

Memorandum

*Flex your power!
Be energy efficient!*

To: ROBERT CAMARGO
HA22 Program Advisor
Maintenance & Toll Bridge Engineering Department

Date: September 16, 2011

File: 04-SCL-152
PM: 9.9 to 21.9
0706-0412000146
(EA: 04-4C200K)
SHOPP-CAPM


From: FARIBA ZOHOURY
Project Manager
Office of Project Management

Subject: **Project Initiation Document (PID) Refresher**

The Project Scope Summary Report (PSSR) for this project was approved on December 16, 2005 and was "refreshed" for cost (see attached updated cost estimate) to program in the 2012 State Highway Operations and Protection Program (SHOPP) under Capital Preventive Maintenance Program (CAPM).

The scope of the project is to overlay 7.6 miles with 0.25 feet depth of HMA (Type A) and overlay the remaining 4.4 miles with 0.1 feet depth of HMA (A). Additional work includes upgrading the American Disability Act (ADA) curb ramps at eight locations, installing rumble strip at the median and providing shoulder backing.

The refreshed construction cost estimate is \$8.4 million which includes \$0.5 million of structure work and is escalated to an anticipated bid opening of October 2015 for a total cost of \$10.0 million. An escalation rate of 4% per year was used for all escalation computations.

Attachments (Updated Cost Estimate and Risk Management Plan)

ATTACHMENT L

Project Scope Summary Report Refresher

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L.2	Risk Management Plan

ATTACHMENT L.1

UPDATED COST ESTIMATE

PROJECT REPORT COST SUMMARY

District-County-Route 04-SCL-152

PM: 9.9-21.9

0412000146 (EA: 4C200K)

Program Code: RAS-HA22

*Project Report – Project Development Support
Cost Estimate*

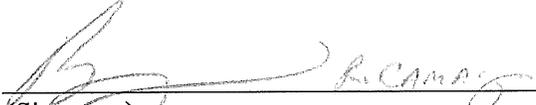
PROJECT DESCRIPTION:

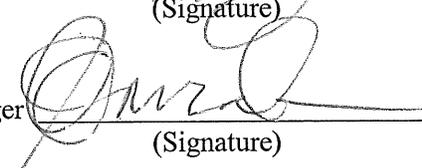
Limits: In Santa Clara County on Route 152 Between Highway 101/ Highway 152 Intersection and Highway 156/ Highway 152 Intersection.

Proposed Improvement (Scope): The scope of the project is to upgrade the ADAs at eight locations, install rumble strip at the median, provide shoulder backing, and overlay with 0.25 feet depth of HMA (A) in the following segments: PM 9.9 to 10.5; PM 11.5 to 13.8; PM 14.8 to 16.2; PM16.2 to 19.2 and PM 19.5 to 19.8, a total of 7.6 miles. Also, the remaining sections of PM 10.5 to 11.5; PM 13.8 to 14.8; PM 19.2 to 19.5; and PM 19.8 to 21.9 will be overlaid with 0.1 feet depth of HMA.

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 7,754,000
TOTAL STRUCTURE ITEMS	\$ 490,000
SUBTOTAL CONSTRUCTION COSTS	\$ 8,444,000
(USE 18% ESCALATED FACTOR TO MID CONSTRUCTION YEAR OF JAN. 2016)	\$ 1,520,000
TOTAL RIGHT OF WAY ITEMS	\$ 5,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$10,000,000

Reviewed by District Program Manager 
(Signature)

Approved by Project Manager  Date 9/15/11
(Signature)

Phone No. 2-0810

PROJECT REPORT COST SUMMARY

District-County-Route 04-SCL-152

PM 9.9-21.9

0412000146 (EA: 4C200K)

I. ROADWAY ITEMS

<u>Section 1 Earthwork</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Roadway Excavation		CY	\$	\$	
Clearing & Grubbing	1	LS	\$35,000	\$35,000	
Develop Water Supply	1	LS	\$10,000	\$10,000	
			Subtotal Earthwork		\$ 45,000

<u>Section 2 Pavement Structural Section</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Hot Mix Asphalt (*Open Graded)	12,276	Ton	\$ 95	\$1,166,000	
Hot Mix Asphalt (Type A)	23,000	Ton	\$ 92	\$2,116,000	
Imported Borrow (Shoulder Backing)	400	Ton	\$ 60	\$ 24,000	
Dig outs (**20% of total roadway cost)	1	LS	\$1,035,000	\$1,010,000	
ADA Upgrade	8	EA	\$ 10,000	\$ 80,000	
Paint Pavement Marking (2-Coat)	40,791	SQFT	\$ 12	\$ 489,500	
Pavement marker (Retro reflective)	4,900	EA	\$ 1.0	\$ 4,900	
			Subtotal Pavement Structural Section		\$ 4,890,000

<u>Section 3 Drainage</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Drainage Items	1	LS	\$100,000	\$100,000	
Dike & Gutter	1	LS	\$50,000	\$ 50,000	
			Subtotal Drainage		\$150,000

PROJECT REPORT COST SUMMARY

District-County-Route 04-SCL-152

PM 9.9-21.9

0412000146 (EA: 4C200K)

Section 6 Minor Items

	<u>Item Cost</u>	<u>Section Cost</u>
\$6,060,000 x (5%) = (Subtotal Sections 1 thru 5)	\$303,000	
TOTAL MINOR ITEMS		\$ 303,000

Section 7 Roadway Mobilization

\$6,363,000 x (10%) = (Subtotal Sections 1 thru 6)	\$ 636,000	
TOTAL ROADWAY MOBILIZATION =		\$ 636,000

Section 8 Roadway Additions

Contingencies

\$6,363,000 x (15%) = (Subtotal Sections 1 thru 6)	\$954,500	
TOTAL ROADWAY ADDITIONS		\$954,500
TOTAL ROADWAY ITEMS (Subtotal Sections 1 thru 8)		\$ 7,954,000

Estimate Prepared By HOSSAIN RAZAWI Phone No.: 510-622-8779 Date: 9-12-2011
(Print Name)

Estimate Checked By AHMED RAHID Phone No.: 510-622-0786 Date: 9-12-2011
(Print Name)

* As per District Office of traffic.

** As per District Office of Maintenance.

PROJECT REPORT COST SUMMARY

District-County-Route 04-SCL-152

PM: 9.9-21.9

0412000146 (EA: 4C200K)

Program Code: RAS-HA22

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)	Structure (4)	Structure (5)
Bridge Name	Llagas Creek	Dexter Creek	Liagas Creek	Holstein Creek	
Structure Type	RC Flat Slab	RC Double Box Culvert	Continuous RC Slab	RC Double Box Culvert	
Width (out to out) - (ft)	78.00	46.54	79.70	45.50	
Span Lengths - (ft)	298.00	21.50	94.51	42.54	
Total Area - (ft ²)	23,244	1,001	7,532	1,936	
Footing Type (pile/spread)					
Cost Per ft ² (incl. 10% mobilization and 40% contingency)	13.89	18.83	19.09	2.2	
Total Cost for Structure	\$ 323,000	\$ 19,000	\$ 144,000	\$ 4,000	\$

SUBTOTAL STRUCTURES ITEMS \$ 490,000
(Sum of Total Cost for Structures)

Railroad Related Costs:	_____	\$ <u> 0 </u>
	_____	\$ <u> 0 </u>
	_____	\$ <u> 0 </u>

SUBTOTAL RAILROAD ITEMS \$ 0

TOTAL STRUCTURES ITEMS \$ 490,000
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By Amador Alcantara
(Print Name)

Phone No.: (916) 227-7921

Date: 9/06/2011

PROJECT REPORT COST SUMMARY

District-County-Route 04-SCL-152

PM 9.9-21.9

0412000146 (EA: 4C200K)

III. RIGHT OF WAY ITEMS

ESCALATED VALUE

A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$	
Environmental Mitigation	\$	
Grantor's Appraisal Cost	\$	
B. Utility Relocation (State share)	\$5,000	
C. Relocation Assistance	\$	
D. Clearance/Demolition	\$	
E. Title and Escrow Fees	\$	
TOTAL RIGHT OF WAY ITEMS		\$ 5,000
(Escalated Value)		

Anticipated Date of Right of Way Certification
(Date to which Values are Escalated)

F. Construction Contract Work \$

Brief Description of Work:

Right of Way Branch Cost Estimate for Work * \$ 0.00

* This dollar amount is to be included in the Roadway and/or Structures Items of Work, as appropriate. Do not include in Right of Way Items.

COMMENTS:

Estimate Prepared By Lynn White
(Print Name)

Phone No.:(510) 286-5444

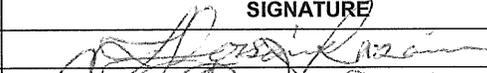
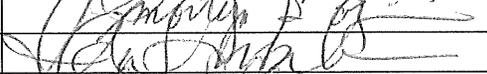
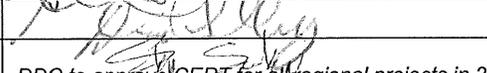
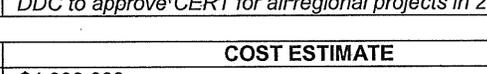
Date: 8/31/2011

NOTE: If appropriate, attach additional pages and backup.

Page No. ____ of ____

PID COST ESTIMATE CERTIFICATION (CERT) FORM (V.2—March 2, 2010)

DIST-UNIT-CO-RTE-PM	04-0706-SCL-152-PM 9.9 - 21.9	1) Initial: <u>LD7</u> Date: <u>9/15/11</u> DDD of Transportation Planning and Local Assistance, Maintenance, or Operations 2) Initial: <u>JCC</u> Date: <u>9/15/11</u> DDD of Design
DIST-EA	04-4C200K (Project ID: 0412000146)	
PROJECT DESCRIPTION	Overlay and provide shoulder backing in the following segments: PM 9.9 to 10.5; PM 11.5 to 13.8; PM 14.8 to 19.2; and PM 19.5 to 19.8 (a total of 7.6 miles).	
PROGRAM TYPE	CAPM	
PROGRAM FISCAL YEAR	2014/2015	
ESCALATED PROGRAM COST	\$10,000,000	
NUMBER OF WORKING DAYS	180	

PROJECT ROLE	PRINTED NAME	SIGNATURE
Project Engineer (QC)	Hossain Razawi	
Design Senior (QA)	Morteza Azimi	
Project Manager <i>FOR</i>	Fariba Zohoury	
Design Office Chief (QA)	David Salladay	
Design Division Chief (QA) (South, North, East Region)	South <i>Shay Sank</i>	<i>DDC to approve CERT for all regional projects in 2 days.</i>

DATE	WBS	PROJECT DELIVERABLE	COST ESTIMATE
12/16/2005	150	PID (Current)	\$4,000,000
12/01/2011	180	PA&ED	\$10,000,000

		Briefly provide details below.
Quality Control	Assumptions	The project is located on rural Route 152 in the City of Gilroy, Santa Clara County. Factors influencing the cost estimate include restrictive work window to avoid harvesting season, more flaggers and COZEEP due to reverse traffic control, and higher mobilization. Materials for this project are expected to be readily available.
	<i>How did assumptions about location (e.g., terrain, distance to construction site, etc.), relative availability of materials, weather conditions, etc. influence the cost estimate? What other elements influenced the estimate?</i>	

Source of Unit Prices

What factors were considered to determine unit prices of major items? Provide EAs of projects considered, unit prices and quantities used. Add specialty items and costs as appropriate. Provide TRO cost.

All unit prices of major items were obtained from projects that most closely match this project using Contract Cost Data at District 8's website.

The major items for this project include Hot Mix Asphalt (Type A), and Hot Mixed Asphalt (Open Graded). The prices used for this project are based on the average price of comparable projects plus 18% to account for the escalation to the bid opening of this project in June 2015. The average bid opening of the following projects is approximately 04/2011.

Hot Mix Asphalt (Type A): Bid Item# 390132

EA	Bid Open	Quantity (TON)	Average Unit Price, \$
04-2E3304	05/17/2011	4,700	108.00
04-2E0404	04/04/2011	5,230	81.00
04-3A4004	03/15/2011	5,200	88.00

Average: 92.00
Escalation Factor (18%): 17.00
Total: 109.00

An estimate of \$2,530,000 = (\$110/ TON) x (23,000 TONS) was used. This amounts to 28.9% of Roadway items.

Hot Mix Asphalt (Open Graded): Bid item# 390134

EA	Bid Open Date	Quantity (TON)	Average Unit Price, \$
04-2E2904	05/11/2011	7,500	101.00
05-0T4204	03/16/2011	9,620	91.00
05-0T4104	03/22/2011	16,500	93.00

Average: 95.00
Escalation Factor (18%): 17.00
Total: 112.00

An estimate of \$1,375,000 (\$112/TON) x (12,276 TON) was used This amounts to 15.7% of Roadway items.

Mobilization: Bid item # 999990

Considering project scope and location, the Left Turn Pocket at Prunedale Ave (EA: 2A0504) and the Left Turn Pocket at San Felipe Road (EA: 3A4004) are very similar to this project. The winning bidders for both projects used 10% of the sum of all contract items cost for mobilization purposes. Based on these two projects and the RTL Guide section 9.7.3 entitled "Mobilization", 10% mobilization was used for a total of \$964,000.

The three items above collectively present 54.6% of the cost of roadway items and are among the most expensive roadway items.

Time Related Overhead (TRO) is anticipated for this project, because the estimated cost is more than \$5 million and the number of working days exceed 100. All the unit prices will be adjusted to reflect the TRO.

There are no specialty Items expected for this project.

Traffic Management Plan Data Sheet (day v. night)
Summarize information on the data sheet (e.g., number of signs, public outreach component, night work, etc.).

Route 152- general lane closure providing at least one through traffic lane, not less than 10 feet in width, for use by both directions of travel (Reversing Control).

Traffic Control Cost Estimates:
Public awareness campaign, documents and meeting: \$5,000.
Changeable message signs (portable): \$50,000.
Ground-mounted signs: \$10,000.
COZEEP: \$ 200,000 (80 days of CHP involvement at \$2,500 per shift).

	<p>Risk Management Plan <i>Identify major risks relating to the development and management of the project and mitigation measures.</i></p>	<p>The risks which may affect the overall project cost are conditions that may result in operation disruption, storm water runoff, improper dust control, traffic congestion and delay if an accident happens during construction, and complaints from the local community.</p> <p>In order to mitigate these risks, cities and towns will be notified in advance about the type, location, and hours of operation. Also temporary construction site BMPs will be implemented during construction and TMP will be used to notify the public of lane closure and detour plans.</p>
	<p>Escalation Factors Used <i>Justify if escalation rate is less than 5%. Provide mid-year of Construction and escalation rate.</i></p>	<p>Bid Opening Year for comparable: Escalation rate: 4% per year to bid opening of October 2015. The average bid opening of comparable projects above is approximately 04/2011 Therefore, an escalation factor of 18% is applied.</p>
	<p>Contingencies <i>Justify if less than 25%.</i></p>	<p>10% mobilization, 5% for minor items and 15% contingency for a total of 30% was used per Bill Farnbach 's recommendation of August 16, 2011..</p>
	<p>DES Structures , Estimate and Quantities <i>From APS provide a name of a preparer of calculations, estimate assumptions (type of structure, cost per square foot), date calculated, name of checker, and date checked.</i></p>	<p>Amador Alcantara prepared the Structure Estimated quantities on September 2, 2011. Steve Pugh checked the calculation on September 6, 2011. They used 10% for Mobilization and 40% for Contingencies. The type of structures and the cost per square-foot vary for each structure.</p>
Quality Assurance	<p>Constructability Review <i>What is the assumed construction method and what risks are associated with that method? Indicate when reviews occurred and major findings.</i></p>	<p>Standard construction methods are to be used. Standard risk is expected. As this project is a refresher PSSR with no change in scope, the next constructability review will occur during PS&E stage.</p>
	<p>Value Analysis Required? Yes/No <i>List target date.</i></p>	<p>No, because the cost of the project is less than \$25 million.</p>
	<p>DES Structural Liaison Review <i>List date, conclusions of Review, and name of reviewer.</i></p>	<p>Majid Madani of Structure Office has reviewed the cost estimate on September 1, 2011 and had no comments.</p>
	<p>Independent Estimate Performed? Yes/No <i>List target date.</i></p>	<p>There is no need for independent estimate at this time per Hamid Khorram .</p>
	<p>Kam Leung, District Cost Estimating Coordinator (DCEC) <i>Comments and Resolution.</i></p>	<p>Kam Leung, DCEC, reviewed this cost estimate certificate on September 9, 2011 and had no comments.</p>
Status	<p>Next cost estimate update (provide month and year) <i>Annual cost update is required.</i></p>	<p>January 2013.</p>

ATTACHMENT L.2

RISK MANAGEMENT PLAN

Project Risk Register

DIST- EA 04-4C200					Project Name: CAPITAL PREVENTIVE MAINTENANCE - CAPM			Project Manager: Fariba Zohoury			Date Created:	Last Updated:	Risk evaluation						
					Co - Rte - PM: SCL 152 9.9/21.5			Telephone: 510-286-7239											
ITEM	ID #	Status	Threat / Opportunity	Category	Date Risk Identified	Risk Discription	Root Causes	Primary Objective	Overall Risk Rating	Cost/Time Impact Value	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	Adjusted Cost/Time Impact Value	WBS Item	Status Date and Review Comments	Probability %	Expected Risk value	Final Ranking
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(l)	(m)	(n)	(o)	(p)	(g)	(2)	(3)	(4)
1	04-4C200-01	Active	Threat	CON	08/30/11	Inadequate safety condition may result in operation disruption and interruptions.	Cities and towns along the project need be notified in advance the details and issues such as hours of works, traffic control, detours, locations of construction sign and public information.	COST	Med	470000	Lack of communication and coordination between State and City Authority	AVOID	Request design exception						
									Probability 3=Med (20-39%)										
									Impact 3 =Med										
2	04-4C200-02	Active	Acceptance	ENV	08/30/11	* Construction area disruption due to storm water runoff / improper dust control / lack of lead compliance plan. * Storm Water Damage Plan not used in controlling runoff. * Lead exposures on the project.	Temporary construction site BMPs need to be planned and implemented during construction.	COST	Med	235000	Storm water runoff and / or wind erosion was not addressed. Coordinator do not have or did not prepare a lead compliance plan. Improper control / storage of hazardous material.	ACCEPT	Resolve the issue						
									Probability 3=Med (20-39%)										
									Impact 3 =Med										
3	04-4C200-03	Active	Threat	CON	08/30/11	* Traffic congestion, accidents, and delays. * Complaints from the local community / City authority.	Its imperative to use TMP and to notify lane closure and rerouting schedule to the public to reduce and control congestion.	COST	Med	350000	Lane closure and re-routing traffic overlooked and/or underestimated or not used properly.	AVOID	Resolve the issue						
									Probability 3=Med (20-39%)										
									Impact 3 =Med										
4																			

Project Risk Register

DIST- EA 04-4C200					Project Name: CAPITAL PREVENTIVE MAINTENANCE - CAPM			Project Manager: Fariba Zohoury			Date Created:		Last Updated:		Risk evaluation				
					Co - Rte - PM: SCL 152 9.9/21.5			Telephone: 510-286-7239											
ITEM	ID #	Status	Threat / Opportunity	Category	Date Risk Identified	Risk Discription	Root Causes	Primary Objective	Overall Risk Rating	Cost/Time Impact Value	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	Adjusted Cost/Time Impact Value	WBS Item	Status Date and Review Comments	Probality %	Expected Risk value	Final Ranking
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(l)	(m)	(n)	(o)	(p)	(q)	(2)	(3)	(4)

Approved by: _____ date _____