

10-AMA-88-PM66.6/71.6
201.120
06240-0M790K
September 2007

PROJECT SCOPE SUMMARY REPORT (ROADWAY REHABILITATION)

To

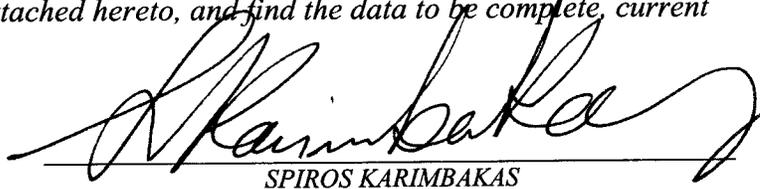
Request Programming in the 2008 SHOPP

On Route 88 in Amador County

Between 0.7 Mile East of Kays Road

And the Alpine County Line

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

ACTING CHIEF, CENTRAL REGION RIGHT OF WAY

APPROVAL RECOMMENDED:



GRACE MAGSAYO,
PROJECT MANAGER

APPROVED:


KOME AJISE,
DISTRICT 10 DIRECTOR

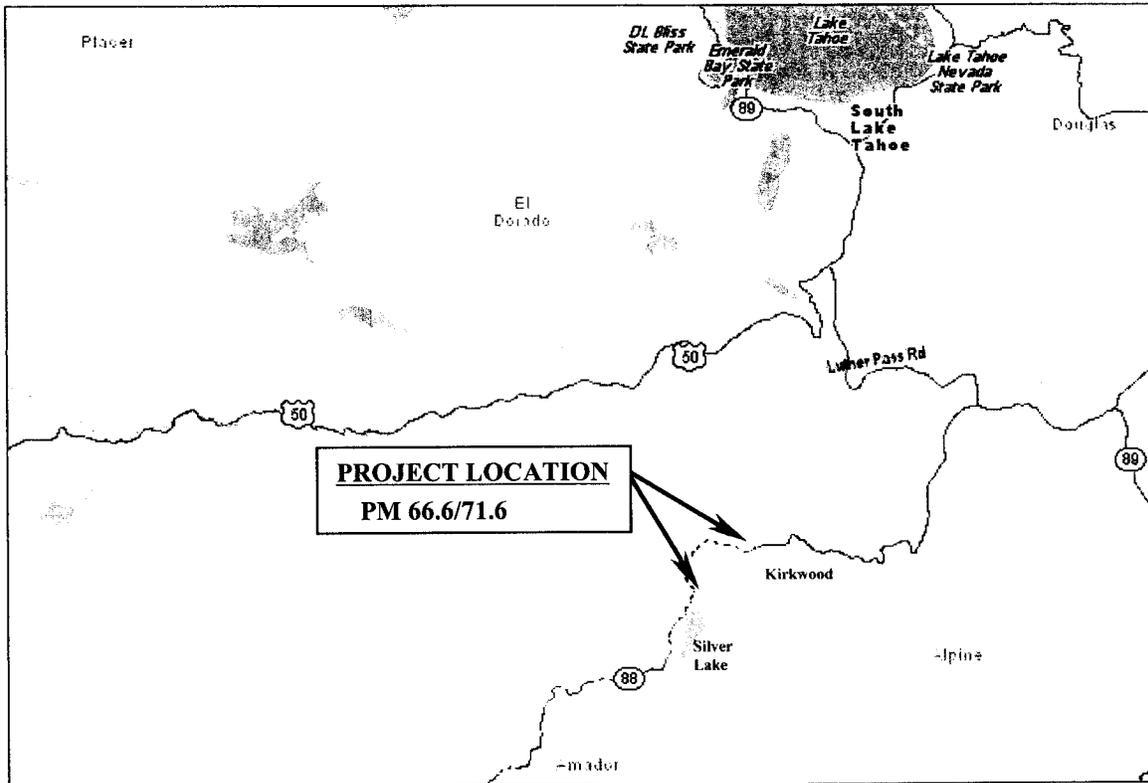
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On Route 88 in Amador County

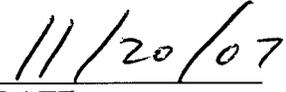
Between 0.7 Mile East of Kays Road

And the Alpine County Line

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.



COLIN DORAN, P.E.
REGISTERED CIVIL ENGINEER



DATE

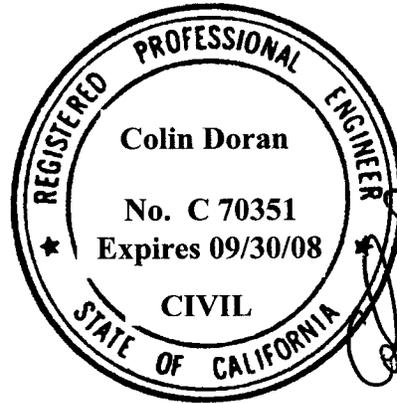


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1. INTRODUCTION AND BACKGROUND

Brief Project Description:

This project proposes to repair localized areas with dig-outs and sealing cracks then placing an overlay of either 1.75" RAC-G or 3.5" DGAC. This project shall also bring this segment of roadway up to RRR Standards by upgrading MBGR, providing 4ft minimum width shoulders, horizontal curve corrections, and extending culverts.

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

Project Limits [Dist., Co., Rte., PM]	10-AMA-88-PM66.6/71.6
Capital Costs:	\$14,908,093
Right of way Costs:	\$607,927
Funding Source:	SHOPP (Program Code 201.120)
Number of Alternatives:	Build or No Build
Recommended Alternative (for programming and scheduling):	Build
Type of Facility (conventional, expressway, freeway):	Conventional 2 Lane Highway
Number of Structures:	0
Anticipated Environmental Determination/Document:	State: EIR Federal: FONSI
Legal Description	State Route 88 in Amador County from 0.7 Miles East of Kays Road to the Alpine County Line

2. RECOMMENDATION

It is recommended that the Project be approved as a long lead project and proceed with formal studies.

3. PURPOSE AND NEED STATEMENT

Need: To rehabilitate the highway and provide a smoother riding pavement surface. The Caltrans Maintenance Program pavement Condition Survey identifies pavement distress at this segment of highway.

Purpose: The purpose of the proposed project is to rehabilitate the roadway for an additional 10 years of service life at a minimum maintenance cost. In addition to the overlay, the existing facilities such as MBGR, adding 4ft shoulders where

none currently exist, and horizontal curves will be brought up to current standards where economically feasible.

4. EXISTING FACILITY, DEFICIENCIES AND TRAFFIC DATA
4A. ROADWAY GEOMETRIC INFORMATION

	Facility (1)	Minimum Curve Radius	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)
			No. of Lanes	Lane Width	Type (Flex, Rigid, or Composite))	Left	Right					
Existing	PM 66.6/67.16	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 66.6/67.16	N/A	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 67.16/67.29	550 ft	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 67.16/67.29	550 ft	2	12 ft	Flex	8 ft	8 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	550 ft	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 67.29/67.43	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 67.29/67.43	N/A	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 67.43/67.54	900 ft	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 67.43/67.54	550 ft	2	12 ft	Flex	8 ft	8 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	550 ft	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 67.54/67.60	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 67.54/67.60	N/A	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A

	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)
			No. of Lanes	Lane Width	Type (Flex, Rigid, or Composite)	Left	Right					
	Location	Curve Radius										
Existing	PM 67.60/67.66		2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 67.60/67.66	900 ft	2	12 ft	Flex	8 ft	8 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	550 ft	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 67.66/68.18	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 67.66/68.18	N/A	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 68.18/68.24		2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 68.18/68.24	550 ft	2	12 ft	Flex	8 ft	8 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	550 ft	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 68.24/68.56	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 68.24/68.56	N/A	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 68.56/69.22	N/A	3	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 68.56/69.22	N/A	3	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A

	Facility (1)	Minimum Curve Radius	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) (Y/N)	Facilities Adjacent to the Roadbed (8) (Code/Width)
			No. of Lanes	Lane Width	Type (Flex, Rigid, or Composite)	Left	Right					
Existing	Location PM 69.22/69.84	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 69.22/69.84 Min. 3R Std.	N/A	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
Existing	PM 69.84/69.88	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Proposed	PM 69.84/69.88 Min. 3R Std.	800 ft	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Existing	PM 69.88/70.02	550 ft	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Proposed	PM 69.88/70.02 Min. 3R Std.	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Existing	PM 70.02/70.08	N/A	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
Proposed	PM 70.02/70.08 Min. 3R Std.	800 ft	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 70.02/70.08	550 ft	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 70.02/70.08 Min. 3R Std.	800 ft	2	12 ft	Flex	8 ft	8 ft	N/A	Y	N/A	N	N/A
Existing	PM 70.08/70.18	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Proposed	PM 70.08/70.18 Min. 3R Std.	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Existing	PM 70.08/70.18	N/A	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
Proposed	PM 70.08/70.18 Min. 3R Std.	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A

	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)
			Curve Radius	No. of Lanes	Lane Width	Type (Flex, Rigid, or Composite)	Left					
Existing	PM 70.18/70.22		2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 70.18/70.22	800 ft	2	12 ft	Flex	8 ft	8 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	550 ft	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 70.22/70.99	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 70.22/70.99	N/A	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 70.99/71.20		2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 70.99/71.20	1220 ft	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	550 ft	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 71.20/71.45	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 71.20/71.45	N/A	2	12 ft	Flex	4 ft	4 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	N/A	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A
Existing	PM 71.45/71.49		2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N/A	N	N/A	N	N/A
Proposed	PM 71.45/71.49	550 ft	2	12 ft	Flex	8 ft	8 ft	N/A	Y	N/A	N	N/A
	Min. 3R Stds.	550 ft	-	12 ft	-	8 ft	8 ft	N/A	-	N/A	N	N/A

	Facility (1)	Minimum Curve Radius	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)
			No. of Lanes	Lane Width	Type (Flex, Rigid, or Composite))	Left	Right					
Existing	PM 71.49/71.53	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N	N/A	N	N/A	
Proposed	PM 71.49/71.53	N/A	2	12 ft	Flex	4 ft	4 ft	Y	N/A	N	N/A	
	Min. 3R Stds.	N/A	-	12 ft	-	8 ft	8 ft	-	N/A	N	N/A	
Existing	PM 71.53/71.61	550 ft	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N	N/A	N	N/A	
Proposed	PM 71.53/71.61	550 ft	2	12 ft	Flex	8 ft	8 ft	Y	N/A	N	N/A	
	Min. 3R Stds.	550 ft	-	12 ft	-	8 ft	8 ft	-	N/A	N	N/A	
Existing	PM 71.61/71.62	N/A	2	12 ft	Flex	Varies 0 - 5 ft	Varies 0 - 5 ft	N	N/A	N	N/A	
Proposed	PM 71.61/71.62	N/A	2	12 ft	Flex	4 ft	4 ft	Y	N/A	N	N/A	
	Min. 3R Stds.	N/A	-	12 ft	-	8 ft	8 ft	-	N/A	N	N/A	

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:

Each of the segments listed in the table above is for either a proposed curve or the segments between the proposed curve corrections. The post miles were figured on the new alignment and may not accurately represent the location of the existing curves on the original alignment. The 8' std shoulder width will not be met and certain locations so a Exception to Mandatory Design Standard Fact Sheet has been prepared at these locations. 8ft shoulders shall be placed at locations where new construction and realignments are proposed.

4B. CONDITION OF EXISTING FACILITY

(1) Traveled Way Data (PM66.6/67.778)

PMS Category (1-29) 15 Priority Classification (.1-.4) .2

Ride Score 19

Flexible Pavement: DG

3rd Stage Cracking % <u>0</u>	Alligator B Cracking % <u>0</u>
Faulting <u>0</u>	Patching % <u>50</u>
Joint Spalls <u>0</u>	Rutting <u>0</u>
Pumping <u>0</u>	Bleeding <u>0</u>
Corner Breaks % <u>0</u>	Raveling <u>0</u>

(2) Traveled Way Data (PM67.778/68.876)

PMS Category (1-29) 15 Priority Classification (.1-.4) .2

Ride Score 14

Flexible Pavement: DG

3rd Stage Cracking % <u>0</u>	Alligator B Cracking % <u>0</u>
Faulting <u>0</u>	Patching % <u>100</u>
Joint Spalls <u>0</u>	Rutting <u>0</u>
Pumping <u>0</u>	Bleeding <u>0</u>
Corner Breaks % <u>0</u>	Raveling <u>0</u>

(3) Traveled Way Data (PM68.876/68.978)

PMS Category (1-29) 15 Priority Classification (.1-.4) .2

Ride Score 13

Flexible Pavement: DG

3rd Stage Cracking % <u>0</u>	Alligator B Cracking % <u>0</u>
Faulting <u>0</u>	Patching % <u>100</u>
Joint Spalls <u>0</u>	Rutting <u>0</u>
Pumping <u>0</u>	Bleeding <u>0</u>
Corner Breaks % <u>0</u>	Raveling <u>0</u>

(4) Traveled Way Data (PM68.978/69.558)

PMS Category (1-29) 15 Priority Classification (.1-.4) .2

Ride Score 6

Flexible Pavement: DG

3rd Stage Cracking % 0 Alligator B Cracking % 0

Faulting 0 Patching % 0

Joint Spalls 0 Rutting 0

Pumping 0 Bleeding 0

Corner Breaks % 0 Raveling 0

(5) Traveled Way Data (PM69.558/70.493)

PMS Category (1-29) 15 Priority Classification (.1-.4) .2

Ride Score 5

Flexible Pavement: DG

3rd Stage Cracking % 0 Alligator B Cracking % 0

Faulting 0 Patching % 0

Joint Spalls 0 Rutting 0

Pumping 0 Bleeding 0

Corner Breaks % 0 Raveling 0

(6) Traveled Way Data (PM70.493/71.649)

PMS Category (1-29) 15 Priority Classification (.1-.4) .2

Ride Score 14

Flexible Pavement: DG

3rd Stage Cracking % 0 Alligator B Cracking % 0

Faulting 0 Patching % 100

Joint Spalls 0 Rutting 0

Pumping 0 Bleeding 0

Corner Breaks % 0 Raveling 0

Locations(s) of subsurface or ponded surface-water problem:
Not known at this time.

Remarks: The condition of existing facility values shown above and as listing in Attachment C are based on 2005 PCS data which shows the condition to be in better condition then the survey done in 2003. This is primarily due to maintenance repairs. The 2003 PCS data is also included in Attachment C for further reference.

Deflection Study Results:

Remarks:

The result from the Deflection Study yielded 2 different alternatives. Both Alternatives recommend dig-out and repair localized distress areas and seal all cracks wider then 0.2in. Then either place a RAC-G overlay of 1.75in. Or place an overlay of 3.5in of Dense Graded AC (DGAC). Based on Maintenance recommendations, the 3.5in DGAC alternative shall be used for cost estimating purposes and based on availability in the area.

(7) Shoulder Data

Condition:

The existing facility seems to be in the same state of condition as the adjacent roadway through out the proposed project limits.

Deficiencies:

The existing shoulder width varies from 0 to 5.0 feet through out the proposed project limits.

(8) Pedestrian Facility Data

Facility Type and Location(s) <i>(Station, post mile or other reference point)</i>	Meets ADA Standards? <i>(Yes or No for each listed location)</i>	If Facility does not meet ADA Standards, what feature(s) are not ADA compliant? <i>(List features per location)</i>	Status of Each Noncompliant Location <i>[Use the following statements, as appropriate:</i> <ul style="list-style-type: none"> • <i>Will be corrected as part of this project;</i> • <i>Will not be corrected because it is technically infeasible to correct;</i> • <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>
Sidewalks: <i>None</i>	Not Applicable	Not Applicable	Not Applicable
Curb Ramps: <i>(List locations as appropriate)</i>	Not Applicable	Not Applicable	Not Applicable
Crosswalks: <i>(List locations as appropriate)</i>	Not Applicable	Not Applicable	Not Applicable
Driveways: <i>(List locations as appropriate)</i>	Not Applicable	Not Applicable	Not Applicable
Shared bicycle/ pedestrian path: <i>(List locations as appropriate)</i>	Not Applicable	Not Applicable	Not Applicable
Others: <i>(List locations as appropriate)</i>	Not Applicable	Not Applicable	Not Applicable

Remarks:

No Pedestrian facilities exist within the project limits. The existing roadway is in a mountainous terrain in a rural wooded area.

(9) Bicycle Path Data

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

Remarks:

No bike path exists within the project limits.

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	
	Exist	3R Std	Prop		Exist	3R Std	Prop			(Y/N)	#
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Remarks:

No Structures exist within the project limits.

4D. VEHICLE TRAFFIC DATA

Present Year ADT 3,600

Construction Year ADT 4,200 10-Year ADT N/A

DHV 1,100 20-Year ADT 7,900

D 70% % Trucks 6

*T.I. (10-Year) T.W. = 8.5, SHLD = 5.5 ESAL (10-Year) N/A

*T.I. (20-Year) T.W. = 9.5, SHLD = 6.0 ESAL (20-Year) N/A

Must correlate with T.I. in Materials Report

Safety Field-Review April 5, 2007

(date)

Latest 3-Year Accident Data: Taken from July 1, 2003 to June 30, 2006

(average vs. actual rates)

ACCIDENTS PER MILLION VEHICLE MILES

AMA-88-PM 66.6/71.649

Accident Type	Actual	Average
Fatal	0.0	0.034
Fatal + Injury	0.39	0.63
Total	1.45	1.33

A review of the type of collisions and the primary collision factors from the TASAS database for the three-year period found the following:

Primary Collision Factor	Type of Collision							
	Head-on	Side-swipe	Rear End	Broad-side	Hit Object	Over Turn	Auto/Ped	Other
Influence of Alcohol								
Following too Close								
Failure to Yield								
Improper Turn					1	2		
Speeding	2		1		2	5		
Improper Driving								
Other Violations	3	4	1		2			
Other Than Driver		1						1
Unknown				1				
Total	5	5	2	1	5	7		1

Most of the collisions occurred under the conditions of snowing or icy roadway and the maximum speed limit posted at that time was 25 mph. The other violations were failure to drive on the right half of the roadway, failure to control a vehicle on a mountain roadway and passing to the left. The other than driver collisions involved hitting the deer and the steering wheel was defective. Five hit object collisions involved the cut slope or embankment (1), over embankment (1), nature material on road (1), temporary barricades, cones, etc (1) and other object off road (1). Thirteen of the 26 collisions involved a single vehicle (overturn (7), hit object (5) and hit animal) and the movement preceding collisions were ran of road. Four of the collisions occurred during the snowing conditions. Two of the 26 collisions occurred during the hours of darkness without street lighting.

There are four intersections within the project limits.

<u>PM</u>	<u>INTERSECTION</u>
66.660	Silver Lake Campground
66.900	Silver Lake Forest Station RT.
70.720	Lake Kirkwood LT.
71.360	Kirkwood MDWS Dr. RT.

The accident history is not significant to list for these intersections: Silver Lake Campground, Silver Lake Forest Station RT.

The collision rates for the Kirkwood Meadows Drive intersection are shown in the table below.

Intersection	Actual (MV)			Average (MV)		
	Fatal	F+I	Total	Fatal	F+I	Total
Kirkwood MDWS Dr. RT. PM 71.360	0.00	0.51	1.28	0.004	0.10	0.22

This is a three-legged intersection and it is controlled by a stop sign on Kirkwood Meadows Dr. The sight distance is adequate. There were five collisions (0-Fatal, 2-Injury, 3-PDO) reported for this intersection. The type of accidents and the primary collision factors are as follows:

Primary Collision Factor	Type of Collision							
	Head-on	Side-swipe	Rear End	Broad-side	Hit Object	Over Turn	Auto/Ped	Other
Speeding						2		
Other Violation	1		1					
Unknown				1				
Total	1		1	1		2		

All the collisions occurred under snowing conditions or snow, icy roadway. The other violations are failure to drive on the right half of the roadway and failure to control a vehicle on a mountain roadway. All collisions occurred under daylight.

The collision rates for the Lake Kirkwood intersection are shown in the table below.

Intersection	Actual (MV)			Average (MV)		
	Fatal	F+I	Total	Fatal	F+I	Total
Lake Kirkwood LT. PM 70.720	0.00	0.00	0.28	0.004	0.10	0.22

This is a three-legged intersection and it is controlled by a stop sign on Lake Kirkwood. The sight distance is adequate. There was one collision (0-Fatal, 0-Injury, 1-PDO) reported for this intersection. The type of accident and the primary collision factor are as follow:

Primary Collision Factor	Type of Collision							
	Head-on	Side-swipe	Rear End	Broad-side	Hit Object	Over Turn	Auto/Ped	Other
Speeding			1					
Total			1					

Location(s) of Accident Concentration: There are five collisions (0-Fatal, 2-

Injury, 3-PDO) reported for the Kirkwood Meadows Dr. Intersection.

Corrective Strategy:

The Safety Analysis recommends replacing all green guide signs with new panels made of high reflective sheeting material and all other signs older than five (5) years should be replaced. Intersections within this project would benefit from the placement of delineators as described in Chapter 3D of the MUTCD 2003 California Supplement. The Shoulder drop-offs within the project limits should be graded flush and MBGR should be brought up to current standard.

4E. MATERIALS

The deflection study recommendations received on January 25, 2007 recommend dig-out and repair localized distress areas and seal all cracks wider than 0.2in. Then either place a RAC-G overlay of 1.75in. or place an overlay of 3.5in of Dense Graded AC (DGAC).

5. CORRIDOR AND SYSTEM COORDINATION

Route Description

State Route (SR) 88 originates at SR-99/Waterloo Road on the eastside of the City of Stockton in San Joaquin County. It proceeds in a northeasterly direction through the small rural San Joaquin Valley communities of Lockeford and Clements, and into the Mother Lode communities of Jackson, Pine Grove, and Pioneer. The highway is an all-weather trans-Sierra highway as it traverses the Sierra Nevada Range through Kirkwood. SR-88 crosses the Nevada State Line and becomes Nevada Route 88, terminating at US-395 a short distance later.

SR-88 is primarily a 2-lane facility with passing lanes and left-turn lanes in various locations in San Joaquin, Amador, and Alpine Counties.

System Designation

SR-88 is functionally classified as a Principal Arterial for its entire length. For this project location, it is in the Freeway/Expressway System (F & E), on the Interregional Road System (IRRS) and the National Highway System (NHS); however, is not classified as a High Emphasis or Focus Route. Also, the highway is not on the Strategic Highway Network (STRAHNET) and the National Network for Surface Transportation Assistance Act (STAA) Route. SR-88 is officially designated as a Scenic Highway from Dew Drop east to the Nevada State Line. The Carson Spur Pavement Rehab project is located within the Scenic Highway area.

SR-88 Planning Horizon

The current Level of Service (LOS) on this segment of SR-88 is “C.” The LOS is expected to degrade to LOS “E” within the 20 year planning horizon.

For this project location, the SR-88 Draft Transportation Concept Report (TCR) identifies our concept LOS for our 20-year planning horizon and the Ultimate Transportation Corridor (UTC), beyond our 20-year planning horizon as follows:

- **Concept LOS “C”**
- **Concept Facility:** 2-Lane conventional highway or expressway with passing lanes and turn lanes as appropriate.
- **UTC Facility:** 4-Lane Expressway

Projects Identified within this Project Location

Planned Project(s)

Besides the Carson Spur Pavement Rehab project, there are currently no planned projects for this segment.

Programmed Project(s)

There are currently no programmed projects for this segment.

6. ALTERNATIVES

6A. REHABILITATION STRATEGY:

The Scope of this project proposes to repair localized areas with dig-outs and sealing cracks then placing an overlay of either 1.75” RAC-G or 3.5” DGAC. This project shall also bring this segment of roadway up to RRR Standards where applicable by upgrading MBGR, horizontal curve corrections, extending culverts, etc. There is the possibility that blasting through granite may be required for this project and shall be further investigated at a future date.

6B. DESIGN EXCEPTIONS:

Exceptions have been developed for slopes and Non-standard Shoulder widths of 4ft. Shoulder width will be consistent with previous rehab project done adjacent to project limits and shall be 8ft standard in locations where new construction for realignments and curve corrections are proposed. Advisory Design Exception for Non-standard side slopes was approved on 11/5/07 and Mandatory Design Exception for Non-standard shoulders was approved on 11/6/07.

6C. ENVIRONMENTAL COMPLIANCE:

The anticipated environmental document for the proposed project is an Environmental Impact Report for California Environmental Quality Act compliance and an Environmental Assessment/Finding of No Significant Impact for National Environmental Policy Act compliance. The Document shall be prepared in accordance with Caltrans' environmental procedures, as well as state and federal environmental regulations.

6D. HAZARDOUS WASTE DISPOSAL SITE REQUIRED? IF YES, WHERE ARE SITES:

There is no hazardous waste anticipated from the work involved under this project.

6E. OTHER AGENCIES INVOLVED (PERMITS/APPROVALS FROM FISH & GAME, CORPS OF ENGINEERS, COASTAL COMMISSION, ETC.):

Permits from the State Department of Fish and Game (1600), U. S. Army Corps of Engineers (404), and the Regional Water Quality Control Board (401) would be required. Also, the proposed project would require approval from the El Dorado National Forest, the U.S. Fish and Wildlife Service, and the State Historic Preservation Officer.

6F. MATERIALS AND OR DISPOSAL SITE NEEDS AND AVAILABILITY:

None Anticipated

6G. HIGHWAY PLANTING AND IRRIGATION:

No irrigation anticipated. Highway planting will be consistent with scope of work.

6H. ROADSIDE DESIGN AND MANAGEMENT:

Not anticipated. There are no roadside facilities, maintenance vehicle pull-outs, off-freeway access, gore areas, etc. to consider under this project that require improvements.

6I. STORMWATER COMPLIANCE:

A Storm Water Data Report (SWDR) has been prepared documenting the use of storm water best management practices. See attachment M.

6J. RIGHT OF WAY ISSUES: INCLUDE UTILITY ISSUES IN GUIDANCE:

Agreements with US Department of Forestry for additional R/W and mitigation. Underground fiber optics line was observed adjacent to roadway during previous site visit. See R/W Data Sheet, Attachment G.

6K. RAILROAD INVOLVEMENT:

None

6L. SALVAGING AND RECYCLING OF HARDWARE AND OTHER NON-RENEWABLE RESOURCES:

Possible salvaging of existing MBGR.

6M. PROLONGED TEMPORARY RAMP CLOSURES:

None anticipated. No Ramps along segment of roadway in proposed project limits. Four intersections exist in project limits at Silver lake Campground(PM 66.660), Silver Lake Forest Station RT.(PM 66.900), Lake Kirkwood LT.(PM 70.720) and Kirkwood MDWS Dr. RT.(PM 71.360). No closures are anticipated for work at these locations.

6N. RECYCLED MATERIALS:

Possibility of using AC grindings as shoulder backing will be evaluated during the next phase of project.

6O. LOCAL AND REGIONAL INPUT:

None anticipated.

6P. WHAT ARE THE CONSEQUENCES OF NOT DOING THIS ENTIRE PROJECT:

Further deterioration of roadway and higher maintenance costs.

6Q. LIST ALL ALTERNATIVES STUDIED, COST, REASONS NOT RECOMMENDED, ETC.:

The Scope of this project proposes to repair localized areas with dig-outs and sealing cracks then placing an overlay of either 1.75" RAC-G or 3.5" DGAC. This project shall also bring this segment of roadway up to RRR Standards by upgrading MBGR, horizontal curve corrections, extending culverts, etc. Design Exceptions for 4ft shoulders were developed due to high costs to

construct as well as to conform to the previous rehab project done adjacent to the project limits. Further Pavement alternatives will be reviewed based on recommendations made by Ron Jones to look into using a polymer modified binder due to the large temperature variances and remote location.

7. TRANSPORTATION MANAGEMENT

7A. TRANSPORTATION MANAGEMENT PLAN

It is anticipated that lane and shoulder closures will be needed during construction. A Traffic Management Plan (TMP) will be required for all lane and shoulder closures. Reverse traffic control will be required as per the LANE REQUIREMENT CHART. Use of advanced signing and Changeable Message Signs (CMS) will be utilized to inform the public of construction work.

The cost associated with the required TMP for this Project is as follows:

Caltrans Public Information Office (PIO)	\$ 18,000.00
Portable Changeable Message Signs (PCMS)	\$ 32,000.00
Maintaining Traffic	\$ 50,000.00

The total costs of implementing the Transportation Management Plan are estimated at \$100,000.00.

7B. VEHICLE DETECTION SYSTEMS

None

8. ENVIRONMENTAL DETERMINATION/DOCUMENT

The anticipated environmental document for the proposed project is an Environmental Impact Report for California Environmental Quality Act compliance and an Environmental Assessment/Finding of No Significant Impact for National Environmental Policy Act compliance. The joint CEQA/NEPA document would require 36 months to complete from the initiation of full environmental studies. Assuming a Begin Environmental (M020) date of January 1, 2009, the environmental document and project report (PA&ED M200) would be completed by January 1, 2012.

After design maps and permits to enter are obtained, the critical path for environmental compliance would be archaeological surveys, reports, and approvals from the State Historic Preservation Officer. Another issue affecting cost and schedule are biological surveys for state and federally listed special status plants and animals and consultation with El Dorado National Forest, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers. Also, State Route 88 in this area is a designated state scenic

highway. A Visual Impact Assessment would be required to analyze effects and suggest mitigation methods for significant impacts to the visual environment.

Date Approved: Pending

9. FUNDING/SCHEDULING

9A. COST ESTIMATE

<u>Pavement Work</u>	<u>Lane-Miles</u>	<u>Number</u>	<u>*Cost</u>
Flex Overlay of Flex Pavement (AC Type B) <u>10.7</u> (recycle not included) ^{1,2}			<u>\$2,415,000</u>
Rigid Overlay of Flex Pavement	<u>N/A</u>		<u>\$0</u>
Hot Recycled AC ^{1,2}	<u>N/A</u>		<u>\$0</u>
Cold Recycled AC ^{1,2}	<u>N/A</u>		<u>\$0</u>
Reconstruct Lane(s)	<u>N/A</u>		<u>\$0</u>
Crack Seal & Flex Overlay of Rigid Pavement ²	<u>N/A</u>		<u>\$0</u>
Rigid Overlay of Rigid Pavement ²	<u>N/A</u>		<u>\$0</u>
Rigid Pavement Rehabilitation (List appropriate work type: grind, slab replacement, spall repair, grout & seal random cracks, lane replacement, joint seal, etc.) **	<u>N/A</u>		<u>\$0</u>
Ramps and OC/UC Approaches	<u>N/A</u>	<u>0</u>	<u>\$0</u>
Edge Drain (side mi)	<u>N/A</u>		<u>\$0</u>
Bridge Approaches (ground, replaced)		<u>0</u>	<u>\$0</u>
Total Lane-Miles of Rehabilitation	<u>10.7</u>		<u>\$2,415,000</u>
<u>STRAIN Work</u> (List Structures:)			<u>N/A</u>
COSTS SUBTOTAL			<u>\$2,415,000</u>

<u>Does the Project Include?</u>	<u>Yes/No*</u>	<u>Cost</u>
Main Line Widening (lanes and/or shoulders)	<u>Y</u>	<u>Note 3</u>
Bridge Widening and Rail Upgrade	<u>N</u>	<u>\$0</u>
Included in Project	<u>N</u>	<u>\$0</u>
Deferred (why) ** _____		
Bridge Rail Upgrade - Without Widening	<u>N</u>	<u>\$0</u>
Included in Project	<u>N</u>	<u>\$0</u>

Deferred (why) ** _____		
Vertical Clearance Adjustment	<u>N</u>	<u>\$0</u>
Drainage Rehabilitation (Work shall include replacing all culvert crossings, DI'S, etc. within project limits) **	<u>Y</u>	<u>\$620,000</u>
Pedestrian Facilities	<u>N</u>	<u>\$0</u>
Alternations Required (List): ** _____	<u>N</u>	<u>\$0</u>
<u>Safety</u> **	<u>Yes/No</u> *	<u>Cost</u>
Rumble Strip	<u>N</u>	<u>\$0</u>
Superelevation Correction	<u>Y</u>	<u>Note 3</u>
Vertical Alignment	<u>N</u>	<u>\$0</u>
Horizontal Alignment	<u>Y</u>	<u>Note 3</u>
Left/Right-Turn Storage/Widening/Lengthening	<u>Y</u>	<u>Note 3</u>
Signal Upgrade	<u>N</u>	<u>\$0</u>
Median Barrier (State type: e.g., PCC, Thrie Beam)	<u>N</u>	<u>\$0</u>
Metal Beam Guardrails (New)	<u>Y</u>	<u>\$200,000</u>
Concrete Guardrail (New)	<u>N</u>	<u>\$0</u>
Roadside Cleanup	<u>N</u>	<u>\$0</u>
Gore Cleanup	<u>N</u>	<u>\$0</u>
Electroliers	<u>N</u>	<u>\$0</u>
<u>Roadside Management</u>	<u>Yes/No</u> *	<u>Cost</u>
Gore Area Pavement	<u>N</u>	<u>\$0</u>
Pavement beyond Gore Area	<u>N</u>	<u>\$0</u>
Miscellaneous Paving	<u>N</u>	<u>\$0</u>
Maintenance Vehicle Pull outs	<u>N</u>	<u>\$0</u>
Off-Freeway Access (gates, stairways, etc.)	<u>N</u>	<u>\$0</u>
Roadside Facilities	<u>N</u>	<u>\$0</u>
<u>Traffic Control</u>	<u>Y</u>	<u>Note 3</u>
<u>Other</u> ³ (Roadway Ex., Clearing & Grubbing, Import Borrow, Aggregate Base, AC (Type A), Erosion Control, Crib Wall, Slope Protection, AC Dike, Traffic Striping, Construction Area Signs, etc.)	<u>Y</u>	<u>\$9,188,411</u>
SUM OF SUBTOTALS		<u>\$12,423,411</u>
20% Contingency (of Subtotals)		<u>\$2,484,682</u>
<u>Utility Relocation</u>	<u>Y</u>	<u>\$12,898</u>
<u>Railroad Agreements</u>	<u>N</u>	<u>\$0</u>
<u>Right of Way (Acquisition)</u>	<u>Y</u>	<u>\$127,031</u>

<u>Environmental Mitigation (Bank Credits)</u>	<u>Y</u>	<u>\$457,308</u>
<u>Title and Escrow Fee</u>	<u>Y</u>	<u>\$1,896</u>
<u>Clearance/Demolition</u>	<u>Y</u>	<u>\$8,794</u>

TOTAL PROJECT COST \$15,516,020

- Notes: 1. Include cost to remove and replace localized failed areas.
2. Include cost of shoulder backing material for increased thickness at shoulder edge, as needed.
3. Costs are included as part of Engineers Estimate, See Attachment D for breakdown.
* If duplicated in other items, show cost in parenthesis.
** Add additional lines as necessary. Do not include support costs.

9B. PROJECT SUPPORT:

Capital Cost Estimate provided by Design and R/W Functions. Support Cost Estimate from XPM.

PROJECT COST COMPONENT	Fiscal Years						Total
	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	
R/W Capital						\$608	\$608
Constr Capital						\$18,326	\$18,326
PA&ED	\$1,610						\$1,610
PS&E				\$1,170			\$1,170
R/W Support				\$558			\$558
Constr Support						\$2,034	\$2,034
Total	\$1,610	\$0	\$0	\$1,728	\$0	\$20,968	\$24,306

- Note: (1) All costs X \$1,000. Construction Capital is escalated at 3.5% per year and Support Costs are escalated 3.1% per year. Right of Way Capital costs are escalated at 5.0% per year.
(2) Support Categories are the same as those identified by SB 45.

9C. PROJECT SCHEDULE:

Milestones	Delivery Date (Month, Day, Year)
Program Project	07/01/2008
Begin Environmental	01/01/2009
Approve DPR	06/01/2011
Circulate DED	07/01/2011
PA & ED	01/01/2012
Regular Right of way	02/01/2012
Project PS&E to DOE	10/01/2012
Project PS&E to HQ	02/01/2013
Right of way Certification	06/01/2013
Ready to List	06/01/2013
Approve Contract	01/01/2014
Contract Acceptance	01/01/2016

10. FEDERAL COORDINATION

Per the Transportation Equity Act for the 21st Century (TEA-21), this project is eligible for federal-aid funding and is considered to be STATE AUTHORIZED under current FHWA/Caltrans Stewardship Agreements.

11. SCOPING TEAM FIELD REVIEW ATTENDANCE ROSTER:

Attachment See Attachment H Date June 7, 2007

12. PROJECT REVIEWED BY:

Field Review See Attached Attendance Roster Date June 7, 2007
 District Maintenance Long Huynh Date June 7, 2007
 District Safety Jose Alicea Date April 5, 2007
 District Materials Dave Whaling Date August 28, 2007
 HQ Design Coordinator/Reviewer Ron Jones Date June 7, 2007
 HQ Maintenance Program Ron Jones Date June 7, 2007
 FHWA Edrie Vinson Date N/A
 Others Antonette Clark Date June 6, 2007

13. ATTACHMENTS

- A. Typical Section(s)
- B. Preliminary Layouts
- C. PMS Inventory Data
- D. Deflection Study
- E. Preliminary Project Cost Estimate Summary
- F. Preliminary Environmental Analysis Report (PEAR)
- G. Right of Way Data Sheet
- H. Scoping Team Field-Review Attendance Roster
- I. Structural Section Recommendation
- J. Geotechnical Recommendations
- K. Traffic Management Plan Checklist
- L. Traffic Design Preliminary Estimate
- M. Storm Water Data Report
- N. Risk Management Plan

14. DISTRIBUTION LIST

- FHWA - Edrie Vinson*
- HQ Division of Design (2)
- HQ Maintenance / Program Advisor – Ron Jones
- HQ Division of Engineering Services (5)
- HQ Transportation Programming – Ross Chittenden
- HQ Transportation Programming – Rick Guevel
- HQ Environmental – Kelly Dunlap
- Project Manager – Grace Magsayo
- Design Manager – Paul Elliott (3) – Original +2
- Resident Engineer – Cliff Rice
- District Maintenance – Alvin Mangindin
- District Traffic Management – Laurie Jurgens
- District Traffic Safety – Jose Alicea
- District Traffic Engineering – Mark Orr
- Region Traffic Design – Hassan Marei
- District Traffic Operations – Vu H Nguyen
- Region Materials – Dave Dhillion
- Region Environmental – David Hyatt
- Region R/W – Michael Rodrigues
- District Planning – Jane Perez
- District Single Focal Point – Dennis T Agar
- PPM – Teresa Rix, Tom Harbour
- HQ DES/OPPM – Peggy Lim
- District Records – Dawn Nation
- Region Records – Victoria Pozuelo

*FHWA – 650 Capitol Mall, Ste. 1-400, Sacramento, CA 95814

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

PROJECT ENGINEER
COLIN DORAN

DESIGN

DATE REVISIED BY
 DATE REVISIED

CALCULATED/
 DESIGNED BY
 CHECKED BY

NOTE:
 FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS
 AT DISTRICT OFFICE.



DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	AMA	88	66.6/71.6		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

7/20/2007

10/20/2007

CIVIL

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

LAYOUT L-2

SCALE 1" : 50'

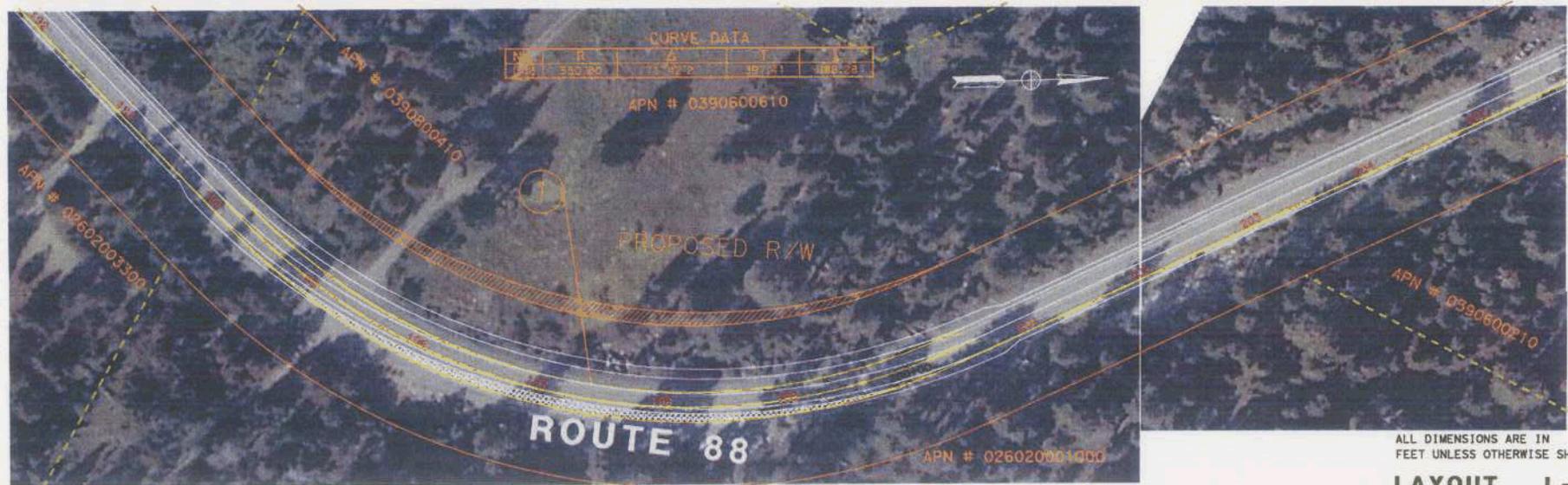
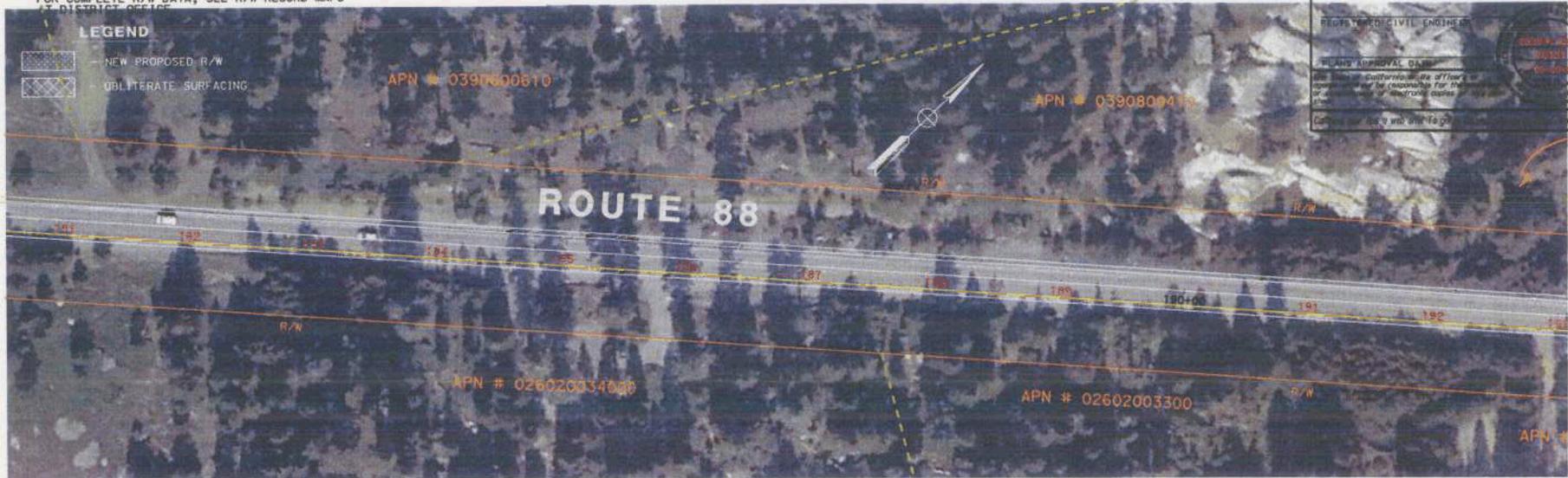
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 TIME PLOTTED => 08:58

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Coltran
 PROJECT ENGINEER
COLIN DORAN
 DESIGN
 CALCULATED/
 DESIGNED BY
COLIN DORAN
 CHECKED BY
 DATE REVISIED BY
 DATE REVISED BY

NOTE:
 FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS
 AT DISTRICT OFFICE

LEGEND

-  NEW PROPOSED R/W
-  OBLITERATE SURFACING



DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	AMA	88	66.6/71.6		

REGISTERED CIVIL ENGINEER
 COLIN DORAN
 00001
 06-0008
 06-0008
 BOARD APPROVAL DATE: _____
 State of California, Department of Transportation
 California State Board of Registration for Professional Engineers and Geologists
 www.dorcas.org

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN
LAYOUT L-3
 SCALE 1" = 50'

LAST REVISION
 DATE PLOTTED => 06-SEP-2007
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 FILE P01018-01.DWG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

PROJECT ENGINEER
COLIN DORAN

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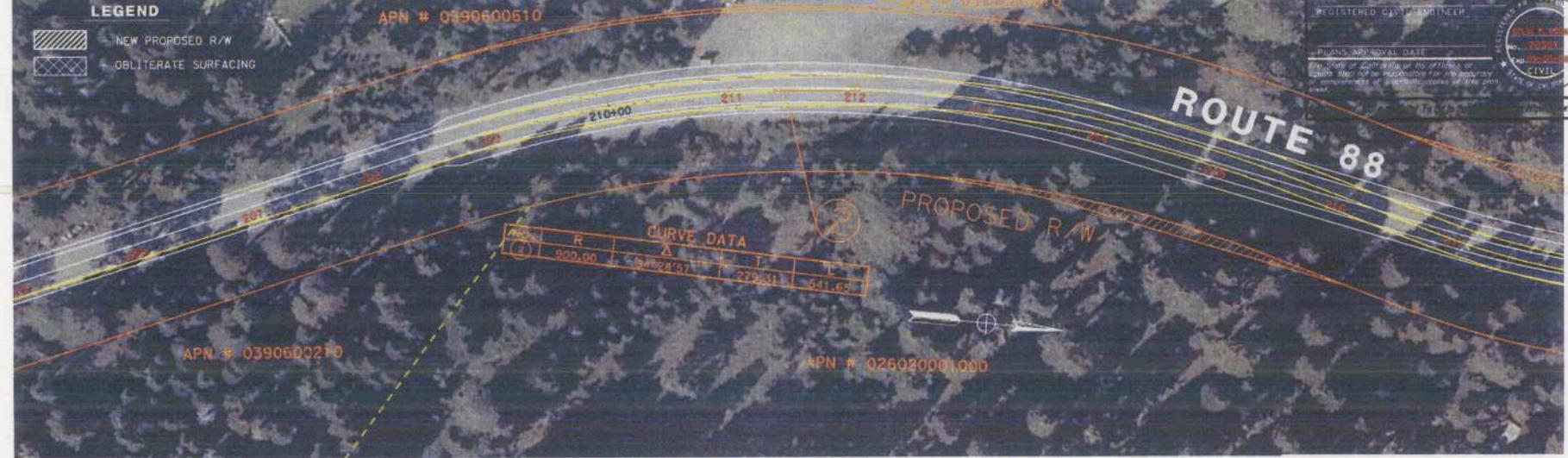
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COLIN DORAN

CHECKED BY

DATE REVISIED BY

DATE REVISIED

NOTE:
 FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS
 AT DISTRICT OFFICE.



DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	AMA	88	66.6/71.6		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA AND ITS OFFICERS OR EMPLOYEES SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF A SPECIAL CONTRACT OF THIS PROJECT.

DATE: 06/20/07

PROJECT: 066000000

SCALE: 1" = 50'

DATE PLOTTED: 06/20/07

TIME PLOTTED: 10:08:58

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

LAYOUT L-4
 SCALE 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

PROJECT ENGINEER
COLIN DORAN

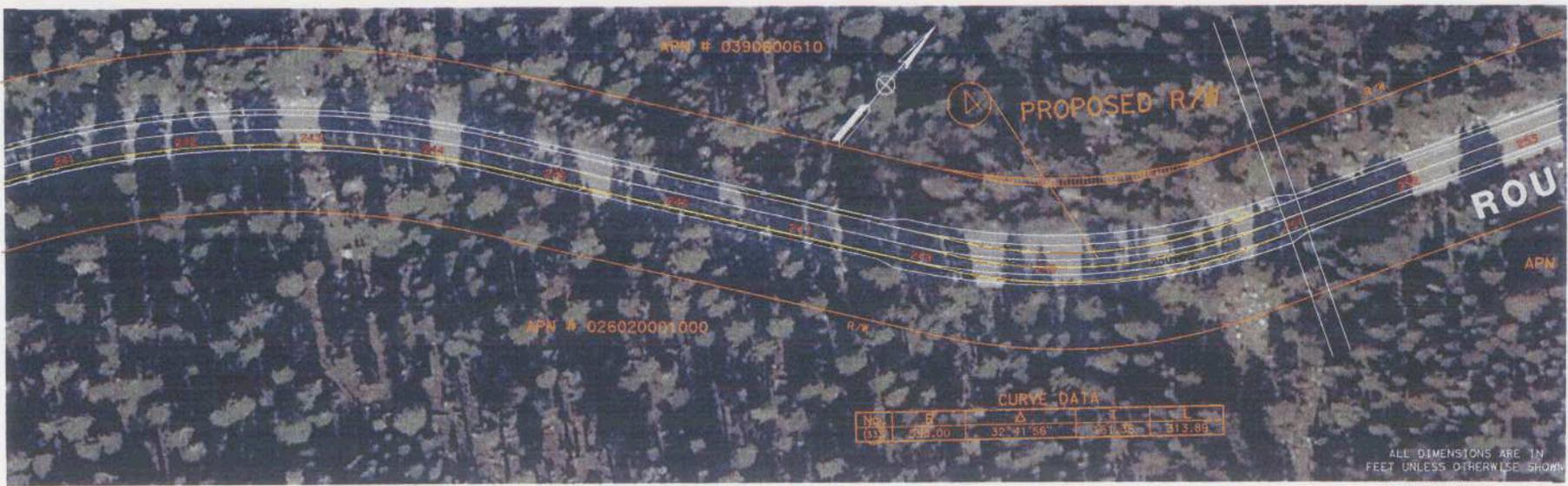
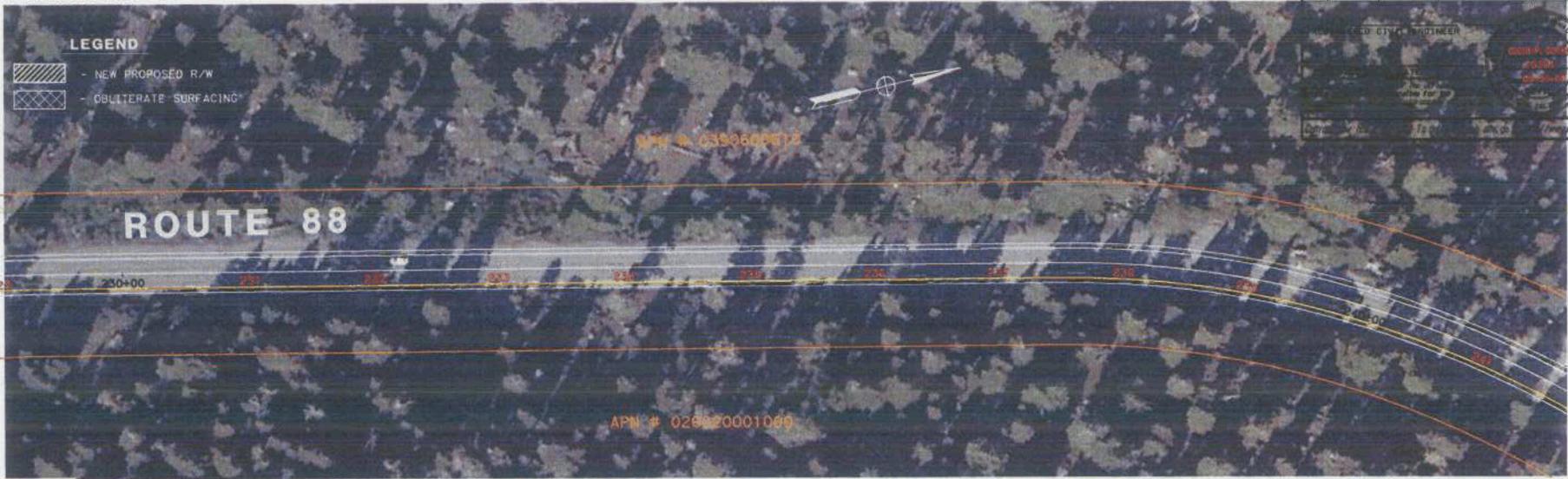
DESIGN

DATE REVISIED BY
 DATE REVISIED BY

CALCULATED/
 DESIGNED BY
 CHECKED BY

NOTE:
 FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS
 AT DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	AMA	88	66.6/71.6		



CURVE DATA

No.	R	Δ	L	E
03	538.00	32° 41' 56"	351.38	519.89

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

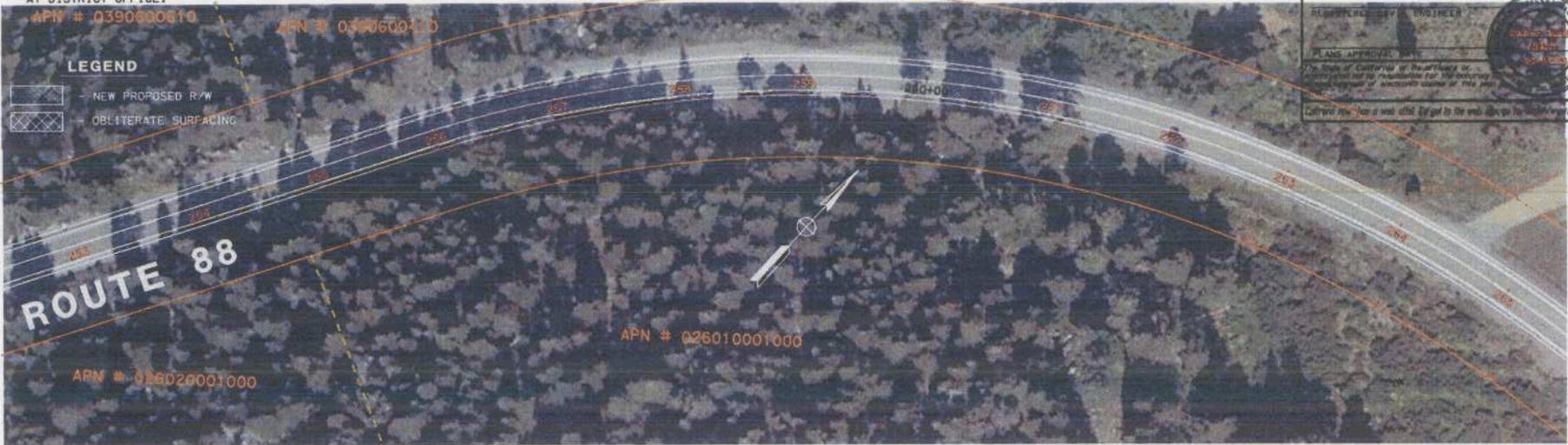
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
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 PROJECT ENGINEER
COLIN DORAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISOR BY
 DATE REVISOR BY

NOTE:
 FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS
 AT DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	AMA	88	66.6/71.6		



REGISTERED CIVIL ENGINEER
 COLIN DORAN
 No. 41520
 State of California
 License expires 12/31/2007

PLANS APPROVAL PART
 The State of California or Department of Transportation is not responsible for the accuracy or completeness of any information or data shown on this plan.
 California High-Speed Rail Authority
 400 Capitol Mall, Sacramento, CA 95833

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

LAYOUT L-6
 SCALE 1" = 50'

LAST MODIFIED
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 TIME PLOTTED => 18:55
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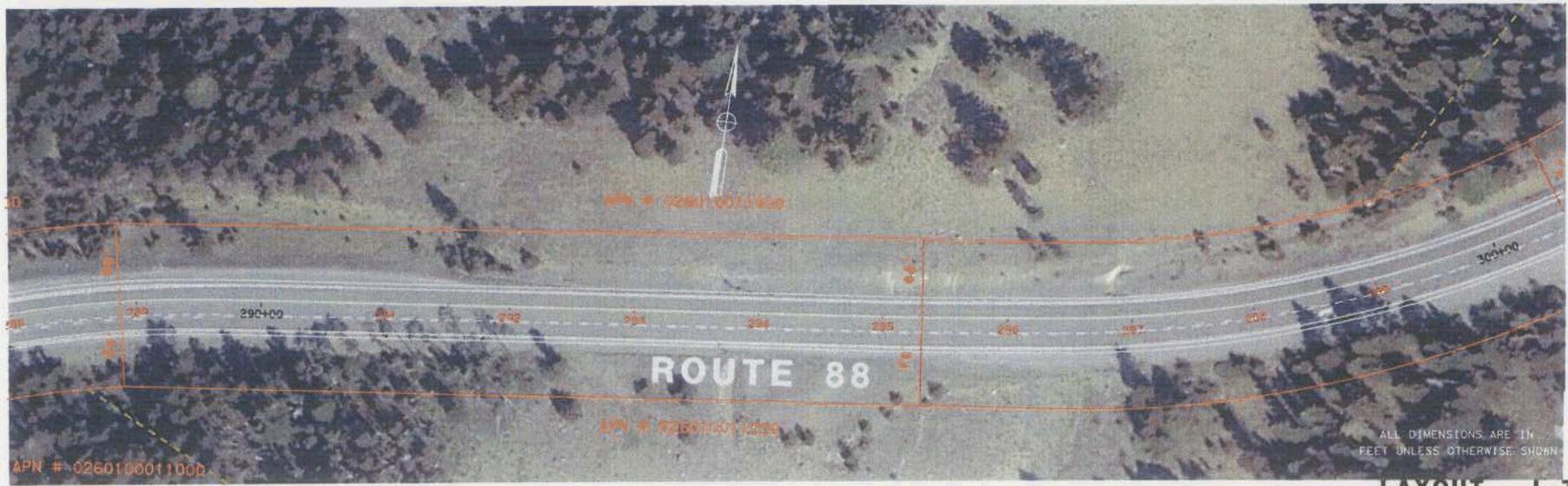
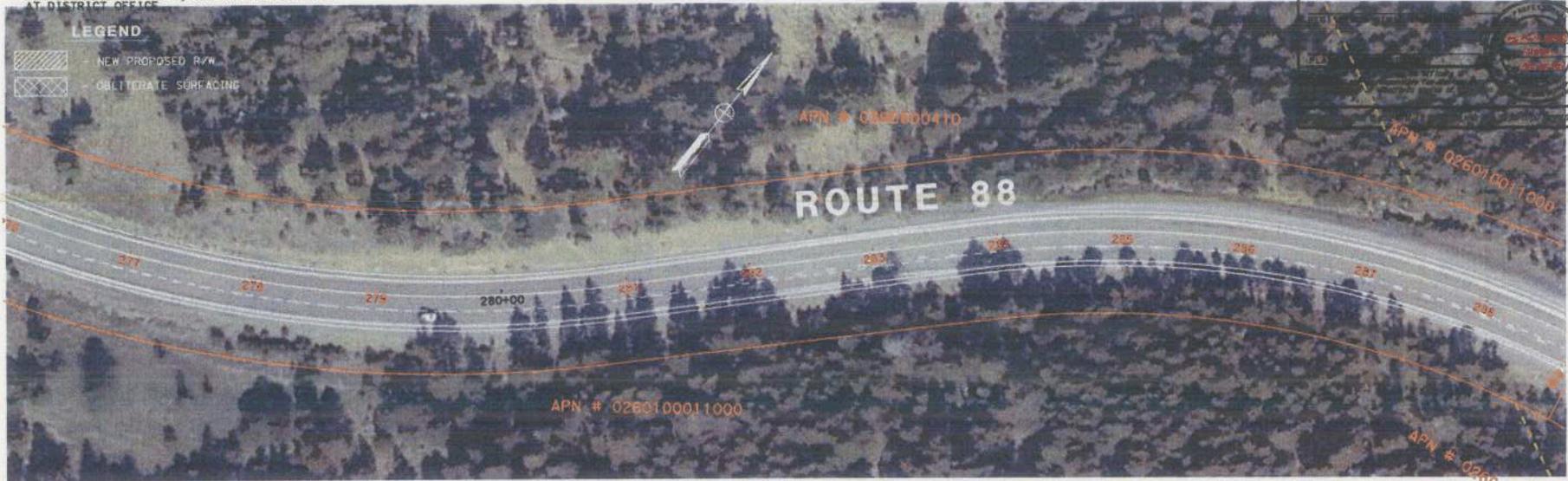
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Caltrans
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 DESIGNED BY
 CHECKED BY
 DATE REVISIED BY
 DATE REVISIED BY

NOTE:
 FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS
 AT DISTRICT OFFICE

LEGEND

-  NEW PROPOSED R/W
-  OBLITERATE SURFACING

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	AMA	88	66.6/71.6		



ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

LAYOUT L-7
 SCALE 1" = 50'

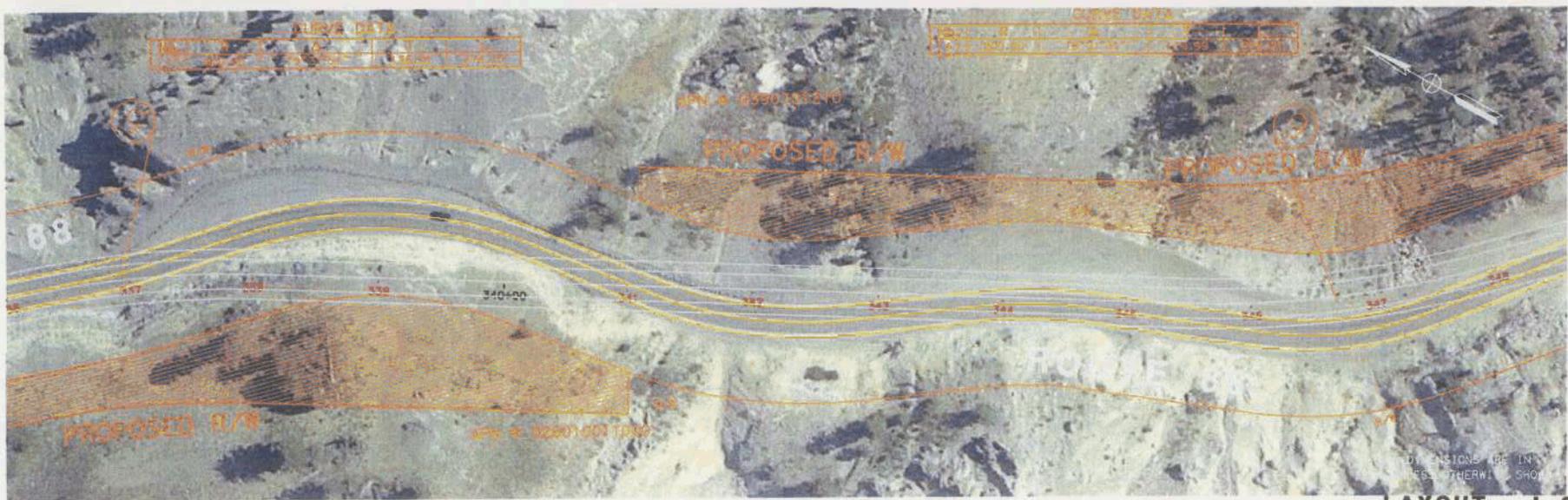
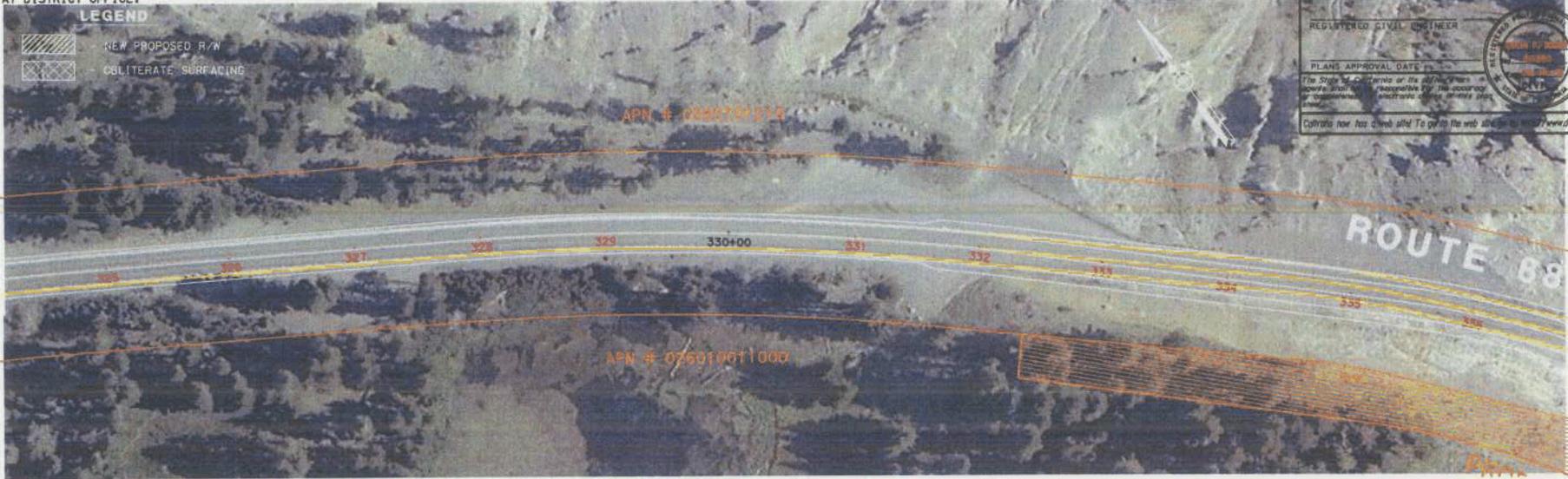
DATE PLOTTED => 06/26/07 07:00
 TIME PLOTTED => 07:00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
California
 PROJECT ENGINEER
COLIN DORAN
 DESIGN

NOTE:
 FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS
 AT DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET TOTAL SHEETS
10	AMA	88	66.6/71.6	

LEGEND
 NEW PROPOSED R/W
 OBLITERATE SURFACING



REGISTERED CIVIL ENGINEER
 COLIN DORAN
 PLANS APPROVAL DATE: 08/27/2007
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 California now has a new site To go to the web site go to www.dgs.ca.gov

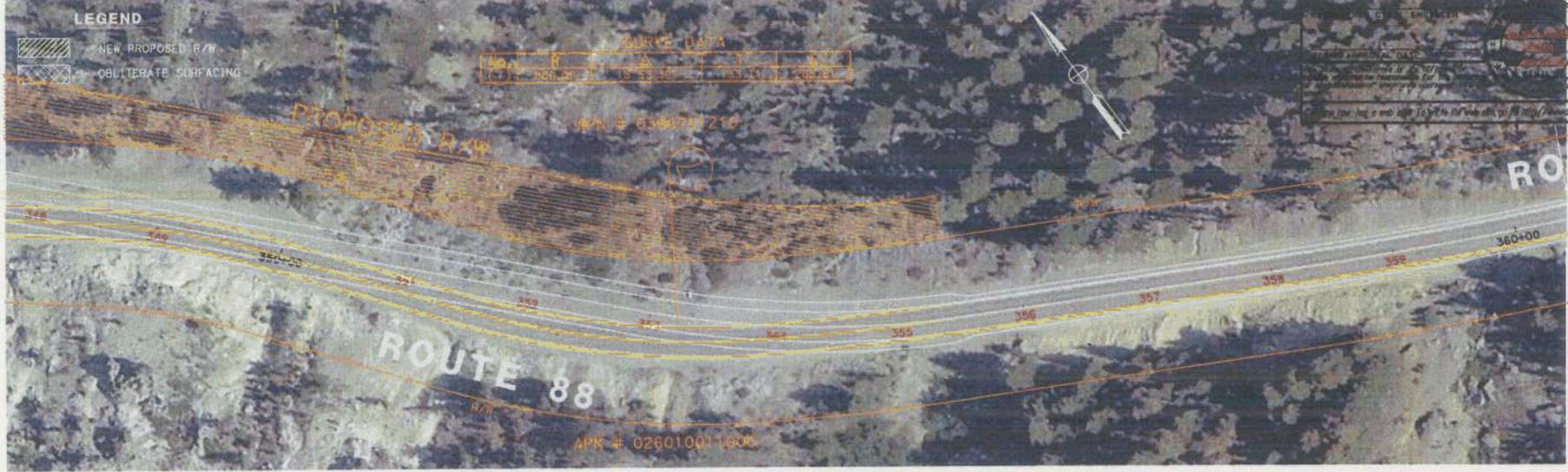
LAYOUT L-9
 SCALE 1" : 50'

DATE PLOTTED => 06-SEP-2007
 TIME PLOTTED => 3:01:00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 PROJECT ENGINEER
COLIN DORAN
 DESIGN
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISED BY
 DATE REVISED BY

NOTE:
 FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS
 AT DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	AMA	88	66.6/71.6		



ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

LAYOUT L-10
 SCALE 1" : 50'

DATE PLOTTED => 01/02
 TIME PLOTTED => 01:02

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 PROJECT ENGINEER
COLIN DORAN
 CALCULATED/
 DESTORIED BY
 CHECKED BY
 DATE
 REVISED BY
 DATE REVISED

NOTE:
 FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS
 AT DISTRICT OFFICE.

LEGEND

-  NEW PROPOSED R/W
-  UBL ITERATE SURFACING

APN # 026010011000



APN # 026010011000



APN # 026010011000

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

LAYOUT L-11
 SCALE 1" : 50'

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	AMA	88	66.6/71.6		

REGISTERED PROFESSIONAL ENGINEER
 COLIN DORAN
 No. 70343
 State of California
 CIVIL
 EXPIRES 12/31/2007
 To get to the web site, go to <http://www.ctd.ca.gov>

DATE PLOTTED => 06-08-2007
 TIME PLOTTED => 07:03
 LAYOUT NUMBER
 00-00-00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 PROJECT ENGINEER
COLIN DORAN
 CALCULATED BY
 DESIGNED BY
 CHECKED BY
 DATE
 REVISED BY
 DATE REVISED BY

NOTE:
 FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS
 AT DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO	TOTAL SHEETS
10	AMA	88	66.6/71.6		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

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ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN
LAYOUT L-13
 SCALE 1" = 50'

DATE PLOTTED => 06-SEP-2007 TIME PLOTTED => 07:05

Caltrans Maintenance Program 2005 Pavement Summary Caltrans Drive Order

District 10, AMA, Rte 088, PM 66.6 - 71.6, Right Lanes

District	10
County	AMA
Route	088
Begin PM R	64.449

District 10 County AMA Route 088

----- Maximum Observed Values -----

Prior-ity	County	Route	Begin PM	- End PM	Length	Pave Type	Trig. Dir.	Trig. Dir.	Ln	Trig. Mi	AADT (,000)	MSL	----- Maximum Observed Values -----							Int'l Rough. Index	Defect
													Allig. A	Allig. B	Patch- ing	Bleed- ing	Rut- ting	1st St. Crk.	3rd St. Crk.		
32	AMA	088	R 64.449	- R 65.826	1.377	F	B	B	2.754	3	2									83	FINE RAVEL
32	AMA	088	66.355	- 66.478	0.123	F	B	B	0.246	3	2									132	FINE RAVEL
32	AMA	088	66.478	- 67.778	1.300	F	B	B	2.600	3	2									142	FINE RAVEL
32	AMA	088	67.778	- 68.876	1.098	F	B	B	2.196	3	2									132	FINE RAVEL
32	AMA	088	R 68.876	- R 68.978	0.102	F	B	B	0.204	3	2									135	FINE RAVEL
32	AMA	088	R 68.978	- R 69.558	0.580	F	B	B	1.160	3	2									115	FINE RAVEL
32	AMA	088	69.573	- 70.493	0.920	F	B	B	1.840	3	2									106	FINE RAVEL
32	AMA	088	70.493	- 71.649	1.156	F	B	B	2.312	3	2									122	FINE RAVEL
Total Triggered Lane Miles									13.312												

ATTACHMENT C

Note: HA Project locations highlighted in bold typeface.

Caltrans Maintenance Program 2005 Pavement Condition Survey Inventory Caltrans Drive Order

District 10, AMA, Rte 088, PM 66.6 - 71.6, Right Lanes

District 10 County AMA Route 088

Begin PM - End PM	Lane	Surface Type	Length			LaneMi. (Est.)	Type	AADT (,000)			MSL	Faulting	Patching		Ride, IRI	Priority	Skid	Defect	
			Alligator Cracking					Rutting, Bleeding	Slab Cracking				Area %	Poor Cond.?					
			A %	B %	C (Y/N)?				1st %	3rd %									Corner %
R 64.449 - R 65.826	R1	F-CS	0	0	0	2LNU	2	2				5	77	32			FINE RAVEL		
66.355 - 66.478	R1	F-CS	0	0	0	2LNU	3	2				17	132	32			FINE RAVEL		
66.478 - 67.778	R1	F-CS	0	0	0	2LNU	3	2			50	19	142	32			FINE RAVEL		
67.778 - 68.876	R1	F-CS	0	0	0	MLU	3	2			100	14	122	32			FINE RAVEL		
R 68.876 - R 68.978	R1	F-CS	0	0	0	MLU	3	2			100	13	118	32			FINE RAVEL		
R 68.978 - R 69.558	R1	F-CS	0	0	0	MLU	3	2				6	91	32			FINE RAVEL		
69.573 - 70.493	R1	F-CS	0	0	0	2LNU	3	2				5	88	32			FINE RAVEL		
70.493 - 71.649	R1	F-CS	0	0	0	2LNU	3	2			100	14	122	32			FINE RAVEL		

*Surface type of 'EB' is Enhanced Binder.

Collection Date: 09/14/2003
 Printed: 05/30/2007

Caltrans Maintenance Program 2003 Pavement Condition Survey Inventory Caltrans Drive Order

District 10
 County AMA
 Route 088
 Begin PM R 64.710

District 10, AMA, Rte 088, PM 66.6 - 71.6

District 10 County AMA Route 088

Begin PM - End PM		Length		LaneMi. (Est.)	Type	AADT (,000)			MSL	Ride, IRI	Priority	Skid	Defect	
Lane	Surface Type	Alligator Cracking		Rutting, Bleeding	Slab Cracking			Faulting	Patching					
		A %	B %	C (Y/N)?	1st %	3rd %	Corner %		Area %					Poor Cond.?
R 64.710	- R 65.710	1.000		2.000	2LNU	2			2					
L1	F-DG	0	0							5	71			
R1	F-DG	0	0							5	77			
R 65.710	- R 65.826	0.116		0.232	2LNU	2			2					
L1	F-DG	0	52	Yes						13	117	8	HIGH ABC	
R1	F-DG	0	50	Yes						11	112	8	HIGH ABC	
66.355	- 67.239	0.884		1.768	2LNU	2			2					
L1	F-DG	0	52	Yes						15	124	8	HIGH ABC	
R1	F-DG	0	50	Yes						19	141	8	HIGH ABC	
67.239	- 68.139	0.900		1.800	2LNU	2			2					
L1	F-DG	0	44						25	9	101	8	HIGH ABC	
R1	F-DG	0	19							9	104	10	MOD ABC	
68.139	- 68.876	0.737		2.211	MLU	2			2					
L1	F-DG	0	38							11	110	8	HIGH ABC	
R1	F-DG	0	0	Yes						11	111			
R 68.876	- R 69.339	0.463		1.389	MLU	2			2					
L1	F-DG	0	38							8	99	8	HIGH ABC	
R1	F-DG	0	0	Yes						6	92			
R 69.339	- R 69.558	0.219		0.657	MLU	2			2					
L1	F-DG	0	0							5	78			
R1	F-DG	0	0							5	73			
69.573	- 70.854	1.281		2.562	2LNU	2			2					
L1	F-DG	0	0							5	84			
R1	F-DG	0	0							5	80			
70.854	- 71.649	0.795		1.590	2LNU	2			2					
L1	F-DG	0	0						100	11	110			
R1	F-DG	0	0						100	14	123			

*Surface type of 'EB' is Enhanced Binder.
 California Department of Transportation, Maintenance Program, Pavement Management Information Branch, Phone (916) 654-2355.

Memorandum

To: COLIN DORAN
Project Engineer, Design IV, Branch I

Date: January 25, 2007

Attn:

File: 10-Ama-88-66.6/71.6
Rehabilitation
10-0M790K

From: **DEPARTMENT OF TRANSPORTATION**
District 10 – Materials Branch

Subject: Flexible Pavement Deflection Study Report

In accordance with your request, we have developed pavement rehabilitation alternatives for the above referenced project. Design recommendations are based on the a previous deflection study done in 1998 by personnel of the Office of Pavement Rehabilitation, OPR. The deflection tests were done in ten sections. To determine the existing asphalt concrete (AC) thickness and the type of base materials, one core in each test section was taken during field testing.

A condition survey was made at the time of the deflection study to assess the severity of pavement distresses. The survey indicated that the surface of pavement is dense graded asphalt concrete (DGAC). The pavement reveals various types of distress conditions. The majority of cracking consisted of longitudinal and alligator cracking. The project is located in a rural area with few left or right turning lanes.

The collected data were analyzed for structural adequacy, reflective crack retardation and ride quality. The 2002 Pavement Condition Survey (PCS) indicates that the pavement has a maximum ride score of 162 in/mile in terms of International Roughness Index (IRI), which is within the acceptable value of 225 in/mile.

The district reports that the 10 year Traffic Index (TI10) is 9.0 for this project.

The TI10, 80th percentile of the deflections, tolerable deflections, core data, as well as the 2002 Pavement Condition Survey (PCS) data are summarized in Table 1, and were used to develop rehabilitation strategies. In all cases, crack retardation governed the rehabilitation design for the entire project.

Table 1: Data used in developing rehabilitation strategies.

Direction	TI10	Location		Base Type	Avg. AC Thickness	Avg. 80 th Percentile	Tolerable Deflection	IRI
		PM/PM	Lane					
EB	9.0	66.5/66.7	1	AB	0.52 ft	0.021"	0.014"	162
WB	9.0	66.6/66.8	1	AB	0.50 ft	0.012"	0.014"	162
EB	9.0	67.2/67.4	1	AB	0.78 ft	0.033"	0.014"	162
WB	9.0	67.8/68.0	1	AB	0.78 ft	0.022"	0.014"	162
EB	9.0	68.6/69.4	1	AB	0.62 ft	0.023"	0.014"	162
WB	9.0	69.6/69.8	1	AB	0.60 ft	0.029"	0.014"	162
EB	9.0	70.0/70.2	1	AB	0.60 ft	0.020"	0.014"	162
WB	9.0	70.4/70.6	1	AB	0.60 ft	0.019"	0.014"	162
EB	9.0	71.0/71.2	1	AB	0.60 ft	0.021"	0.014"	162
WB	9.0	71.4/71.6	1	AB	0.60 ft	0.034"	0.014"	162

Ten-Year Rehabilitation Recommendations

Alternative 1. – Rubberized Asphalt Concrete – Gap Graded (RAC G)

Conduct a field review and locate specific areas of severe failure identified by rutting greater than 15mm and/or loose or spalling pavement.

Dig out and repair the localized distressed areas and seal all cracks wider than 5mm.

Finally, place a RAC-G overlay of 45mm.

This will raise the existing profile grade 45mm.

Alternative 2. – Dense graded Asphalt Concrete (DGAC)

Conduct a field review and locate specific areas of severe failure identified by rutting greater than 15mm and/or loose or spalling pavement.

Dig out and repair the localized distressed areas and seal all cracks wider than 5mm.

Then place a Dense Graded AC (DGAC) overlay of 90mm.

This will raise the existing profile grade 90mm.

Remarks

1. The recommended rehabilitation strategies should provide ten years of service at a minimum maintenance cost.
2. Water may infiltrate gap-graded pavements. Saturation of the pavement promotes stripping of the binder from aggregate. Therefore, it is important to design cold-planned pavement cross-sections containing gap-graded mix in such a way that infiltrated water may drain.
3. A preliminary investigation must be made of the existing asphalt concrete pavement before choosing recycling as the planned alternative. See Deputy Directive DD- 17 dated November 17, 1993 on Recycling Asphalt Concrete.

If you have any questions or comments, please contact me at 7951.



Dave Whaling, P.E.
District Materials engineer



PRELIMINARY PROJECT COST ESTIMATE SUMMARY

PROJECT: 10-AMA 88 - REHABILITATE THE ROADWAY
 KP(PM): (PM 66.6/71.6)
 EA: 0M790K

Project Description

Limits: In Amador County on State Route 88, a two lane conventional highway in and near Kirkwood.

Proposed Improvement: To rehabilitate the roadway by structural pavement repair and resurfacing the existing roadway pavement.
 (Scope)

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

ROADWAY ITEMS	\$14,908,093
STRUCTURE ITEMS	<u>\$0</u>
 SUBTOTAL CONSTRUCTION	 \$14,908,093
 RIGHT OF WAY	 <u>\$607,927</u>
 TOTAL PROJECT COST	 <u>\$15,516,020</u>

SUBMITTED BY:	<u>Colin Doran</u> Project Engineer, Colin Doran	<u>11/9/07</u> Date
CHECKED BY:	<u>Richard Boyer</u> Project Engineer, Richard Boyer	<u>11/9/07</u> Date
APPROVED BY:	<u>Grace Magsayo</u> Project Manager, Grace Magsayo	<u>11/9/07</u> Date
APPROVED BY:	<u>Alvin Mangindin</u> Program Advisor, Alvin Mangindin	<u>11/9/07</u> Date

PROJECT: 10-AMA 88 - REHABILITATE THE ROADWAY
 KP(PM): (PM 66.6/71.6)
 EA: 0M790K

I. ROADWAY ITEMS

SECTION 1 - EARTHWORK

ITEM	Quantity	Unit	Unit Price	Cost	Section Cost
RDWY EXCAVATION	50,000	YD ³	\$20.00	\$1,000,000	
EMBANKMENT	40,000	YD ³	\$25.00	\$1,000,000	
REPLACE AC SURFACING	2,370	YD ³	\$405.00	\$959,850	
CLEARING & GRUBBING	1	LS	\$50,000	\$50,000	
OBLITERATE AC	4,200	YD ²	\$4.20	\$17,640	
TOTAL EARTHWORK					<u>\$3,027,490</u>

SECTION 2 - STRUCTURAL SECTION

ITEM	Quantity	Unit	Unit Price	Cost	Section Cost
ASPHALT CONCRETE (TYPE B)	23,000	TON	\$105.00	\$2,415,000	
AGGREGATE BASE	7,500	YD ³	\$90.00	\$675,000	
Imported Borrow	1,000	YD ³	\$75.00	\$75,000	
Imported Mat'l (Shlder Backing)	10,000	TON	\$60.00	\$600,000	
TOTAL STRUCTURAL SECTION					<u>\$3,765,000</u>

SECTION 3 - DRAINAGE

ITEM	Quantity	Unit	Unit Price	Cost	Section Cost
PROJECT DRAINAGE	1	LS	\$620,000.00	\$620,000.00	
TOTAL DRAINAGE					<u>\$620,000</u>

PROJECT: 10-AMA 88 - REHABILITATE THE ROADWAY
 KP(PM): (PM 66.6/71.6)
 EA: 0M790K

SECTION 4 - SPECIALTY ITEMS

ITEM	Quantity	Unit	Unit Price	Cost	Section Cost
CRIB WALL	15,000	FT ²	\$80	\$1,200,000	
SOUNDWALL	0	0	\$0		
EQUIP/ANIMALS PASS	0	LS	\$0	\$0	
RELO.PRIM.IRRI.FACI.	0	0	\$0	\$0	
EROSION CONTROL	1	LS	\$100,000	\$100,000	
SLOPE PROTECTION	5	LS	\$15,000	\$75,000	
CONCRETE BARRIERS	0	0	\$0	\$0	
GUARDRAILS	4,000	FT	\$50	\$200,000	
HAZARDOUS WASTE	0	0	\$0	\$0	
ENVIR. MITIGATION	1	LS	\$1,150,000	\$1,150,000	
TEMP K-RAIL	0	FT	\$0.00	\$0	
REMOVE AC DIKE	500	FT	\$0.70	\$350	
PLACE AC DIKE	500	FT	\$2.00	\$1,000	
TOTAL SPECIALTY ITEMS					<u>\$2,726,350</u>

SECTION 5 - TRAFFIC ITEMS

ITEM	Quantity	Unit	Unit Price	Cost	Section Cost
LIGHTING	1	LS	\$0	\$0	
TRAFFIC SIGNALS	1	LS	\$0	\$0	
SIGNING AND STRIPPING	1	LS	\$65,400	\$65,400	
TRAFFIC CONTROL SYSTEM	1	LS	\$117,000	\$117,000	
TRAFFIC MANAGEMENT PLAN	1	LS	\$50,000	\$50,000	
MAINTAIN TRAFFIC	1	LS	\$50,000	\$50,000	
CONST. SIGNS	1	LS	\$4,000	\$4,000	
TOTAL TRAFFIC ITEMS					<u>\$286,400</u>
SUBTOTAL SECTION 1-5					<u>\$10,425,240</u>

PROJECT: 10-AMA 88 - REHABILITATE THE ROADWAY
 KP(PM): (PM 66.6/71.6)
 EA: 0M790K

	\$ SUBTOT	%	Section Cost
SECTION 6 - MINOR ITEMS			
SUBTOTAL SECTION 1-5	\$10,425,240	10	
			<u>\$1,042,524</u>
			<u><u>TOTAL MINOR ITEMS</u></u>

SECTION 7 - ROADWAY MOBILIZATION

SUBTOTAL SECTION 1-5	\$10,425,240		
MINOR ITEMS	<u>\$1,042,524</u>		
	\$11,467,764	10	
			<u>\$1,146,776</u>
			<u><u>TOTAL ROADWAY MOBILIZATION</u></u>

SECTION 8 - ROADWAY ADDITIONS

SUPPLEMENTAL WORK

SUBTOTAL SECTION 1-5	\$10,425,240		
MINOR ITEMS	<u>\$1,042,524</u>		
	\$11,467,764	10	\$1,146,776

CONTINGENCIES

SUBTOTAL SECTION 1-5	\$10,425,240		
MINOR ITEMS	<u>\$1,042,524</u>		
	\$11,467,764	10	\$1,146,776.40
			<u>\$2,293,553</u>
			<u><u>TOTAL ROADWAY ADDITIONS</u></u>

	Unit	Unit Price	
RELINQUISH	LS	\$0	<u>\$0</u>

TOTAL ROADWAY ITEMS **\$14,908,093**
 (TOTAL OF SECTIONS 1-8)

PROJECT: 10-AMA 88 - REHABILITATE THE ROADWAY
 KP(PM): (PM 66.6/71.6)
 EA: 0M790K

II. STRUCTURE ITEMS

STRUCTURE NAME	Width	Length	Cost	Total Cost
SUBTOTAL STRUCTURE ITEMS				\$0
TOTAL STRUCTURE ITEMS				\$0

III. RIGHT OF WAY

ITEM	Section Cost
ACQUISITION	\$127,031
MITIGATION (BANK CREDITS)	\$457,308
UTILITY RELOCATION	\$12,898
CLEARANCE/DEMOLITION	\$8,794
DOCUMENT REVIEW/ PERMIT FEES	\$0
RAP	\$0
TITLE AND ESCROW FEE	\$1,896
TOTAL RIGHT OF WAY	
CONSTRUCTION CONTRACT WORK	
	\$607,927
	\$0

COMMENTS:



Preliminary Environmental Analysis Report (Revised for downscoped project)

Project Information

District 10 County AMA Route 88 Post Mile 66.6/71.6 EA 0M790

Project Title: Carson Spur

Project Manager: Grace Magsayo

Phone # (209) 948-7976

Design Manager: Paul Elliott

Phone # (209) 948-7079

Environmental Manager: Gail Miller

Phone # (559) 243-8222

Environmental Coordinator: Charles Walbridge

Phone # (559) 243-8167

Project Description

Purpose and Need: The purpose of the project is to rehabilitate pavement and bring the highway to RRR standards (Resurfacing, Restoration, Rehabilitation). Bringing the roadway to RRR standards would require:

- Widen shoulders to 4 feet (original scope widened shoulders to standard – 8 feet)
- Correcting nonstandard horizontal curve radii (i.e., curve corrections)
- Upgrading or replacing metal beam guardrail
- Culvert extensions

Average daily traffic on this segment of State Route 88 is generally light (3600 vehicles per day) and there are no documented accident concentrations.

Description of work: The proposed project would repair localized areas with dig-outs and crack sealing then place a 2-4" thick overlay of asphalt concrete on the roadway. Cut and fill would be required to widen the shoulders to 4 feet and correct 8 horizontal curves with nonstandard curve radii. Metal beam guardrail would also be replaced as needed. Culverts would be extended for two streams that run underneath the roadway.

Scope Changes from Original Project:

- Shoulder widening is to 4 feet instead of 8 feet.
- Most of the curve corrections have a tighter radii resulting in less cut and fill.
- Impacts to Martin Meadow near the end of the project have been reduced or eliminated reducing overall wetland impacts. The stream running parallel to the roadway would not be culverted. However, to achieve straightening of the curve in this area more cut is proposed on the westbound side resulting in tree removal/habitat destruction.
- Additional cut is proposed into the Carson Spur formation to achieve a straighter alignment in this area (starting at about STA 334+50).

Environmental Determination Changes from Original PEAR:

- The federal environmental document would be an Environmental Assessment/Finding of No Significant Impacts instead of an Environmental Impact Statement due to a reduction in wetlands impacts in Martin Meadow and no need for NEPA 404 consultation.
- Phase II testing can occur immediately after the Extended Phase I due to elimination of the NEPA 404 wetlands avoidance alternative. Only one build alternative is now required. (NOTE: federal law still requires avoidance of wetlands whenever feasible).
- The schedule for completion of the Project Approval and Environmental Document phase is reduced from 45 months to 36 months.

Alternatives: There are two alternatives, build or no-build.

Funding: The proposed project is a candidate for the 2008 State Highway Operations and Protection Program.

Anticipated Environmental Approval

CEQA

- Categorical Exemption/Statutory Exemption
- Negative Declaration/Mitigated ND
- Environmental Impact Report

NEPA

- Categorical Exclusion/Programmatic CE
- EA/Finding of No Significant Impact
- Environmental Impact Statement

PSR Summary Statement

The anticipated environmental document for the proposed project is an Environmental Impact Report for California Environmental Quality Act compliance and an Environmental Assessment/Finding of No Significant Impacts for National Environmental Policy Act compliance. The joint CEQA/NEPA document would require 36 months to complete from the initiation of full environmental studies. Assuming a Begin Environmental (M020) date of January 1, 2009, the environmental document and project report (PA&ED M200) would be completed by January 1, 2012.

After design maps and permits to enter are obtained, the critical path for environmental compliance would be archaeological surveys, reports, and approvals from the State Historic Preservation Officer. Another issue affecting cost and schedule are biological surveys for state and federally listed special status plants and animals and consultation with El Dorado National Forest, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers. Also, State Route 88 in this area is a designated state scenic highway. A Visual Impact Assessment would be required to analyze effects and suggest mitigation methods for significant impacts to the visual environment.

Assumptions and Risks

Assumptions:

- NEPA delegation expires as scheduled in 2009, FHWA has to review and approve environmental document.
- FHWA will review and comment on the draft environmental document before a concurrence letter is received from SHPO on the HPSR.
- Project scope remains the same.
- Design mapping and Permits to Enter can be delivered by January 1, 2009.
- Surveys for archaeology and biology will be limited to between May and October due to snow cover the rest of the year.

- Phase III data recovery for at least one eligible site will be required.
- A full Section 4(f) document will not be required for noise impacts to the campground.

Risks:

- High probability/High impact: El Dorado National Forest and other resource agencies are likely to oppose the project due to significant biological impacts for a project with a weak purpose and need in relation to the level of impacts (low traffic volumes, no accident concentrations).
- High probability/High impact: Public controversy likely due to significant visual impacts to a designated state scenic highway.
- Medium probability/High impact: Late discovery of additional archaeological sites in the proposed project area. The area is known to be highly sensitive for historic and prehistoric archaeological sites since the region has been used as a travel corridor across the Sierra for the last 10,000 years.
- Medium probability/Medium impact: Reviews and approvals by external agencies (SHPO, USFS, USFWS, ACOE, DFG) may be delayed due to their workload and staffing levels.
- Medium probability/High Impact: Design changes require additional environmental studies with a longer schedule and higher costs to complete the environmental document.

Mitigation

Right of Way Capital (050)

Wetlands Mitigation Bank	\$250,000
Permits (401,404, 1600, DFG doc review)	\$10,000

Construction Capital (042)

Biology (revegetation/erosion control)	\$800,000
Phase III data recovery (archaeology)	\$250,000
Hazardous Waste Remediation (ADL, striping, NOA)	\$100,000

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. The purpose of this report is to provide a preliminary level of environmental analysis to supplement the Project Study Report. Changes in project scope, alternatives, or environmental laws will require a reevaluation of this report.

Reviewed by:

Christine Cox-Kavoreuch
 Environmental Office Chief

Date: 8/10/07

David Miller
 Environmental Branch Chief

Date: 8-9-07

[Signature]
 Project Manager

Date: 8/16/07

Environmental Technical Reports or Studies Required

Study – requires thorough analysis including field surveys, database searches, and reports

Document – does not require field surveys; issue is incidental and may only require memo to file and brief explanation in the environmental document.

N/A – Issue is not applicable to the proposed project.

	Study	Document	N/A
Community Impact Study	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Farmland	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Section 4(f) Evaluation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Visual Resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floodplain Evaluation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise Study	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Quality Study	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Paleontology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wild and Scenic River Consistency	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cumulative Impacts	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cultural			
ASR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HRER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HPSR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section 106	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SHPO Concurrence	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Native American Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finding of Effect _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data Recovery Plan _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Waste			
ISA (Additional)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PSI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biological			
Endangered Species (Federal)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Endangered Species (State)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Species of Concern (CNPS, USFS, BLM, S, F)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biological Assessment (USFWS, NMFS, USFS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biological Opinion (USFWS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Invasive Species	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Natural Environment Study	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NEPA 404 Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Permits			
401 Permit Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
404 Permit Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1600 SAA Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
City/County Coastal Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State Coastal Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
NPDES Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
US Coast Guard (Section 10)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State 2081 Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Technical Review

Socio-economic and Community Effects. The proposed project is located in a remote area in the El Dorado National Forest. There are no communities in the project area.

Section 4(f) Impacts. A public campground is located within the project limits. It is protected by Section 4(f) of the Department of Transportation Act as a public recreation area; however, the current scope of work would only widen shoulders in this area and not directly affect its use as a public recreation area by acquiring right of way within the campground. The design plans should be rechecked after programming to insure that there are no acquisitions of right of way on this property, which would require preparation of a Section 4(f) document.

A constructive use may occur if there is "substantial impairment" in the use of this property during construction due to access restrictions or construction noise. Impacts to the campground from construction noise and vibration should be considered during the environmental study phase of the proposed project. The Federal Highway Administration should be consulted after the project is programmed to determine if there is a constructive use as a result of construction noise. 6 months would be required to prepare and receive approval from FHWA if a full Section 4(f) document is required

Visual Effects. State Route 88 is a designated state scenic highway from State Route 49 in Jackson to the Nevada state line. This requires Caltrans to maintain and protect the scenic and aesthetic values inherent to the environment surrounding the roadway in the design and construction of projects that would otherwise degrade these values.

The extensive cut and fill required by the proposed project would have a significant impact on the scenic resources adjacent to State Route 88 by removing large stands of mature pine and cedar trees. A Visual Impact Assessment would evaluate the impacts of cut and fill, tree removal, and erosion and suggest methods to mitigate these impacts. Four to six months would be required to prepare the Visual Impact Assessment.

Water Quality. Construction activities would be required to follow standard engineering practices that reduce impacts to water quality, especially where three watercourses and a large pond just west of Carson Spur would be affected. These practices include reduction of sediment loading and sediment disturbance as well as other standard Best Management Practices for maintaining water quality in the project area.

Due to the significant cut and fill and drainage work, a water quality study would be required to analyze the potential effects to the water quality of the watercourses and the pond. Coordination with the Regional Water Quality Control Board would be required. A Stormwater Pollution Prevention Plan would also be required from the Caltrans stormwater unit and the project would be required to comply with Caltrans' National Pollutant Discharge Elimination System permit.

Floodplain. A floodplain report would be required to determine if the proposed project would significantly encroach into a 100-year or 500-year floodplain.

Air. According to Part 40 of the Code of Federal Regulations Section 93.126, the proposed project is exempt from all emissions analysis and may proceed even in the absence of a conforming regional transportation plan and transportation improvement program.

Noise. The proposed project is not a Type I (capacity-increasing) project and would therefore not require a noise study to determine if there would be a substantial increase in noise for sensitive receptors.

However, as previously noted, construction noise may be considered a constructive use effect on a nearby campground which may trigger Section 4(f) and approval from the Federal Highway Administration. Some analysis should be done for construction noise.

Cultural Resources. The area around Carson Pass has been utilized for trans-Sierra travel for about the last 10,000 years. There are numerous prehistoric Native American sites in the project area as well as historic sites associated with Kit Carson, John C. Fremont, and the Mormon Emigrant Trail. The Carson Spur wagon road was constructed in the mid-1860s. The Mormon Emigrant Trail, a site eligible for the National Register of Historic Places, is of particular concern due to its proximity to the project area.

The built environment includes remnants of an old hotel and the Kirkwood Inn, which is approximately 150 years old. The current design plans depict only shoulder widening in front of the Kirkwood Inn, therefore, no direct impacts are anticipated to this structure.

Due to the high sensitivity of the area for prehistoric and historic archaeology, it is extremely likely that sites would be encountered requiring test excavations to determine site boundaries (Extended Phase I surveys); and eligibility determinations for the National Register of Historic Places (Phase II surveys). A complete data recovery for at least one eligible site is also highly probable (Phase III). Concurrence from the State Historic Preservation Officer (SHPO) on the cultural resources summary document (Historic Properties Survey Report) and the Finding of Effect/Memorandum of Agreement would also be required for compliance with the National Historic Preservation Act. The time required to complete the archaeological surveys, reports, and SHPO approvals represents the critical path to completion of the environmental document.

Native American Coordination. Notification and consultation with the affected Native American tribes would occur after the project is programmed.

Hazardous Waste/Materials. Hazardous waste or materials may be present within the proposed project area as follows:

- Aerially deposited lead along the shoulders.
- Naturally occurring asbestos in trenches or road cut areas.
- Yellow thermoplastic paint in highway striping.
- Copper arsenate treated guardrail posts.

An Initial Site Assessment would be required to determine if hazardous levels of these materials are present in the project area. If hazardous levels are present, remediation may be required as well as provisions for worker health and safety.

Paleontology. The geologic layers where cut would occur have a low potential for producing vertebrate fossils. No further studies are required for paleontology.

Biological Resources. The proposed project is located in the El Dorado National Forest, which is biologically sensitive habitat characterized by mature coniferous forest (pines and cedars), seasonal and perennial streams and rivers, meadows, ponds and lakes, and wetlands. The proposed project would require significant cut and fill, tree removal, and alteration of several water bodies and would, therefore, have a significant impact to state and federally listed species and their habitat. The following listed species have the potential to occur in the proposed project area and surveys would be required:

- Botanical studies (May – October)
 - Amphibians and fish (May 1 – November 1)
- At least two seasonal streams, one perennial stream, one pond, and a meadow/wetland would be directly affected during construction. Listed species that may be affected in these areas include Chinook salmon (Central Valley spring-run and winter-run), Central Valley steelhead, Mountain Yellow-Legged frog, and Yosemite Toad.
- Bald Eagle and Golden Eagle (March – June)

- Great Grey Owl and California Spotted Owl (February – July)
- Tri-colored Blackbird and Yellow-headed Blackbird (April to September)
A tri-colored blackbird was observed in Martin Meadow near Kirkwood Inn during a field review June 2007.
- Goshawk (spring/summer)
- Willow flycatcher (spring/summer)
Dozens of mature pine and cedar trees would be removed due to new cut and fill slopes. Some of the trees that would be removed are decadent trees, including snags, which are essential habitat for Great Grey Owl, California Spotted Owl, Northern Goshawk, eagles, and other raptor species.
- Mesocarnivores (anytime)
- Bat species (anytime, also preconstruction)

Extensive coordination and consultation would be required with several state and federal agencies including:

- El Dorado National Forest
- U.S. Fish and Wildlife Service
- National Oceanic and Atmospheric Administration (Fisheries)
- U.S. Army Corps of Engineers
- California Department of Fish and Game
- Regional Water Quality Control Board

Caltrans' biologists would work closely with U.S. Forest Service biologists to quantify impacts and devise mitigation strategies. Mitigation plans would require concurrence and approval from all of the agencies listed above and would likely include extensive revegetation due to destruction of habitat.

Wetlands and Other Waters. Within the proposed project area there are lakes (Silver Lake, Caples Lake, Kirkwood Lake, and Oyster Lake), mountain meadows with freshwater emergent wetlands (the largest is Martin Meadow), streams and rivers (Kirkwood Creek, Caples Creek, Oyster Creek, Sliver Fork American River), ponds, and forested freshwater wetlands. This would involve extensive consultation with the Army Corps of Engineers, U.S. Fish and Wildlife Service, and the El Dorado National Forest. Offsite mitigation banking would be required for wetlands impacts.

Additionally, two seasonal streams would require culvert extensions. A large pond immediately west of Carson Spur would also be partially filled to accommodate shoulder widening.

Permits. Permits from the State Department of Fish and Game (1600), U. S. Army Corps of Engineers (404), and the Regional Water Quality Control Board (401) would be required.

List of Preparers

Hazardous Waste and Paleontology Review by Ken Doran	Date 6/7/07
Biological Review by Keri O'Connor	Date 6/7/07
Archaeological Review by Phillip Chick	Date 6/15/07
Architectural History Review by Jon Brady	Date 6/15/07
Landscape Review by Robyn Fong	Date 6/6/07
Air, Noise, and Water Review by Rajeev Dwivedi	Date 6/13/07
Revised Preliminary Environmental Analysis Report by Charles Walbridge	Date 8/7/07

Central Region Environmental Division
Mitigation Cost Compliance Estimate Form (*Revised*)

PEAR Draft ED Final ED PS&E

Dist.-Co.-Rte.-PM: 10-AMA-88-66.6/71.6EA: 0M790KProject Name: Carson SpurProject Description: Rehabilitate pavement and bring highway to RRR standards (widen shoulders, correct curves, replace guardrail)Environmental Manager: Gail MillerPhone Number: 559-243-8222Environmental Planner: Charles WalbridgePhone Number: 559-243-8167Project Manager: Grace MagsayoPhone Number: 209-948-7976Design Manager: Paul ElliottPhone Number: 209-948-7079Date: 8/7/07

Numbers are in thousands

	Right of Way Capital (Prior to Construction - Biology only) (050)	Construction Capital (During and Post Construction) (042)
Archaeological (Phase III)		\$250
Historical		
Paleontology		
Hazardous Waste (ADL,NOA,striping)		\$100
Noise		
Biological/Landscape (revegetation, erosion control)		\$800
Mitigation parcels (# of acres only)		
Mitigation/Bank Credits (Wetlands)*	\$250	
Monitoring (\$-amt)		
Permit Costs		
401 Permit Fee	\$4	
404 Permit Fee	\$0	
1600 Permit Fee	\$4	
Coastal Development Permit Fee		
DFG Doc Review	\$2	
Total (add only \$-amounts from Bio/Permits/Review fees)	\$260	\$1,150

- This form is completed as part of the PEAR for all candidate projects, at completion of the Draft Environmental Document, at the completion of the Final Environmental Document, and during preparation of the PS&E.
- This form is to be completed for all SHOPP, STIP, and Minor A & B projects (**even those without Mitigation**).
- Include all costs necessary to complete the commitment including: capital outlay (non-staffing support costs); cost of right-of-way or easements; long-term monitoring and reporting by consultants during the construction phase, and any follow-up maintenance post construction.
- Timing of Enhancement/Endowment funds will depend on which agency is requiring the mitigation. Funds may need to be available as 050 or as 042.
- *Mitigation Bank Credits (\$-amt) may include enhancement and/or endowment.

Memorandum

To: Iorzua Akuva
Stockton PPM

Attn: Colin P. Doran
Stockton Design-IV, B-I
Paul Elliott
Stockton Design-IV, B-I

Date: 11/6/2007

File: CD 10 EA 0M790K Alt 1c(U1)
Co AMA RTE 88

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

DESCRIPTION:
The Scope of the work under this proj. shall include repairing localized areas with dig-outs & sealing cracks then placing an overlay of either 1.75" RAC-G or 3.5" DGAC. This

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 10/31/2007

The following assumptions and limiting conditions were identified:

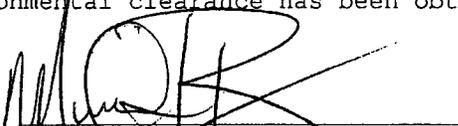
Appraisal

THIS DATA SHEET IS REVISED TO IXCLUDE THE COST OF 0.5 ACRE MITIGATION PARCEL PREVIOUSLY ESTIMATED. THE MITIGATION PARCEL IS NO LONGER REQUIRED.

Utility

Volcano communication may be in conflict with the project but that will be determined after the potholing is complete per design engineer.

Right of Way Lead Time will require a minimum of 15 months after we receive certified Appraisal Maps, the necessary environmental clearance has been obtained, and freeway agreements have been approved.


MICHAEL J. RODRIGUES
Assistant Region Division Chief, Right of Way
(209) 948-7844

Right Of Way Cost Estimate

	Current Year 2007	Contingency Rate	Right of Way Escalation Rate	Escalated Year 2014
Acquisition:	\$90,279	25%	5%	\$127,031
Mitigation:	\$325,000	25%	5%	\$457,308
State Share of Utilities:	\$9,625	25%	5%	\$12,898
Expert Witness:	\$0	25%	5%	\$0
Relocation Assistance:	\$0	25%	5%	\$0
Demolition and Clearance:	\$6,250	25%	5%	\$8,794
Title and Escrow:	\$1,347	25%	5%	\$1,896
Total Current Value: If RW Cost Est fields are blank, Costs = \$0	\$432,501			\$607,927

Estimated Construction Contract Work (CCW): 0 R/W LEAD TIME/Mo. 15

Cost Break Down	
Pot Hole	7,700
Mitigation	
Land	
Bank	250,000
Permit Fee	10,000

RR Involvement

Railroad Facilities or Right of Way Affected?	No
Const/Maint Agreement:	No
Service Contract:	No
Right of Entry:	No
Clauses:	No
Estimated Lead-time	

Parcel Data

# of Parcel Type X:			
# of Parcel Type A: less than \$10,000 non-complex	5		
# of Parcel Type B: more than \$10,000 non-complex			
# of Parcel Type C: complex, special valuation			
# of Parcel Type D: most complex and time consuming	3	# of Duals Needed:	
Totals:	8	Totals:	0

of Excess Parcels: 0

Misc R/W Work

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

Utilities

U4-1: Owner Expense	0
U4-2: State Expense, Conventional no Fed Aid	0
U4-3: State Expense, Freeway no Fed Aid	0
U4-4: State Expense, Both no Fed Aid	0
U5-7: Utility verification, no relocation/potholing	0
U5-8: Utility verification, w/ some relocation/potholing	0
U5-9: Utility verifications, relocation/potholing required	1

EA: 10-0M790K ALT: 1c(U1)

Parcel Area		Unit: s.f.	
Total R/W Required:	132797	Total R/W Cost:	\$72,223
Total Excess Area:	0	Total Excess Cost:	\$0

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

4 parcels are federal forest land and other 4 parcels are owned by Kirkwood Mtn. Resorts (all zoned PD, a general zone to accommodate local area needs).

General Description of Utility Involvement:

Is there a significant effect on assessed valuation:

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

Are RAP displacements required:

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:

Are there potential relinquishments or abandonments:

Are there any existing or potential airspace sites:

Are environmental mitigation parcels required:

Data for evaluation provided by:

Estimator:	R. Umeda	9/4/2007
Railroad Liason Agent:	Maria Toles	7/26/2007
Utlity Relocation Coordinator:	Jacqueline McCollum	8/21/2007

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.


 MICHAEL J. RODRIGUES
 Assistant Region Division Chief, Right of Way

Date
 ENTERED PMCS 11/1/2007
 BY: B GARRETT

Task Force Review
01/29/07

Site 2 sheet

6/17/07

<u>name</u>	<u>Phone</u>	<u>Functional Unit</u>
Colin Dabow	209 948 3896	DIO Design
Ron Jones	916-221-0909	HQ Maint.
Rick Boyer	209 948 7917	DIO Design
Paul Elliott	209 948 7079	DIO Design
GRACE MAGRATH	209 948-7876	DIO PM
Long Huynh	(209) 948-7195	DIO Maint.

Memorandum

To: COLIN DORAN
Design Engineer

Date: August 28, 2007

Attn:

File: 10-Ama-88-66.6/71.6
Roadway Rehabilitation.
10-0M790K

From: **DEPARTMENT OF TRANSPORTATION**
District 10 – Materials Branch

Subject: Structural Section

The following structural sections, based on a TI of 10.0, are recommended for placement over basement soils with a minimum R-value of 50

MAINLINE ROUTE 88 TI =9.5

RAC	-----		0.15'		-----		0.15'
AC	0.50'	or	0.35'	or	0.80'	or	0.65'
AB	0.55'		0.55		-----		-----

SHOULDER ROUTE 88 TI =6.0

RAC	-----		0.15'		-----		0.15'
AC	0.25'	or	0.10'	or	0.45'	or	0.30'
AB	0.35'		0.35		-----		-----

If you have any questions or comments, please contact me at 7951.



Dave Whaling, P.E.
District Materials engineer

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. PAUL ELLIOT
District 10
Design IV Branch 1

Date: September 7, 2007

Attention: Mr. Colin Doran

File: 10-AMA-88-PM 66.6/71.6
EA: 10-0M790K
Highway Rehabilitation

From: JOHN BOWMAN
Engineering Geologist
Office of Geotechnical Design – North
Geotechnical Services
Division of Engineering Services

Subject: Preliminary Geotechnical Report

This report is in response to the June 8, 2007 request for Geotechnical Investigation and Recommendations for Highway Rehabilitation in Amador County from 0.7 miles east of Kays Rd. to the Alpine County line

Existing Facilities and Proposed Improvements

The existing Highway 88 consists of two to three lanes with asphalt or gravel shoulders. The road is built partly on fill and partly in shallow cuts.

Physical Setting

The project site is in the Sierra Nevada between Silver Lake and Caples Lake. Elevations range from about 7000 to 8000 feet. Annual precipitation is mainly in the form of snowfall which averages over 500 inches per year at Kirkwood. No site specific temperature data were found, however summer high temperatures typically reach the 80's and low 90's, and winter temperatures are around freezing.

Geology and Seismicity

The site is about 13.5 to 17.5 miles east of the Genoa Fault (Normal, Mw = 7.5). PHBA would vary from 0.2 g at the west end of the project, and 0.25 g at the east end.

MR. PAUL ELLIOT

September 7, 2007

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Geology at the site consists of granitic bedrock overlain by glacial deposits and/or volcanic and fluvial deposits of the Tertiary Mehrten Formation.

Because bedrock is at or near the ground surface, water runoff is expected to be rapid, and infiltration rates to be very low.

Preliminary Conclusions and Recommendations

The proposed improvements appear to be viable based on visits to the site. Existing cut slopes appear to be stable, and the proposed cuts should also be stable. Standard design crib walls should be feasible up to a height of about 5 m, with foundation pressures of less than 200 kPa. A limited geotechnical investigation is recommended to verify foundation capacity for the crib walls.

The following specific preliminary recommendations are base on the “Project Plans for Construction on State Highway in Amador County from 0.7 mile East of Kays Road to the Alpine County Line “ printed on August 22, 2007.

Curve 1 Sta. 194 – 201. Proposed curve will be to the north of the existing on granitic rock or glacial deposits. Fill with sideslopes of 1 ½ : 1 is appropriate.

Curve 2 Sta. 213 – 216. Proposed curve will be to the south of the existing on granitic rock possibly with a thin veneer of Mehrten volcanic deposits. Minor fills and cuts with slopes of 1 ½ : 1 are appropriate.

Curve 3 Sta. 216 – 220. Proposed curve will be to the south of the existing on granitic rock or glacial deposits. Minor cut with slope of 2:1 is appropriate.

Curve 4 Sta. 248 – 251. Proposed curve will be to the south of the existing on granitic rock or glacial deposits. This may require a fill to the west and a cut to the east. Side slopes of 2:1 are appropriate for both.

Sta. 306 – 311. Proposed curve will be to the south of the existing on Mehrten volcanic deposits. Cutslopes of 1 ½ : 1 to 2:1 are appropriate. Minor fills may be needed to the west and east using slopes of 2:1.

Sta. 330 – 336. Proposed curve is to the south of the existing on Mehrten volcanic and

MR. PAUL ELLIOT

September 7, 2007

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alluvial deposits. Minor cuts are required. Existing cuts range from about $\frac{3}{4}:1$ to $1\frac{1}{2}:1$. Cutslopes of $1\frac{1}{2}:1$ are appropriate.

Curve 5 Sta. 337 – 341. Proposed new curve is south of the existing on Mehrten volcanic and alluvial deposits. Existing cutslopes vary from $\frac{1}{2}:1$ to $1:1$. Cutslopes of $1:1$ are appropriate, steeper slopes may be possible but will require additional investigation..

Sta. 341 – 344. Proposed roadway is to the north of the existing curve on Mehrten volcanic and alluvial deposits. Fillslopes of $1\frac{1}{2}:1$ are appropriate. A retaining wall will probably be required. A crib wall is expected to be appropriate, however the exact location of the wall will need to be determined based on the geology and topography. A foundation investigation will probably be necessary.

Sta. 344 –345. Proposed roadway is moved slightly to the south on Mehrten volcanic and alluvial deposits. A minor cut at $\frac{3}{4}:1$ to $1:1$ will be appropriate.

Curve 6 Sta. 345 – 349. Proposed roadway is to the north of the existing curve on Mehrten volcanic and alluvial deposits. Fillslopes of $1\frac{1}{2}:1$ are appropriate. A retaining wall will probably be required. A crib wall is expected to be appropriate, however the exact location of the wall will need to be determined based on the geology and topography. A foundation investigation will probably be necessary.

Sta. 349 –355. Proposed roadway is moved slightly to the south on Mehrten volcanic and alluvial deposits. A minor cut at $\frac{3}{4}:1$ to $1:1$ will be appropriate.

Curve 7 Sta. 350 – 355. Proposed roadway is to the north of the existing curve on Mehrten volcanic and alluvial deposits. Fillslopes of $1\frac{1}{2}:1$ are appropriate. A retaining wall will probably be required. A crib wall is expected to be appropriate, however the exact location of the wall will need to be determined based on the geology and topography. A foundation investigation will probably be necessary.

Curve 8 Sta. 396 – 407. Minor cuts in Mehrten volcanic deposits may be required. Slopes of $1\frac{1}{2}:1$ are appropriate.

Curve 9 Sta. 421 – 425. Proposed roadway is to north of the existing. Minor cuts in Mehrten volcanic deposits may be required. Slopes of $1\frac{1}{2}:1$ are appropriate.

MR. PAUL ELLIOT

September 7, 2007

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Curve 12 Sta. 425 - 431. Proposed roadway is slightly to the south of the existing on Mehrten volcanic deposits and/ or glacial deposits. No significant fills or cuts appear necessary.

If you have any questions or need additional information, please call John Bowman at 916-227-6980.

c: RBibbens, QHuang, repending file, GDNFile, GSFileRoom

D-10 TRANSPORTATION MANAGEMENT PLAN CHECKLIST

District - EA: 10-0M790K
 Prepared: July 10, 2007
 Prepared By: Chandrima bhowmik
 Requested By: Colin Doran

Co.-Rte.-P.M. AMA - 88 - 66.6/71.6
 Location: In Amador County from 0.7 mile east of kays Road to the Alpine County Line

Stage of Project (X box) PID PSR PR PS&E

Description: Pavement Rehabilitation

Date Signed

 Date Signed

 Date Signed

 Date Signed

REQUIRED	RECOMMENDED	NOT APPLICABLE	BEEES Item No.	COMMENTS	ITEM COST	REQUIRED IN SPEC.
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1.0 Public Information Strategies

- 1.1 Brochures and Mailers
- 1.2 Media Releases (& minority media sources)
- 1.3 Paid Advertising
- 1.4 Public Information Center
- 1.5 Public Meetings/Speakers Bureau
- 1.6 Project Telephone Hotline
- 1.7 Internet, E-Mail
- 1.8 Local cable TV and News
- 1.9 Notification to impacted groups
 (i.e. bicycle users, pedestrians with disabilities, others)
- 1.10 Project Web Page
- 1.11 Caltrans Public Information Office
- 1.12 Consultant Public Information Office
- 1.13 Other items

X				RE to hand-deliver to business/residences.		
X						
	X					
X				See comments below.		
		X	066063			
		X				
		X				
X						
X				Designer to verify impacted groups.		
		X				
X			066063	Items 1.1 to 1.11 to be handled by CT PIO.	\$18K	
		X				
		X				

2.0 Traveler Information Strategies

- 2.1 Changeable Message Signs (permanent)
- 2.2 Changeable Message Signs (portable)
- 2.3 Special Construction Signs
- 2.4 Traveler Information Systems (CHIN/Internet)
- 2.5 Highway Advisory Radio "HAR" (fixed or mobile)
- 2.6 Radar Speed Sign
- 2.7 Traffic Management Team
- 2.8 Revised Transit Schedules/ Maps
- 2.9 Bicycle community information
- 2.10 Other item

		X				
X			128650	1 pair cms (9 mo.) (3.5k/mo.) = \$32k	\$32K	X
		X	120690			
X			861985	As required.		X
		X	860520			
		X	066064			
		X				
		X				
X				Same as Item 1.9.		
		X				

3.0 Incident Management

- 3.1 COZEOP
- 3.2 Freeway Service Patrol (tow truck service patrol)
- 3.3 Traffic Surveillance Stations (loops or CCTV)
- 3.4 Transportation Management Center
- 3.5 Traffic Control Inspector (Caltrans)
- 3.6 Traffic Management Team
- 3.7 On-site Traffic Advisor (contractor)
- 3.8 Other Items

		X	066062			
		X	066065			
		X	066876	Existing to remain &/or provide new stations.		
X				RE to notify for incident & status closure.		
		X				
X				TMC will contact TMT as needed.		
		X				
		X				

4.0 Construction Strategies

- 4.1 Delay damage clause
- 4.2 Night work
- 4.3 Weekend Work
- 4.4 Extended Weekend Closures
- 4.5 Planned Lane Closures
- 4.6 Planned Ramp Closures/Connector Closure
- 4.7 Total Facility Closure
- 4.8 Project Phasing
- 4.9 Truck Traffic Restrictions
- 4.10 Reduced Lane Widths
- 4.11 Temporary K-Rail
- 4.12 Temporary Traffic Screens
- 4.13 Reduced Speed Zones
- 4.14 Traffic Control Improvements

		X				
		X				
		X				
		X				
X				Per Lane Closure Charts		X
		X				
		X				
		X		As per stage construction if any.		
		X				
X				Per drawings/data sheet if any.		
		X	129000			
		X	129150			
		X				
		X				

ATTACHMENT K

REQUIRED	RECOMMENDED	NOT APPLICABLE	BEEES Item No.	COMMENTS	ITEM COST	REQUIRED IN SPEC.
Construction Strategies (Continued)						
X						X
X						
X						
		X				
		X				
				(In case of failure or major delays)		
X						
X						
X						
		X				
X						
		X				
X			07850	RE to confirm prior to scheduling of closures.		X
		X				
		X	066022			
		X		See comments below.		

5.0 Demand Management

		X				
		X				
		X				
		X				
		X				
		X	066069			
		X	066066			
		X				
		X				
		X				
		X				

Alternate Route Strategies

		X				
		X				
		X				
		X				
		X				

7.0 Other Strategies

		X				
		X				

Comments:

- 1.4 Plan, progress/completion information should be available at Local Public Works, Chamber of Commerce Offices, and CT Maintenance Offices.
- 1.9 Impacted groups need to be notified and informed about upcoming construction. During construction, access across job site will be needed.
- 1.11 PIO estimated at \$2k/mo. Or per stage construction or per major milestone. Lumpsum of \$18k.

Approved by:

Christian P. Jensen
DISTRICT TRAFFIC MANAGER

7/10/2007
DATE

**Chart No. 1
Conventional Highway Lane Requirements**

County: AMADOR	Route/Direction: 88 EB/WB												PM: 66.6/71.6												
Closure Limits: In Amador county on SR 88 from 0.7 mile east of Kays Road to the Alpine county line.																									
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays									R	R	R	R	R	R	R	R	R	R	R						
Fridays									R	R	R	R	R	R	R										
Saturdays																									
Sundays																									

Legend:
 R Provide at least one through traffic lane, not less than 10 feet in width, for use by both directions of travel (Reversing Control)

Work permitted within project right of way where shoulder or lane closure is not required.

REMARKS: EA 10-0M790K "Valid Through Construction Year 2010"
 07/10/2007

1. Above window must be re-evaluated or updated if actual construction takes place later than construction year shown above.
2. Closures of local roads will require City/County concurrence.



(Attn OE Reviewer: Use in Dist 10 projects only)

{ XE "12-128_E_A03-16-07" }

USE WITH 2006 STANDARDS.

Add to the end of SSP 12-100. Consult with the District Traffic Managers for editing of this table.

Lane Closure Restriction for Designated Legal Holidays and Special Days										
Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun
x	H xxx	xxx	xxx	xx						
	SD xxx									
	xxx	H xxx	xxx	xx						
		SD xxx								
	x	xxx	H xxx	xxx	xx					
			SD xxx							
	x	xxx	xxx	H xxx	xx					
				SD xxx						
			xxx	xxx	H xxx	xx				
					SD xxx					
					x	H xxx	xx			
						SD xxx				
						x	H xxx	xxx	xxx	xxx
							SD xxx			
Legends:										
	Refer to lane closure charts									
x	The full width of the traveled way shall be open for use by public traffic after 6:00 a.m. No work that interferes with public traffic will be allowed after 6:00 a.m.									
xx	No work that interferes with public traffic will be allowed before 9:00 a.m.									
xxx	The full width of the traveled way shall be open for use by public traffic. No work that interferes with public traffic will be allowed.									
H	Designated Legal Holiday									
SD	Special Day									

Memorandum

Date: June 7, 2007

To: COLIN P. DORAN, P.E.
Project Engineer,
Office Design IV, Branch I

RE: 10-AMA -88-PM- 66.6 / 71.6 EA # 0M790K
Rout 88 Repair Localized Area Project for five-miles section.

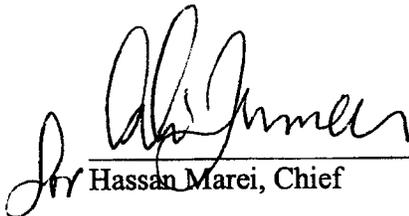
We are sending our preliminary traffic cost estimate for the above-mentioned project. It should be noted that this estimate is based on the information supplied at this time. In the future if additional information is to be introduced, this estimate would be modified to reflect the additional changes. The estimate does not include contingencies.

The cost is as follows:

Alternative:

Portable Changeable Message Sign	\$31,500
Construction Area Signs	\$4,000
Pavement Delineation / Signs	\$65,400
Traffic Control	\$117,000
<u>Maintain Traffic</u>	<u>\$50,000</u>
Total Traffic Item	\$267,900

If you have any questions, please call Roli Elsotari at (209)-948-7932


Hassan Marei, Chief

Central Region Traffic Design Branch

ATTACHMENT L

Long Form - Storm Water Data Report



Dist-County-Route: 10-AMA-88

Post Mile (Kilometer Post) Limits: 66.6 - 71.6 (KP 107.89 - 115.99)

Project Type: Roadway Realignment

EA: 0M790K

RU: 06/240

Program Identification: 201.120

Phase: [X]PID []PA/ED []PS&E

Regional Water Quality Control Board(s): Region 5, Central Valley, Sacramento Office

Is the project required to consider incorporating Treatment BMPs? []Yes [X]No

If yes, can Treatment BMPs be incorporated into the project? []Yes []No

If No, a Technical Data Report must be submitted to the RWQCB at least 60 days prior to PS&E Submittal. List submittal date: _____

Total Disturbed Soil Area: 3.2 acres (1.3 ha)

Estimated Construction Start Date: 2012 Construction Completion Date: 2012

Notification of Construction (NOC) Date to be submitted: _____

Notification of ADL reuse (if Yes, provide date) []Yes Date: _____ [X]No

Separate Dewatering Permit (if Yes, permit number) []Yes Permit #: _____ [X]No

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.

Colin Doran, Registered Project Engineer/Landscape Architect 9/5/07 Date

I have reviewed the storm water quality design issues and find this report to be complete, current, and accurate:

Grace Magsayo, Project Manager 9/5/07 Date
Allan Shafer, Designated Maintenance Representative 9/6/07 Date
Brad Cole, Designated Landscape Architect Representative 9/6/07 Date
Marissa Nishikawa, District/Regional SW Coordinator or Designee 9/6/07 Date

STORM WATER DATA INFORMATION

1. Project Description

- State Route (SR) 88 is a conventional east-west two-lane highway that is separated by double solid yellow stripes. The lanes are approximately 12 feet in each direction with shoulders varying between 4 and 10 feet. This section of roadway is located in a rural area in Amador County. The area consists of mountainous terrain with numerous banked curves. The signed advisory speed at these locations is posted at 55 mph. The horizontal and vertical curves do not meet current super-elevation and design speed standards. The purpose of this project is to realign six existing curves to meet the current design standards. Realignment of the roadway should help to reduce accidents and would help to improve the operational efficiency of the roadway system.
- Project implementation is not expected to pose an increased threat to the beneficial uses of receiving waters. Water quality protective Best Management Practices will be identified in the construction site Stormwater Pollution Prevention Plan, prescribed by Caltrans' NPDES Permit, issued by the State Water Resources Control Board.
- The total disturbed soil area (DSA) is approximately 3.2 ac, consisting of existing/proposed R/W and roadway.
- Surface water drainage from the project does not flow into an area regulated by a Municipal Separate Storm Sewer System (MS4) NPDES permit.

2. Define Site Data and Storm Water Quality Design Issues (refer to Checklists SW-1, SW-2, and SW-3)

- The project is located within the American River Hydrologic Unit and in the South Fork American hydrologic area (see the following website for this information <http://www.stormwater.water-programs.com>). The receiving water bodies for this project are Caples Lake, Kirkwood Creek, and Kirkwood Lake, which all feed into Caples Creek. Caples Creek empties into the Silver Fork American River, which eventually feeds into the South Fork American River. The location of this project is between the Silver Lake Campground and the Amador/Alpine County line.
- The Basin Plan of the Central Valley Regional Water Quality Control Board identifies the existing Beneficial Uses of the South Fork American River and its tributaries as Municipal and Domestic Supply, Power, Contact Recreation, Canoeing and Rafting and other Non-contact Recreation, Cold Freshwater Habitat, Cold Spawning and Wildlife Habitat, with the potential use of Warm Freshwater Habitat.
- Surface waters within the limits of the project are not on the State Water Resources Control Board's list of impaired water bodies, pursuant to section 303(d) of the Federal Clean Water Act.
- The project involves work within and the filling of waters of the U.S. and necessitates obtaining a Streambed Alteration Agreement from the Department of Fish and Game, a Nationwide Permit from the Army Corps of Engineers (404 Permit) and a certification from the Central Valley Regional Water Quality Control Board that the project will not violate water quality standards (401 Certification).
- Local agencies have not expressed specific concerns or requirements regarding water quality.
- A review of the FEMA "FIRM" map indicates that the proposed project passes through an area designated as Zone X. Zone X is defined as being areas of minimal flooding. Therefore, no further study is required.
- The proposed rehabilitation incorporates standard roadway widths and slope requirements as outlined in the current Highway Design Manual. Concentrated flows shall be collected in stabilized drains, culverts, and channels.
- The project area is located in the El Dorado National Forest in Amador County just east of the Kirkwood Resort. The terrain is very mountainous with elevations reaching 9250 ft. Medium and large oaks, scrub pines, and brush are the dominant types of vegetation. The land is primarily undeveloped, with a few businesses located at spot locations in the vicinity.

- New Right-of-Way will be acquired for this project to cover additional needs for wider shoulders and utility relocations. A drainage concept will be designed and any necessary right-of-way requirements will be reviewed during the next phase.
- The Preliminary Environmental Analysis Report was inconclusive with regard to the presence of Aerially Deposited Lead, which is an issue to be resolved in the next phase.
- A Storm Water Pollution Plan and Water Quality Control Plan will be required during construction to address the temporary BMPs needed for the protection of water quality.
- There are no seasonal construction restrictions. The rainy season has been defined by the RWQCB as October 15th through April 15th. According to information published by the Western Regional Climate Center (WRCC), average monthly precipitation within the project limits is between 0.63 and 7.89 inches. The majority of the precipitation falls between the months of November and March. The average annual air temperature is 11.2°C (52°F).
- At this time, the identification of existing treatment BMPs has not been evaluated. This determination will be done in the next phase of the project.

3. Regional Water Quality Control Board Agreements

- 401 Certification from the Central Valley Regional Water Quality Control Board is expected to be obtained in the next phase of this project.
- Notice of Construction (NOC) and Notice of Completion of Construction (NOCC) forms will be submitted to the Regional Water Quality Control Board prior to the beginning and completion of the project.

4. Describe Proposed Design Pollution Prevention BMPs to be used on the Project.

Downstream Effects Related to Potentially Increased Flow, Checklist DPP-1, Parts 1 and 2

- The type and amount of BMPs that will need to be used will vary. This will be further evaluated in the PA&ED phase.
- The velocity of downstream flow will be increased in areas where additional impervious material is installed to create 8-foot shoulders. This increase will be controlled with velocity dissipation devices at the outlets of culverts under the highway.
- Existing drainage sheet flows into ditches along the side of the highway and through existing culverts underneath the highway. Per Hydraulics' recommendation, many of the existing culverts will need to be replaced during construction.
- There is potential for increased sediment loading during construction when some slopes are cut back. Temporary BMPs that can be used to control this increase are listed in Section 6.
- Drainage flow from new impervious surfaces and new slopes will drain into existing and proposed drainage facilities and unlined swales. The impact of construction on drainage facilities including the type of facilities required will be further evaluated in the PA&ED phase. More detailed information will be provided for the selected alternative during the next phase.

Slope/Surface Protection Systems, Checklist DPP-1, Parts 1 and 3

- Cut and fill areas and quantities will vary. This will be further evaluated in the PA&ED phase and will be per the Highway Design Manual, Section 304.
- New roadway will be constructed as part of this project and will conform to the standards in the current Highway Design Manual. Embankment slopes will be constructed with a slope of 1:4 or flatter to minimize erosion and help facilitate the establishment of erosion control planting. Cut slopes will be constructed with a slope of 1:2 or flatter. The newly constructed slopes will be stabilized with erosion control.
- Recommendations for re-vegetation will be coordinated through the District Landscape Architect and an erosion control plan will be included as part of this project.
- The need for hard surfaces will be investigated in the next phase of the project.

Concentrated Flow Conveyance Systems, Checklist DPP-1, Parts 1 and 4

- It is anticipated that runoff from this project will be conveyed into conveyance/storage ditches which lead into the receiving waters. To minimize scour, design BMPs will be incorporated into the drainage design. Project estimate will include costs for roadway excavation, ditch construction, and dike placement and costs will be further evaluated during the PS&E phase.
- Maintenance has recommended the installation of shallow paved ditches along the roadway to capture traction sand and to eliminate some of the ditch cleaning with larger equipment. This would also eliminate disturbing the soil in the drainage ditches along the highway.

Preservation of Existing Vegetation, Checklist DPP-1, Parts 1 and 5

- The project will involve clearing and grubbing of approximately 3.2 ac (1.3 ha). Preservation of existing vegetation will be included. Standard specifications relating to 'clearing and grubbing' and preservation of property' will apply.
- Environmentally Sensitive Areas (ESAs) will be identified and shown on the plans. Protection will be provided with fencing and will be included as part of the PS&E where recommended.

5. Describe Proposed Permanent Treatment BMPs to be used on the Project

- Per the Evaluation Documentation Form, Treatment BMPs are not required

6. Describe Proposed Temporary Construction Site BMPs to be used on Project

- Funds will be included in the estimate to cover the construction costs for implementation of Temporary Construction Site BMPs. The following Temporary BMPs will be considered for incorporation into the PS&E. Additional coordination will continue with Construction and Storm Water staff.

ESA Fencing
Temporary Erosion Control
Fiber Rolls
Silt Fences
Storm Drain Inlet Protection
Stabilized Construction Entrance/Exit
Street Sweeping
Temporary Check Dams

In addition the following storm water items will be included in the project cost estimate

Preparation of SWPPP
Construction Site Management
Additional Water Pollution Control

- Dewatering will not be required during the construction of the project.

7. Maintenance BMPs (Drain Inlet Stenciling)

- This project location does not meet the requirement for Drainage Inlet Stenciling.

REQUIRED ATTACHMENTS

- ⇒ Vicinity Map
- ⇒ Evaluation Documentation Form (EDF)
- ⇒ Construction Site BMP Consideration Form (required at PS&E only)

Long Form - Storm Water Data Report

- ⇒ Treatment BMP Summary Spreadsheets (required, if Treatment BMPs are incorporated into project)
- ⇒ Quantities for Construction Site BMPs (required at PS&E only)

SUPPLEMENTAL ATTACHMENTS

Note: Supplement Attachments are to be supplied during the SWDR approval process; where noted, some of these items may only be required on a project-specific basis.

- ⇒ Storm Water BMP Cost Summary
- ⇒ BMP cost information from: Preliminary Project Cost Estimate (PPCE) during PID and PA/ED project phases; Engineer's Cost Estimate for PS&E project phase
- ⇒ Plans showing BMP Deployment (i.e. Layout Sheets, Water Pollution Control Sheets, etc)
- ⇒ Pertinent Correspondence with RWQCB (if requested or recommended by District/Regional NPDES Storm Water Coordinator or Designated Reviewer)
- ⇒ Checklist SW-1, Site Data Sources
- ⇒ Checklist SW-2, Storm Water Quality Issues Summary
- ⇒ Checklist SW-3, Measures for Avoiding or Reducing Potential Storm Water BMPs
- ⇒ Checklists DPP-1, Parts 1-5 (Design Pollution Prevention BMPs) [only those parts that are applicable]
- ⇒ Checklists T-1, Parts 1-10 (Treatment BMPs) [only those Parts that are applicable]
- ⇒ Checklists CS-1, Parts 1-6 (Construction Site BMPs) [only those Parts that are applicable]
- ⇒ Calculations and cross sections related to BMPs (if requested by District/Regional Storm Water Coordinator)
- ⇒ 07-340 or 07-345 (if requested or recommended by District/Regional Storm Water Coordinator)
- ⇒ Conceptual Drainage Map or Drainage Plans, if available (if requested by District/Regional Storm Water Coordinator for review)

Construction Site BMP Consideration Form

DATE: 08/21/07

Project Evaluation Process for the Consideration of Construction Site BMPs

EA: 0M790K

NO.	CRITERIA	YES	NO	SUPPLEMENTAL INFORMATION
1.	Will construction of the project result in areas of disturbed soil as defined by the Project Planning and Design Guide (PPDG)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If Yes , Construction Site BMPs for Soil Stabilization (SS) will be required. Complete CS-1, Part 1. Continue to 2. If No , Continue to 3.
2.	Is there a potential for disturbed soil areas within the project to discharge to storm drain inlets, drainage ditches, areas outside the right of way, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If Yes , Construction Site BMPs for Sediment Control (SC) will be required. Complete CS-1, Part 2. Continue to 3.
3.	Is there a potential for sediment or construction related materials and wastes to be tracked offsite and deposited on private or public paved roads by construction vehicles and equipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If Yes , Construction Site BMPs for Tracking Control (TC) will be required. Complete CS-1, Part 3. Continue to 4.
4.	Is there a potential for wind to transport soil and dust offsite during the period of construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If Yes , Construction Site BMPs for Wind Erosion Control (WE) will be required. Complete CS-1, Part 4. Continue to 5.
5.	Is dewatering anticipated or will construction activities occur within or adjacent to a live channel or stream?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	If Yes , Construction Site BMPs for Non-Storm Water Management (NS) will be required. Complete CS-1, Part 5. Continue to 6.
6.	Will construction include saw-cutting, grinding, drilling, concrete or mortar mixing, hydro-demolition, blasting, sandblasting, painting, paving, or other activities that produce residues?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If Yes , Construction Site BMPs for Non-Storm Water Management (NS) will be required. Complete CS-1, Part 5. Continue to 7.
7.	Are stockpiles of soil, construction related materials, and/or wastes anticipated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If Yes , Construction Site BMPs for Waste Management and Materials Pollution Control (WM) will be required. Complete CS-1, Part 6. Continue to 8.
8.	Is there a potential for construction related materials and wastes to have direct contact with precipitation; storm water run-on, or stormwater runoff; be dispersed by wind; be dumped and/or spilled into storm drain systems?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If Yes , Construction Site BMPs for Waste Management and Materials Pollution Control (WM) will be required. Complete CS-1, Part 6. Continue to 9.
9.	End of checklist.	<input checked="" type="checkbox"/>		Document for Project Files by completing this form, and attaching it to the SWDR.

PE to initialize after concurrence with Construction (PS&E only)

Date

Checklist SW-1, Site Data Sources

Prepared by: <u>Rick Boyer</u>	Date: <u>08/21/07</u>	District-Co-Route: <u>10-AMA-88</u>
PM (KP): <u>66.6 – 71.6 (KP 107.89 – 115.99)</u>	EA: <u>0M790K</u>	
RWQCB: <u>Central Valley</u>		

Information for the following data categories should be obtained, reviewed and referenced as necessary throughout the project planning phase. Collect any available documents pertaining to the category and list them and reference your data source. For specific examples of documents within these categories, refer to Section 5.5 of this document. Example categories have been listed below; add additional categories, as needed. Summarize pertinent information in Section 2 of the SWDR.

DATA CATEGORY/SOURCES	Date
Topographic	
• Survey files	
• USGS quad sheets	
•	
Hydraulic	
• Recommendation for culvert replacements	08/10/07
•	
•	
Soils	
•	
•	
•	
Climatic	
• www.weather.com	
•	
•	
Water Quality	
• PEAR	
• CSUS Water Quality Planning Tool	
• 303(d) list SWRCB Resolution No. 2006-0079, available on-line	
• Beneficial Uses, CVRWQCB Basin Plan, Feb 2007, on-line	
• PPDG Manual	
•	
Other Data Categories	
•	
•	
•	

Checklist SW-2, Storm Water Quality Issues Summary

Prepared by: <u>Rick Boyer</u>	Date: <u>08/21/07</u>	District-Co-Route: <u>10-AMA-88</u>
PM (KP): <u>66.6 – 71.6 (KP 107.89 – 115.99)</u>	EA: <u>0M790K</u>	
RWQCB: <u>Central Valley</u>		

The following questions provide a guide to collecting critical information relevant to project stormwater quality issues. Complete responses to applicable questions, consulting other Caltrans functional units (Environmental, Landscape Architecture, Maintenance, etc.) and the District/Regional Storm Water Coordinator as necessary. Summarize pertinent responses in Section 2 of the SWDR.

- | | | |
|--|--|--|
| 1. Determine the receiving waters that may be affected by the project throughout the project life cycle (i.e., construction, maintenance and operation). South Fork American River | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 2. For the project limits, list the 303(d) impaired receiving water bodies and their constituents of concern | <input type="checkbox"/> Complete | <input checked="" type="checkbox"/> NA |
| 3. Determine if there are any municipal or domestic water supply reservoirs or groundwater percolation facilities within the project limits. Consider appropriate spill contamination and spill prevention control measures for these new areas. There are no high risk areas within project limits. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 4. Determine the RWQCB special requirements, including TMDLs, effluent limits, etc | <input type="checkbox"/> Complete | <input checked="" type="checkbox"/> NA |
| 5. Determine regulatory agencies seasonal construction and construction exclusion dates or restrictions required by federal, state, or local agencies. To Be Determined | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 6. Determine if a 401 certification will be required. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 7. List rainy season dates. October 15 – April 15 | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 8. Determine the general climate of the project area. Identify annual rainfall and rainfall intensity curves. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 9. If considering Treatment BMPs, determine the soil classification, permeability, erodibility, and depth to groundwater. Treatment not required | <input type="checkbox"/> Complete | <input checked="" type="checkbox"/> NA |
| 10. Determine contaminated or hazardous soils within the project area. This will be confirmed with Environmental during the PA&ED phase. | <input type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 11. Determine the total disturbed soil area of the project. 3.2 acres (1.3 ha) | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 12. Describe the topography of the project site. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 13. List any areas outside of the Caltrans right-of-way that will be included in the project (e.g. contractor's staging yard, work from barges, easements for staging, etc.). To Be Determined during next project phase | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 14. Determine if additional right-of-way acquisition or easements and right-of-entry will be required for design, construction and maintenance of BMPs. If so, how much? Additional R/W will be needed, the amount will be determined during the next project phase | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 15. Determine if a right-of-way certification is required. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 16. Determine the estimated unit costs for right-of-way should it be needed for Treatment BMPs, stabilized conveyance systems, lay-back slopes, or interception ditches. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 17. Determine if project area has any slope stabilization concerns. To Be Determined during next project phase | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 18. Describe the local land use within the project area and adjacent areas. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |

19. Evaluate the presence of dry weather flow.

Complete

NA

Checklist SW-3, Measures for Avoiding or Reducing Potential Storm Water Impacts

Prepared by: Rick Boyer Date: 08/21/07 District-Co-Route: 10-AMA-88
 PM (KP): 66.6 – 71.6 (KP 107.89 – 115.99) EA: 0M790K
 RWQCB: Central Valley

The PE must confer with other functional units, such as Landscape Architecture, Hydraulics, Environmental, Materials, Construction and Maintenance, as needed to assess these issues. Summarize pertinent responses in Section 2 of the SWDR.

Options for avoiding or reducing potential impacts during project planning include the following:

1. Can the project be relocated or realigned to avoid/reduce impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions? Yes No NA
2. Can structures and bridges be designed or located to reduce work in live streams and minimize construction impacts? Yes No NA
3. Can any of the following methods be utilized to minimize erosion from slopes:
 - a. Disturbing existing slopes only when necessary? Yes No NA
 - b. Minimizing cut and fill areas to reduce slope lengths? Yes No NA
 - c. Incorporating retaining walls to reduce steepness of slopes or to shorten slopes? Yes No NA
 - d. Acquiring right-of-way easements (such as grading easements) to reduce steepness of slopes? Yes No NA
 - e. Avoiding soils or formations that will be particularly difficult to re-stabilize? Yes No NA
 - f. Providing cut and fill slopes flat enough to allow re-vegetation and limit erosion to pre-construction rates? Yes No NA
 - g. Providing benches or terraces on high cut and fill slopes to reduce concentration of flows? Yes No NA
 - h. Rounding and shaping slopes to reduce concentrated flow? Yes No NA
 - i. Collecting concentrated flows in stabilized drains and channels? Yes No NA
4. Does the project design allow for the ease of maintaining all BMPs? Yes No
5. Can the project be scheduled or phased to minimize soil-disturbing work during the rainy season? This option will be explored during the PA&ED phase. Yes No
6. Can permanent storm water pollution controls such as paved slopes, vegetated slopes, basins, and conveyance systems be installed early in the construction process to provide additional protection and to possibly utilize them in addressing construction storm water impacts? Yes No NA

Design Pollution Prevention BMPs Checklist DPP-1, Part 1		
Prepared by: <u>Rick Boyer</u>	Date: <u>08/21/07</u>	District-Co-Route: <u>10-AMA-88</u>
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Consideration of Design Pollution Prevention BMPs

1. Consideration of Downstream Effects Related to Potentially Increased Flow [to streams or channels]?

- (a) Will project increase velocity or volume of downstream flow? Yes No NA
- (b) Will the project discharge to unlined channels? Yes No NA
- (c) Will project increase potential sediment load of downstream flow? Yes No NA
- (d) Will project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability? Yes No NA

If Yes was answered to any of the above questions, consider **Downstream Effects Related to Potentially Increased Flow**, complete the DPP-1, Part 2 checklist.

2. Slope/Surface Protection Systems

- (a) Will project create new slopes or modify existing slopes? Yes No NA

If Yes was answered to the above question, consider **Slope/Surface Protection Systems**, complete the DPP-1, Part 3 checklist.

3. Concentrated Flow Conveyance Systems

- (a) Will the project create or modify ditches, dikes, berms, or swales? Yes No NA
- (b) Will project create new slopes or modify existing slopes? Yes No NA
- (c) Will it be necessary to direct or intercept surface runoff? Yes No NA
- (d) Will cross drains be modified? Yes No NA

If Yes was answered to any of the above questions, consider **Concentrated Flow Conveyance Systems**; complete the DPP-1, Part 4 checklist.

4. Preservation of Existing Vegetation

- a) It is the goal of the Storm Water Program to maximize the protection of desirable existing vegetation to provide erosion and sediment control benefits on all projects. Complete

Consider **Preservation of Existing Vegetation**, complete the DPP-1, Part 5 checklist.

Design Pollution Prevention BMPs

Checklist DPP-1, Part 2

Prepared by: <u>Rick Boyer</u>	Date: <u>08/21/07</u>	District-Co-Route: <u>10-AMA-88</u>
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Downstream Effects Related to Potentially Increased Flow

1. Review total paved area and reduce to the maximum extent practicable. Complete
2. Review channel lining materials and design for stream bank erosion control. Complete
 - (a) See Chapters 860 and 870 of the HDM. Complete
 - (b) Consider channel erosion control measures within the project limits as well as downstream. Consider scour velocity. Complete
3. Include, where appropriate, energy dissipation devices at culvert outlets. To Be Determined Complete
4. Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour. To Be Determined Complete
5. Include, if appropriate, peak flow attenuation basins to reduce peak discharges. To Be Determined Complete

Design Pollution Prevention BMPs			
Checklist DPP-1, Part 3			
Prepared by: <u>Rick Boyer</u>	Date: <u>08/21/07</u>	District-Co-Route: <u>10-AMA-88</u>	
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RWQCB: <u>Central Valley</u>			

Slope / Surface Protection Systems

- What are the proposed areas of cut and fill? (attach plan or map) Complete
- Were benches or terraces provided on high cut and fill slopes to reduce concentration of flows? Yes No
- Were slopes rounded and/or shaped to reduce concentrated flow? Yes No
- Were concentrated flows collected in stabilized drains or channels? Yes No
- Are slopes > 1:4 vertical:horizontal (V:H)? Yes No
- If Yes, District Landscape Architecture must prepare or approve an erosion control plan.
- Are slopes > 1:2 (V:H)? Yes No
- If Yes, Geotechnical Services must prepare a Geotechnical Design Report, and the District Landscape Architect should prepare or approve an erosion control plan. Concurrence must be obtained from the District Maintenance Storm Water Coordinator for slopes steeper than 1:2 (V:H).
- Estimate the change to the impervious areas that will result from this project. Complete
- 4.2 acres

VEGETATED SURFACES

1. Identify existing vegetation. Complete
2. Evaluate site to determine soil types, appropriate vegetation and planting strategies. To Be Determined next phase Complete
3. How long will it take for permanent vegetation to establish? To Be Determined next phase Complete
4. Minimize overland and concentrated flow depths and velocities. To Be Determined next phase Complete

HARD SURFACES

1. Are hard surfaces required? Yes No
- If Yes, document purpose (safety, maintenance, soil stabilization, etc.), types, and general locations of the installations. Complete

Review appropriate SSPs for Vegetated Surface and Hard Surface Protection Systems. Complete

**Design Pollution Prevention BMPs
Checklist DPP-1, Part 4**

Prepared by: Rick Boyer Date: 08/21/07 District-Co-Route: 10-AMA-88
 PM (KP): 66.6 – 71.6 (KP 107.89 – 115.99) EA: 0M790K
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Concentrated Flow Conveyance Systems – A drainage concept will be designed during the PA&ED phase after an alternative is chosen

Ditches, Berms, Dikes and Swales

1. Consider Ditches, Berms, Dikes, and Swales as per Chapters 813, 836, and 860 of the HDM. Complete
2. Evaluate risks due to erosion, overtopping, flow backups or washout. To Be Determined Complete
3. Consider outlet protection where localized scour is anticipated. To Be Determined Complete
4. Examine the site for run-on from off-site sources. To Be Determined Complete
5. Consider channel lining when velocities exceed scour velocity for soil. To Be Determined Complete

Overside Drains

1. Consider downdrains, as per Index 834.4 of the HDM. To Be Determined Complete
2. Consider paved spillways for side slopes flatter than 1:4 V:H. To Be Determined Complete

Flared Culvert End Sections

1. Consider flared end sections on culvert inlets and outlets as per Chapter 827 of the HDM. To Be Determined Complete

Outlet Protection/Velocity Dissipation Devices

1. Consider outlet protection/velocity dissipation devices at outlets, including cross drains, as per Chapters 827 and 870 of the HDM. Complete

Review appropriate SSPs for Concentrated Flow Conveyance Systems. Complete

Design Pollution Prevention BMPs

Checklist DPP-1, Part 5

Prepared by: Rick Boyer Date: 08/21/07 District-Co-Route: 10-AMA-88
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Preservation of Existing Vegetation

1. Review Preservation of Property, Standard Specifications 16.1.01 and 16-1.02 (Clearing and Grubbing) to reduce clearing and grubbing and maximize preservation of existing vegetation. Complete
2. Has all vegetation to be retained been coordinated with Environmental, and identified and defined in the contract plans? To Be Determined Yes No
3. Have steps been taken to minimize disturbed areas, such as locating temporary roadways to avoid stands of trees and shrubs and to follow existing contours to reduce cutting and filling? Complete
4. Have impacts to preserved vegetation been considered while work is occurring in disturbed areas? Yes No
5. Are all areas to be preserved delineated on the plans? Yes No

Dist - E.A: 10-0M790

Co-Rte-PM: AMA - 88-66.6/71.6

Date: 8/13/2007

Project Mngr: Grace Magsayo

Telephone Number (209) 948-7976

PROJECT RISK MANAGEMENT PLAN

Priority	PROJECT RISK MANAGEMENT PLAN																			
	Identification							Qualitative Analysis				OPTIONAL Quantitative Analysis			Response Strategy			Monitoring and Control		
	Status	ID #	Date Identified Project Phase	Functional Assignment	Threat/Opportunity Event	SMART Column	Risk Trigger	Type	Probability	Impact	Risk Matrix	Probability (%)	Impact (\$ or days)	Effect or days (\$)	Strategy	Response Actions including advantages and disadvantages	Affected WBS Tasks	Responsibility (Task Manager)	Status Interval or Milestone Check	Date, Status and Review Comments
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15) = (13)x(14)	(16)	(17)	(18)	(19)	(20)	(21)
Active	1	8/13/2007	Envi	Dealing w/ Resource Agencies (Eldorado National Forest)	Because the project will impact forest land in the jurisdiction of the El Dorado National Forest, an easement will have to be obtained from them.	El Dorado National Forest becomes non-responsive during project development.	Cost	Very High	Very High					Acceptance	* Determine points of disagreement in order to provide them with information to help them understand the project for them to support it. * Continue to communicate with them and obtain cooperation.	WBS 225 Obtain Right of Way Interests for Project Right of Way Certification	Charles Walbridge	Jan. 2011		
Active	2	8/13/2007	Envi	Dealing w/ Resource Agencies (Dept of Fish & Game)	Impacts to wetlands will require approval from the Department of Fish and Game regarding the project and our proposed mitigation strategies.	Fish and Game does not agree on mitigation strategies being proposed.	Cost	Very High	Very High					Acceptance	* Determine points of disagreement in order to provide them with information to help them understand the project for them to support it. * Continue to communicate with them and obtain cooperation.	WBS 165 Perform Environmental Studies and Prepare Draft Environmental Document (DED)	Charles Walbridge	Jan. 2009		
Active	3	8/13/2007	Design	Late discovery of Arch - Sites some known sites already identified	Locations of Archeologically sensitive areas that could be impacted by the project will require Phase 3 Arch. Work - Data Recovery which will impact costs.	Confirmation by Preliminary Environmental studies during PAED	Cost	High	Moderate					Acceptance	Provide adequate resources and time to perform Arch. Phase 3 Studies	WBS 235 Mitigate Environmental Impacts and Clean-up Hazardous Waste	Charles Walbridge	Jan. 2009		
Dormant	4	8/13/2007	Design	Inadequate funding to perform dig out repairs	Since project will not be in construction for another 5 years, the pavement condition will be much worse and will require more digout repair.	Worst pavement condition when field reviews happen during PSE	Cost	Moderate	High					Mitigation	Provide additional funding at PID stage of the project	WBS 150 Develop Project Initiation Document (PID)	Colin Doran	Sept. 2007	Current cost estimate includes the maximum allowable at the PID stage for digout quantities. Design has confirmed the current condition of the pavement and correspondingly adjusted estimates.	
Active	5	8/13/2007	Design	Changes in Design slope & shoulder exception	Additional changes to the design features will greatly impact the schedule due to the environmentally sensitive nature of the area. If the planned Design Exceptions are not approved, design will have to re-scope the project to include standard shoulder and slopes. This will increase the areas affected.	Design exceptions are not approved.	Cost	Moderate	Very High					Acceptance	Re-design the project, re-negotiate with affected resources agencies.	WBS 165 Perform Environmental Studies and Prepare Draft Environmental Document (DED)	Colin Doran	Jan. 2009		