CONCRETE PILING	LF					
7	FURNISH PILING	LF					
8	DRIVE PILE	EA					
9	PURIN FORMS CONCRETE ORDERS	EA					
10	ERECT FORMS CONCRETE ORDERS	EA					
11	STRUCTURAL CONCRETE BRIDGE	CV		364		\$327,600	
12	STRUCTURAL CONCRETE BRIDGE FOOTING	CV					
13	STRUCT. CONC. APP SLAB (TYPE N)	CV					
14	PRESTRESSING STEEL	LB				\$13,000	
15	HAIR REINFORCING STEEL (BRIDGE)	LB		131,000			
16	ERECT STRUCTURAL STEEL	LF					
17	FURNISH STRUCTURAL STEEL (INCL PAINT)	LF					
18	JOINT SEAL ASSEMBLY (BAR = 3" x 3")	LF					
19	JOINT SEAL (BAR = 1")	LF		92		\$3,220	
20	SLOPE PAVING	CV					
21	MISCELLANEOUS METAL (BRIDGE)	LB					
22	MISC METAL (RESTRAINER - TIE ROD)	LB					
23	CONCRETE BARRIER (TYPE 33)	LF		512		\$16,640	
24	REMOVE EXISTING BARRIER	LF		512		\$16,720	
25	DRILL AND BOND DOWEL	LF		72		\$2,880	
26							
27							
28							
29							
30							

TIME RELATED OVERHEAD	5%	\$7,450
MOBILIZATION		\$7,181
SUBTOTAL BRIDGE ITEMS	9%	\$38,794
CONTINGENCIES	25%	\$39,584
<b>SUBTOTAL</b>		<b>\$1,049,480</b>

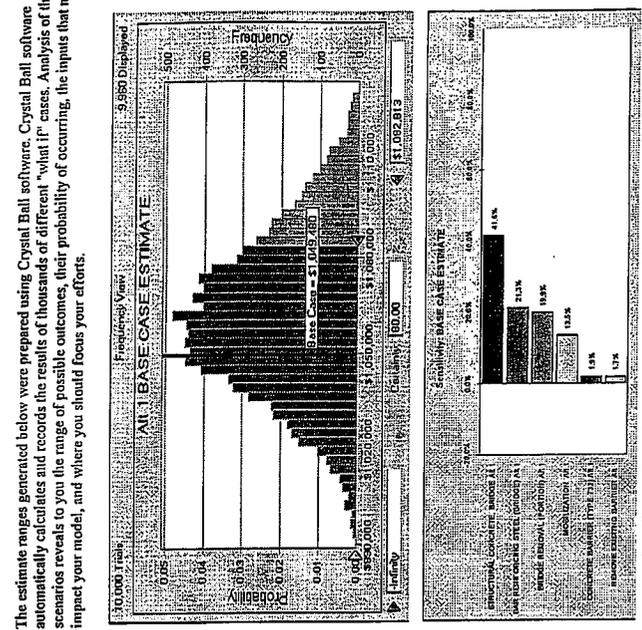
BASELINE ESTIMATE TO ASSUMED MIDPOINT OF CONSTRUCTION  
BASE CASE ESTIMATE

INPUT



The Assumption Curve, under most circumstances, is modeled with a triangular distribution with the "Minimum, Likelihood and Maximum values."

OUTPUT

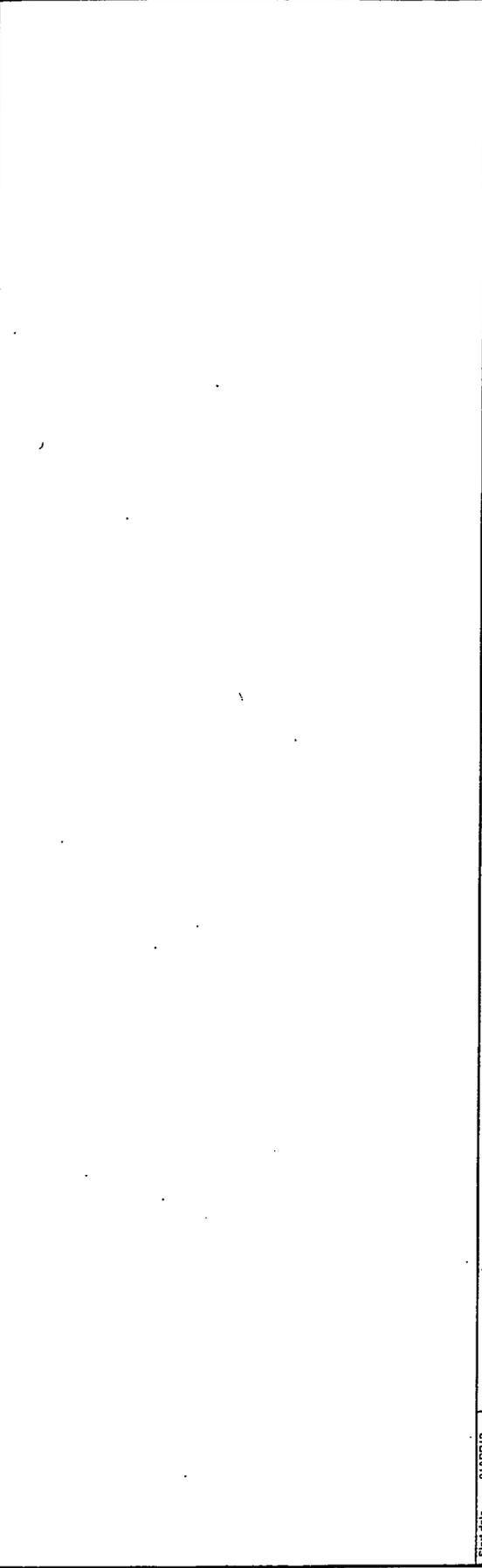
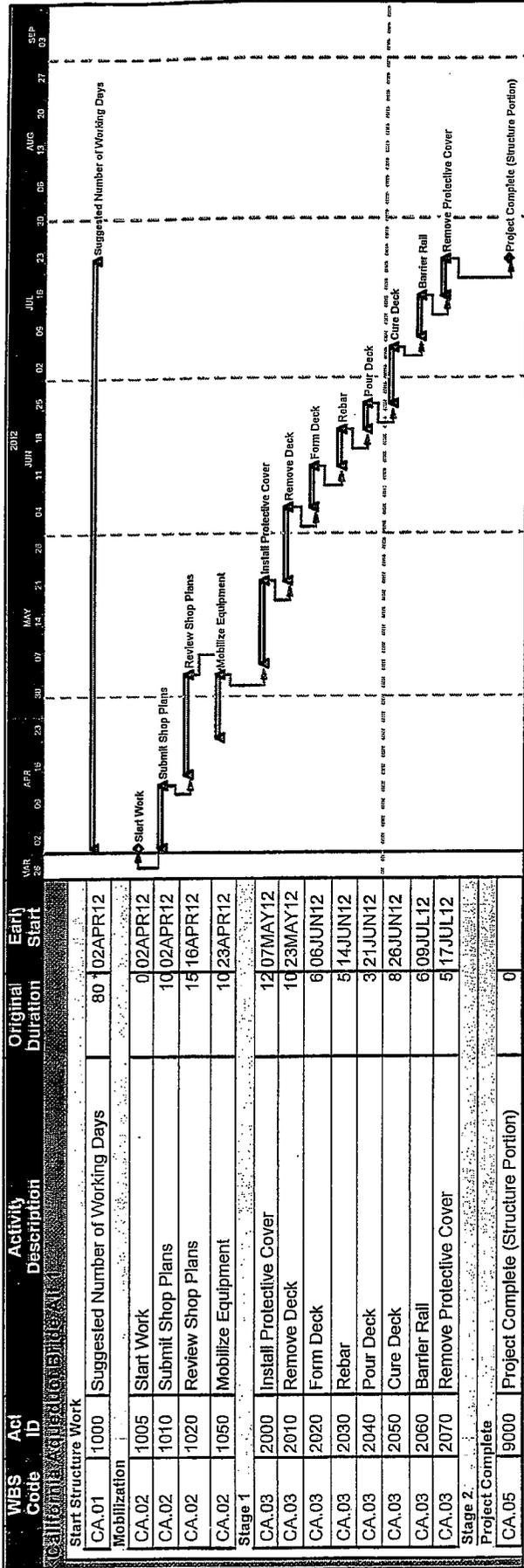


**80% FORECAST VALUE = \$1,083,000.00**  
 Escalation Rate  
 1 2.3%  
 2 3.0%  
 3 4.0%  
 4 3.8%  
 5 2.7%

BASED ON THE ASSUMPTIONS USED TO CREATE THE MODEL, THE DES-STRUCTURE OFFICE ENGINEER RECOMMENDS THAT THE PROGRAMMING LEVEL BUDGET FOR THIS PROJECT BE DESIGNATED AT THE 80% FORECAST VALUE.  
 Recommended Range  
 70% \$1,067,524  
 80% \$1,082,813  
 90% \$1,095,218  
 100% \$1,110,032

90% Forecast Value Escalated Budget Estimate to Assumed Midpoint of Construction  
 Escalated Budget Est.  
 \$1,108,000  
 \$1,141,000  
 \$1,187,000  
 \$1,232,000  
 \$1,265,000

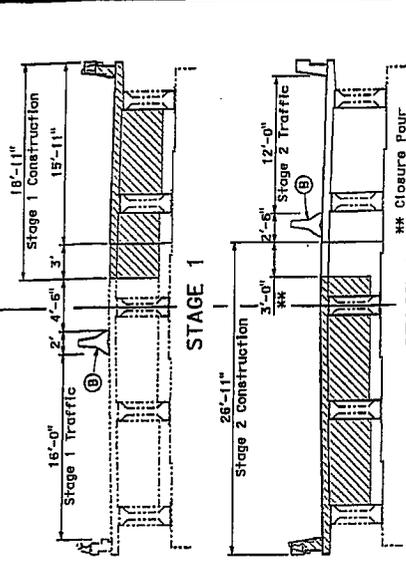
Bridge Cost per Square Foot and/or Bridge Removal costs needed independently. Their 80% Forecast Values Provided for informational purposes only.  
 BRIDGE COST PER SQUARE FOOT  
 BRIDGE REMOVAL



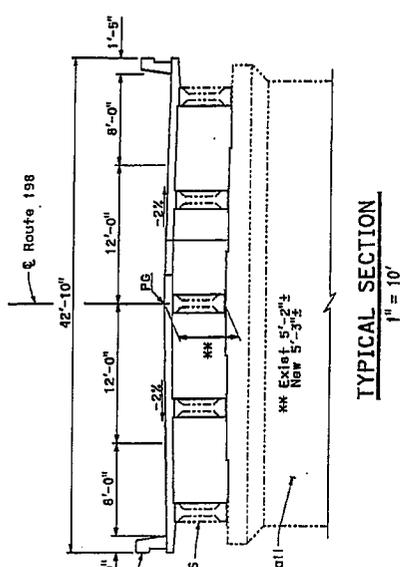
Start date	01APR12
Finish date	23JUL12
Date date	01APR12
Run date	16SEP11
Page number	1A
© Primavera Systems, Inc.	

Early start point    Early finish point  
 Early bar    Target start point  
 Target finish point    Target bar  
 Critical bar    Critical point  
 Start milestone point

POST	COUNTY	ROUTE	POST MILE
06	Fra	198	35.4



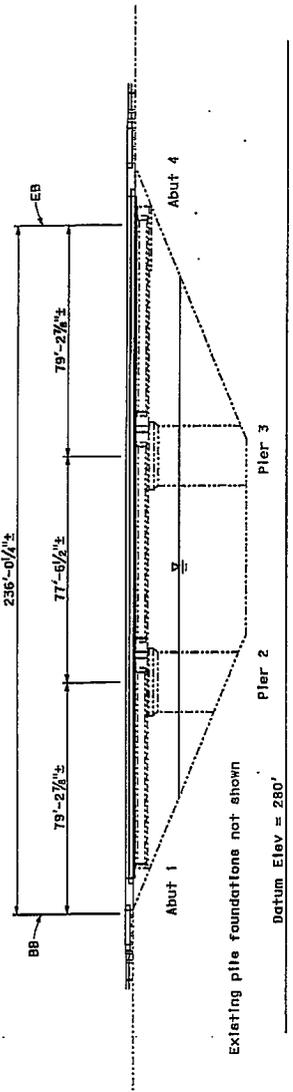
**STAGE CONSTRUCTION**  
1" = 10'



**TYPICAL SECTION**  
1" = 10'

DATE OF ESTIMATE 9-20-2011  
TOTAL COST = \$1,294,000 RMP

**ALTERNATIVE 2**  
**PLANNING STUDY**  
**CALIFORNIA AQUEDUCT BRIDGE**  
UNIT: 3565 BRIDGE No. 42-0270  
SCALE: AS NOTED PROJECT No. & PHASE: 06.1200.0096  
CONTRACT No.: 06-0M25DK

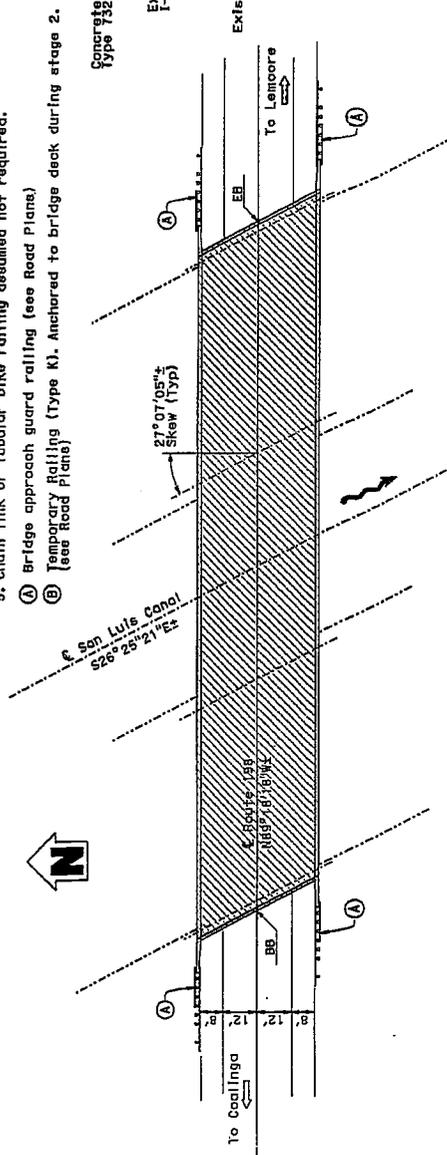


**ELEVATION**  
1" = 40'

Notes:

1. Stage construction with one-way traffic control will be required. Traffic control cost to be determined by District.
  2. Access below structure will be necessary for erection/removal of debris containment system and deck formwork. No restrictions assumed.
  3. Cost for exclusionary netting, if necessary, to be determined by District.
  4. Any necessary approach pavement work to be determined by District.
  5. Chain link or tubular bike railing assumed not required.
- (A) Bridge approach guard railing (see Road Plans)  
(B) Temporary railing (Type K). Anchored to bridge deck during stage 2.

- Indicates bridge removal (portion)
- Indicates existing structure
- Indicates new construction



**PLAN**  
1" = 40'

DESIGNED BY	M. Downie	DATE	9/11
DRAWN BY	M. Downie	DATE	9/11
CHECKED BY	X	DATE	X
APPROVED	X	DATE	X

# PROBABILISTIC STRUCTURE COST ESTIMATE

GENERAL PLAN ESTIMATE  ADVANCE PLANNING ESTIMATE

IN EST: 09/12/11  
 OUT EST: 09/19/11

BRIDGE NAME: CALIFORNIA AQUeduct BRIDGE - ALT+ 2  
 BRIDGE NUMBER: 12-0270  
 TYPE: ERE  
 CD: 198.00  
 RLE: 35.40  
 TML: 262  
 DEPTH: 43  
 WIDTH: 11,222  
 AREA: 297

PROJECT ID: 06-01250K

DESIGN STRUCTURE: TLE  
 # OF STRUCTURES IN PROJECT: 2

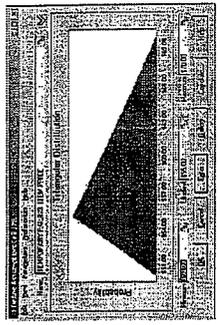
PHASE BY: RWP  
 PRICES CHECKED BY: M. Downs  
 QUANTITIES BY: M. Downs

DATE: 09/12/11

ITEM	CONTRACT ITEMS	UNIT	QUANTITY RANGE		MINIMUM	LIKELIEST	MAXIMUM	AMOUNT
			MINIMUM	LIKELIEST				
1	BRIDGE REMOVAL (PORTION)	CY	207	207	\$700.00	\$850.00	\$239,400	
2	STRUCTURE EXCAVATION (BRIDGE)	CY						
3	STRUCTURE EXCAVATION	CY						
4	STRUCTURE BACKFILL (BRIDGE)	CY						
5	PERVIOUS BACKFILL MATERIAL	CY						
6	CIDH CONCRETE PILING	LF						
7	FURNISH PILING	LF						
8	DRIVE PILE	EA						
9	FURNISH CONCRETE GIRDERS	EA						
10	ERECT FORMS CONCRETE GIRDERS	EA						
11	STRUCTURAL CONCRETE BRIDGE	CY	364	364	\$1,000.00	\$1,200.00	\$392,120	
12	STRUCTURAL CONCRETE BRIDGE FOOTING	CY						
13	STRUCT CONC. APP SLAB (TYPE N)	CY						
14	PRESTRESSING STEEL	LB	191,000	191,000	\$1.10	\$1.35	\$197,200	
15	BAR REINFORCING STEEL (BRIDGE)	LB						
16	FURNISH STRUCTURAL STEEL	LB						
17	ERECT STRUCTURAL STEEL (INCL PAINT)	LB						
18	JOINT SEAL ASSEMBLY (MR = 3" - 3")	LF						
19	JOINT SEAL (MR = 1")	LF						
20	SLOPE PAVING	CY	92	92	\$37.00	\$50.00	\$3,864	
21	MISCELLANEOUS METAL (BRIDGE)	LB						
22	MISC METAL (RESTRAINER - THE ROD)	LB						
23	CONCRETE BARBER (TYPE 75)	LF	512	512	\$100.00	\$100.00	\$58,168	
24	REMOVE EXISTING BARBER	LF	512	512	\$5.00	\$5.00	\$3,608	
25	DRILL AND BOND DOWEL	LF	72	72	\$40.00	\$40.00	\$3,456	
26								
27								
28								
29								
30								
Comments								
TIME RELATED OVERHEAD								
MOBILIZATION								
SUBTOTAL BRIDGE ITEMS								
CONTINGENCIES								
STAGE CONSTRUCTION								
ONE WAY TRAFFIC CONTROL								
BRIDGE REMOVAL (CONTINGENCIES INCL)								
SF								

Notes  
 Highlighted cells represent the quantities and prices that are included in the model.  
 Base Case Estimate is the sum of the "Likeliest" Quantity multiplied by "Likeliest" Item

INPUT

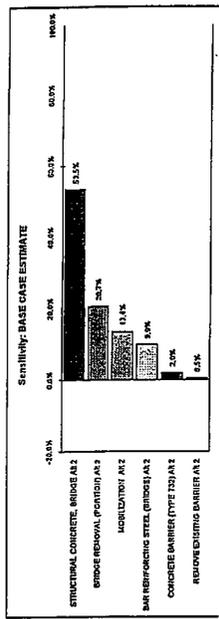
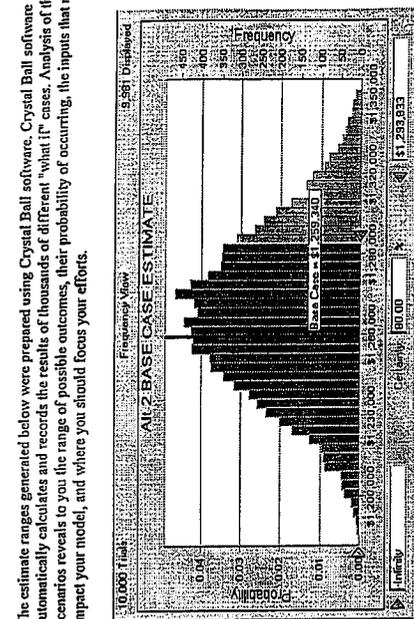


The Assumption Curves, unless noted otherwise, are modeled with a triangular distribution with the "Minimum, Likeliest and Maximum values."

ITEM	CONTRACT ITEMS	UNIT	QUANTITY RANGE		MINIMUM	LIKELIEST	MAXIMUM	AMOUNT
			MINIMUM	LIKELIEST				
1	BRIDGE REMOVAL (PORTION)	CY	207	207	\$700.00	\$850.00	\$239,400	
2	STRUCTURE EXCAVATION (BRIDGE)	CY						
3	STRUCTURE EXCAVATION	CY						
4	STRUCTURE BACKFILL (BRIDGE)	CY						
5	PERVIOUS BACKFILL MATERIAL	CY						
6	CIDH CONCRETE PILING	LF						
7	FURNISH PILING	LF						
8	DRIVE PILE	EA						
9	FURNISH CONCRETE GIRDERS	EA						
10	ERECT FORMS CONCRETE GIRDERS	EA						
11	STRUCTURAL CONCRETE BRIDGE	CY	364	364	\$1,000.00	\$1,200.00	\$392,120	
12	STRUCTURAL CONCRETE BRIDGE FOOTING	CY						
13	STRUCT CONC. APP SLAB (TYPE N)	CY						
14	PRESTRESSING STEEL	LB	191,000	191,000	\$1.10	\$1.35	\$197,200	
15	BAR REINFORCING STEEL (BRIDGE)	LB						
16	FURNISH STRUCTURAL STEEL	LB						
17	ERECT STRUCTURAL STEEL (INCL PAINT)	LB						
18	JOINT SEAL ASSEMBLY (MR = 3" - 3")	LF						
19	JOINT SEAL (MR = 1")	LF						
20	SLOPE PAVING	CY	92	92	\$37.00	\$50.00	\$3,864	
21	MISCELLANEOUS METAL (BRIDGE)	LB						
22	MISC METAL (RESTRAINER - THE ROD)	LB						
23	CONCRETE BARBER (TYPE 75)	LF	512	512	\$100.00	\$100.00	\$58,168	
24	REMOVE EXISTING BARBER	LF	512	512	\$5.00	\$5.00	\$3,608	
25	DRILL AND BOND DOWEL	LF	72	72	\$40.00	\$40.00	\$3,456	
26								
27								
28								
29								
30								
Comments								
TIME RELATED OVERHEAD								
MOBILIZATION								
SUBTOTAL BRIDGE ITEMS								
CONTINGENCIES								
STAGE CONSTRUCTION								
ONE WAY TRAFFIC CONTROL								
BRIDGE REMOVAL (CONTINGENCIES INCL)								
SF								

BASELINE ESTIMATE TO ASSUMED MIDPOINT OF CONSTRUCTION  
 BASE CASE ESTIMATE

OUTPUT



Percentiles:  
 0% \$1,177,221  
 10% \$1,230,302  
 20% \$1,242,027  
 30% \$1,251,859  
 40% \$1,260,166  
 50% \$1,267,975  
 60% \$1,275,397  
 70% \$1,284,078  
 80% \$1,293,833  
 90% \$1,306,879  
 100% \$1,364,610

Recommended Range  
 \$1,275,397 - \$1,306,879

BASED ON THE ASSUMPTIONS USED TO CREATE THE MODEL, THE DESIGNER OFFICE ENGINEER RECOMMENDS THAT THE PROGRAMMING LEVEL BUDGET FOR THIS PROJECT BE DESIGNATED AT THE 80% FORECAST VALUE.

80% FORECAST VALUE = \$1,294,000.00

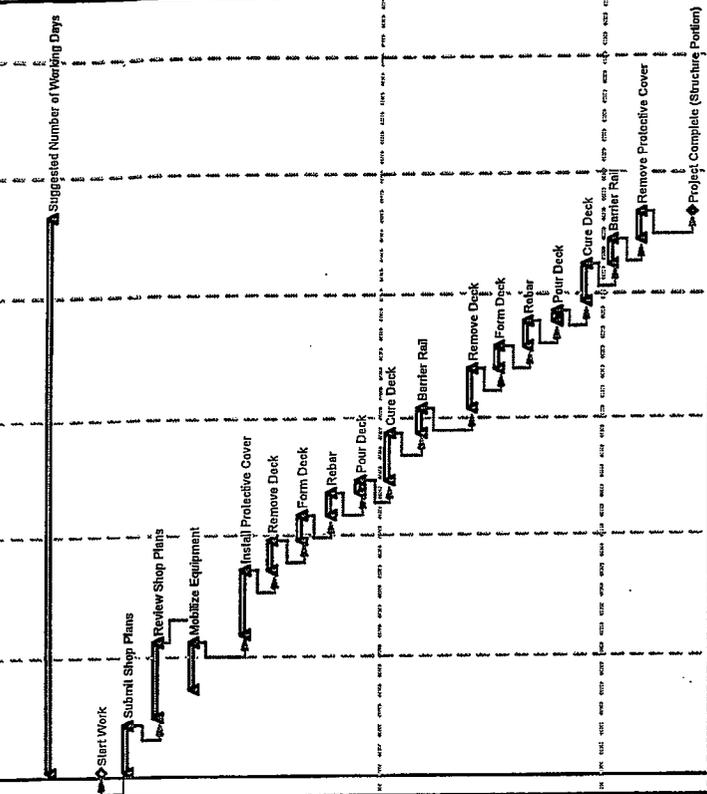
80% Forecast Value Estimated Budget Estimate to Assumed Midpoint of Construction

Years Beyond Midpoint	Estimated Budget Est.
1	\$1,324,000
2	\$1,364,000
3	\$1,419,000
4	\$1,473,000
5	\$1,513,000

Extrapolation Rate  
 1 2.3%  
 2 3.0%  
 3 4.0%  
 4 3.8%  
 5 2.7%

\* Established structure cost is provided for information only, actual construction costs may vary. Established structure costs provided do not replace Departmental policy to update cost estimates annually. Estimation mix used are based on Global Insight data posted at <http://www.doi.ca.gov/yopp/pa/cost/Mix.htm>

80% Forecast  
 BRIDGE COST PER SQUARE FOOT  
 BRIDGE REMOVAL  
 Bridge Cost per Square Foot and/or Bridge Removal costs modeled independently. Their 80% Forecast Values Provided for informational purposes only.



WBS Code ID	Act ID	Activity Description	Original Duration	Early Start	Early Finish	Calendar
<b>Start Structure Work</b>						
CA.01	1000	Suggested Number of Working Days	101	02APR12	21AUG12	1
<b>Mobilization</b>						
CA.02	1005	Start Work	1	02APR12	02APR12	1
CA.02	1010	Submit Shop Plans	10	02APR12	13APR12	1
CA.02	1020	Review Shop Plans	15	16APR12	04MAY12	1
CA.02	1050	Mobilize Equipment	10	23APR12	04MAY12	1
<b>Stage 1</b>						
CA.03	2000	Install Protective Cover	12	07MAY12	22MAY12	1
CA.03	2010	Remove Deck	6	23MAY12	30MAY12	1
CA.03	2020	Form Deck	4	31MAY12	05JUN12	1
CA.03	2030	Rebar	4	06JUN12	11JUN12	1
CA.03	2040	Pour Deck	3	12JUN12	14JUN12	1
CA.03	2050	Cure Deck	8	15JUN12	26JUN12	1
CA.03	2060	Barrier Rail	4	27JUN12	02JUL12	1
<b>Stage 2</b>						
CA.04	3000	Remove Deck	7	03JUL12	12JUL12	1
CA.04	3010	Form Deck	4	13JUL12	18JUL12	1
CA.04	3020	Rebar	4	19JUL12	24JUL12	1
CA.04	3030	Pour Deck	3	25JUL12	27JUL12	1
CA.04	3040	Cure Deck	8	30JUL12	08AUG12	1
CA.04	3050	Barrier Rail	4	09AUG12	14AUG12	1
CA.04	3060	Remove Protective Cover	5	15AUG12	21AUG12	1
<b>Project Complete</b>						
CA.05	9000	Project Complete (Structure Portion)	0	0	21AUG12	1

Start date	01APR12
Finish date	21AUG12
Date date	01APR12
Run date	18SEP11
Page number	1A
© Primavera Systems, Inc.	

Start milestone point

Early start point

Early finish point

Early bar

Target start point

Target finish point

Target bar

Critical bar

Critical point

Start milestone point



# Project Risk Register

DIST- EA      06-0M250					Project Name: CA Aqueduct Bridge Replacement			Project Manager: Suzie Holdridge			Date Created: 10/11/10	Last Updated:				
					Co - Rte - PM: Fre-198-35.3/35.6			Telephone: (559) 243-3432								
ITEM	ID #	Status	Threat / Opportunity	Category	Date Risk Identified	Risk Discription	Root Causes	Primary Objective	Overall Risk Rating	Risk Owner	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	WBS Item	Status Date and Review Comments	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
1	06-0M250-01	Active	Threat	DESIGN	09/21/11	Unknown impact on traffic during construction	One-way traffic control or detour during construction	QUALITY	Probability 4=High (40-59%) Impact 2=Low	Abdul Baker  (559) 243-8037  Abdul.Baker@dot.ca.gov	Two options for traffic control during construction of bridge: traffic detoured (80 working days) or stage construction with one-way traffic control (101 working days)	ACCEPT	Measure options with the least impact to traffic	230 PREPARE DRAFT PS&E		
2	06-0M250-02	Active	Threat	ENV	09/21/11	Potentially historical property	California aqueduct	TIME	Probability 3=Med (20-39%) Impact 4=Med	Kelly Hobbs  (559) 445-5286  Kelly.Hobbs@dot.ca.gov	Potential eligible for National Register	AVOID	Consult with SHPO	165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT		
3	06-0M250-03	Active	Threat	R/W	09/23/11	Access below bridge deck	For erection/removal of debris containment system and deck framework	TIME	Probability 4=High (40-59%) Impact 4=Med	Suzie Holdridge  (559) 243-3432  Suzie.Holdridge@dot.ca.gov	Structures design method	ACCEPT	Work with Environmental and Structures Construction to discuss constraints & needed access	_240 DRAFT STRUCTURES PS&E		
4									Probability Impact							
5									Probability Impact							
6									Probability Impact							
7									Probability Impact							