

05 - SLO - 101 - PM 13.4/14.7

RU: 06-233 EA 05-0H371K

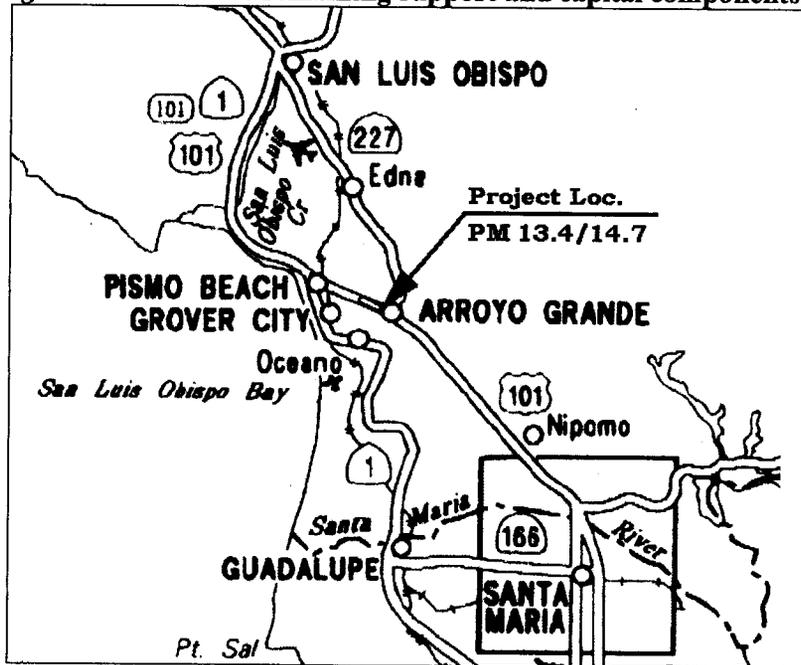
05 - SLO - 101 - PM 13.4/14.7

RU: 06-233 EA 05-0H371K

October 2008

# SUPPLEMENTAL PROJECT STUDY REPORT (Project Development Support)

Engineering and Environmental Support for Project Approval and Environmental Document components was programmed in the 2008 STIP. The remaining support and capital components of the project are preliminary estimates and are not suitable for programming purposes. Either a Supplement PSR or a Project Report will serve as the programming document for the remaining support and capital components of the project.



On Route 101 Southbound in San Luis Obispo County

From Halcyon Road

To 0.1-mile North of Oak Park Boulevard Overcrossing

APPROVAL RECOMMENDED BY:

*Amy Donatello*

AMY DONATELLO  
PROJECT MANAGER

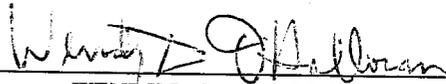
APPROVED BY:

*Richard Krumholz*  
RICHARD KRUMHOLZ  
DISTRICT DIRECTOR, DISTRICT 5

*10-28-08*

DATE

This Supplemental Project Study Report (Project Development Support) 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.

  
\_\_\_\_\_  
WENDY D. O'HALLORAN  
REGISTERED CIVIL ENGINEER

9-3-03  
DATE



1. Introduction

**Brief Project Description:**

This State Transportation Improvement Program (STIP) candidate project proposes to improve traffic operations by providing an auxiliary lane on southbound Route 101 in San Luis Obispo County from Halcyon Road in the city of Arroyo Grande to 0.1-mile north of Oak Park Boulevard Overcrossing (OC) in the city of Pismo Beach. The total cost for this project is estimated to be from \$5,900,000 to \$9,500,000. The estimated construction cost is from \$5,820,000 to \$9,400,000 with an additional \$40,625 to \$48,750 for right of way/utility relocation (June 2008).

Refer to the Cost Estimates, included in Attachments B, C and D, for specific work items included in this project. Right of way costs and information are provided in the Right of Way Data Sheets, included in Attachment F of this report.

<b>Project Limits Dist., Co., Rte., PM)</b>	05-SLO-101-13.4/14.7
<b>Number of Alternatives:</b>	(3) Build & No-Build
<b>Capital Outlay Support for PA&amp;ED</b>	Build
<b>Capital Construction Cost Range (excluding "No Build").</b>	\$5,820,000 to \$9,400,000
<b>Right of Way Cost Range (excluding "No Build").</b>	\$40,625 to \$48,750
<b>Funding Source:</b>	2008 STIP
<b>Type of Facility (conventional, expressway, freeway):</b>	4 Lane Freeway
<b>Number of Structures:</b>	1
<b>Anticipated Environmental Determination or Document:</b>	Neg Dec – CEQA CE - NEPA
<b>Legal Description</b>	In San Luis Obispo County on Route 101 in Arroyo Grande and Pismo Beach from Halcyon Road to 0.1-mile north of Oak Park Boulevard OC
<b>Project Category</b>	4B

The remaining support, right of way and construction components of the project are preliminary estimates and are not suitable for programming purposes. Either a

Supplemental PSR or Project Report will serve as the programming document for the remaining support and capital components of the project. A Project Report will serve as approval of the "selected" alternative.

## 2. Background

This project was initiated on October 16, 2002 by the San Luis Obispo Council of Governments (SLOCOG) as a result of a Route 101 Major Investment Study (MIS) prepared by Korve Engineering on September 8, 1997. The MIS was commissioned to address the growing traffic demand on the Route 101 corridor and to provide a comprehensive strategy to reduce traffic congestion by maximizing the efficiency of the existing facility.

Many improvements identified in the MIS were addressed in Phase 1 of the San Luis Obispo Operational Improvement project (EA 05-485611, 05-485621, 05-485630). This project is considered as part of the Phase 2 implementation of the MIS strategy to improve traffic operations along Route 101.

The purpose of this Supplemental PSR(PDS) is to split this one location out from an older, larger parent project (EA 0H370K), to add a third, climbing lane alternative and update the report to English units. The original parent project consisted of several locations, each having separate independent utility. Separate projects will expedite the environmental clearance of the less constrained locations and could facilitate construction capital funding of select locations. In addition, this supplemental report will update Alternative 1, the full-build alternative, to provide standard 10-foot median shoulders.

This project location was chosen by the Project Development Team (PDT) as the #1 priority of the remaining locations in the Phase 2 Route 101 Operational Improvements. The decision was based on minimal environmental impacts and District Traffic Operations identifying this location as having greater operational deficiencies.

### **Existing Facility**

Route 101 is the principal north-south highway serving San Luis Obispo County. Route 101 begins at Interstate 5 in Los Angeles and extends north to the Oregon Border, closely paralleling the coastline at times. It connects the Central Coast to the Bay Area to the north and the Los Angeles metropolitan area to the south. Route 101 bisects the cities of Arroyo Grande and Pismo Beach and provides vital access to the Five Cities Area (Shell Beach, Pismo Beach, Grover Beach, Arroyo Grande and Oceano). It is an important multifunctional route that experiences its highest traffic volumes during weekday commute hours.

Through the project limits, Route 101 is a four-lane freeway with a double thrie-beam barrier running down the center of the 40-foot wide median. 12-foot traffic lanes with

8-foot outside shoulders and 5-foot inside shoulders are provided. The design speed of the facility is 65 mph and the design vehicle is the STAA truck.

**Project Location**

Traffic congestion at this location is caused by large, slow-moving vehicles on the southbound incline just south of the Oak Park Boulevard OC. The slower vehicles can reduce the efficiency of merging traffic from the southbound on-ramp. The incline has a maximum grade of 5.7% and stretches for approximately 0.5 miles. Congestion is also evident at the southbound off-ramp to Halcyon Road. The hook off-ramp has a non-standard deceleration length and traffic can queue onto the mainline during the peak hours, reducing route capacity.

3. Need and Purpose

The purpose of this project remains unchanged. Within the project limits vehicles currently experience congestion and operate at low Level of Service (LOS) during peak hour commutes. These operational deficiencies are located at weaving sections near the interchanges. Operational inefficiency and loss of route capacity at this location can be linked to non-standard deceleration length of the Halcyon Road off-ramp and the climbing grade south of the Oak Park Boulevard on-ramp. The purpose of this project is to improve operations of Route 101.

**Traffic**

The existing mainline and ramp traffic volumes are listed in the tables below:

TABLE 1 –2006 MAINLINE TRAFFIC VOLUMES

Location	Peak Hour (vehicles/hour)	Average Annual Daily Traffic (vehicles/day)
SLO 101(13.48)	6,800	55,000

TABLE 2 –2005 RAMP TRAFFIC VOLUMES

Location (Ramp)	Average Daily Traffic (vehicles/day) [year]
Southbound off to Halcyon Rd (PM 13.68)	5,150 [2005]
Southbound on from El Camino Real (PM 14.78) (near Oak Park Blvd OC)	2,200 [2005]

### Accident Rate

The Traffic Accident Surveillance and Analysis System (TASAS) Report indicates that there were 25 collisions reported on mainline Route 101 within the project limits over a three-year period. The accident rate breakdown is as follows:

TABLE 3 – MAINLINE ROUTE 101  
November 1, 2003 to October 31, 2006

Location	ACTUAL			STATE AVERAGE		
	Fatal	Fatal+Injury	Total	Fatal	Fatal+Injury	Total
(Southbound; PM 13.4/14.7)	0.0	0.25	0.63	0.010	0.34	0.92

Note - Rates are in accidents per million vehicle miles

At the ramps/intersections, 2 collisions were reported during the same three-year period. The accident rate breakdown for each ramp/intersection is as follows:

TABLE 4 – RAMPS / INTERSECTIONS  
November 1, 2003 to October 31, 2006

Ramp/Intersection	ACTUAL			STATE AVERAGE		
	Fatal	Fatal+Injury	Total	Fatal	Fatal+Injury	Total
Southbound off to Halcyon Rd	0.0	0.0	0.35	0.005	0.39	1.15
Southbound on from El Camino Real	0.0	0.0	0.00	0.002	0.20	0.60

Note - Rates are in accidents per million vehicles

#### 4. Alternatives

Intelligent Transportation Systems (ITS) elements that are consistent with the Central Coast ITS Strategic Deployment Plan and Caltrans' District 5 Ten-Year ITS Plan are proposed to be incorporated into the project. The Route 101 ITS Corridor Implementation Project Initiation Document, (EA 0H530K), was approved by Caltrans, but is not currently programmed due to funding constraints. Monitoring and coordination as to the status of ITS improvements will be required as this project's proposed alternatives are developed.

Note: The geometric design of new facilities should normally be based on estimated traffic 20 years after completion of construction. This project deviates from that standard and will be designed based upon "current year" design period. Approval was

granted by the District 5 Director and the Headquarters Project Development Coordinator on July 13, 2005.

All of the "Build" alternatives will include an asphalt concrete overlay of 0.15 feet over the entire roadway width to seal joints and provide uniformity for the new pavement delineation. Retaining walls will also be required to widen the roadway. The placement of the retaining walls should be such that it accommodates future widening for a six-lane facility with auxiliary lanes. Permanent storm water treatment facilities will also need to be included in the project. Per discussions with the District Stormwater Coordinator, it may be feasible to construct a bioswale and/or biostrip on Route 101's *northbound*, outside shoulder between the Brisco Road onramp and the Camino Mercado offramp. Coordination between the proposed "Build" alternatives and the Brisco Road Interchange Project (EA 0A3700) should be ongoing to provide route consistency.

All work for the alternatives will be performed within the State's right of way. A cooperative agreement with the San Luis Obispo County Flood Control and Water Conservation District may be required for changes in the roadway drainage. All of the "Build" alternatives will require some modification of the roadway's existing drainage system. Variations of the alternatives considered for this project are as follows:

#### Alternative 1

This alternative, which meets all current design standards, proposes to construct a 1.0-mile long southbound auxiliary lane between the Halcyon Road and Oak Park Boulevard Interchanges. Widening for the auxiliary lane will occur from the outside edge of travel way. Due to the length of the auxiliary lane, the median shoulder will need to be widened from 5-foot to 10-foot for the entire length of this improvement to meet standards. The auxiliary lane will allow more efficient merging and exiting while providing a greater weave length between the interchanges. During peak hours, the queue that currently extends onto Route 101 mainline from the Halcyon Road off-ramp will be moved to the auxiliary lane, thus restoring lost route capacity. Widening the roadway from the outside edge of travel way will preserve the median for future conversion of the roadway to a six-lane facility.

The Brisco Road Undercrossing (UC) will require widening to accommodate the auxiliary lane. The Oak Park Boulevard OC has been recently reconstructed and will allow the auxiliary lane to traverse underneath without structure modifications. This alternative's preliminary construction cost estimate is \$9,400,000. Right of Way costs are estimated at \$48,750 for utility relocation.

#### Alternative 2

This alternative proposes to construct two, 1,000-foot long southbound auxiliary lanes. One is at the Halcyon Road off-ramp and the other is at the Oak Park

Boulevard on-ramp. This minimum "build" project will achieve a portion of the benefits as described in Alternative 1, but without structure widening and therefore with a lower construction cost.

This alternative proposes a reduction in median width and a concrete median barrier will be required. A mandatory design exception fact sheet will need to be processed for non-standard inside shoulder widths of 7 feet at the Halcyon Road off-ramp and for 5 feet near the Oak Park Boulevard on-ramp. The reduced median width will require an advisory design exception fact sheet for a non-standard median width of 28 feet. A transition area facilitating the lane shift to the inside may require embankment widening. Embankment side slopes in this area may be steepened to a 2:1 slope from the standard 4:1 slope, requiring an advisory design exception fact sheet. Additionally, if the roadway were to be converted to a six-lane facility in the future, the outside auxiliary lane would need to be converted to a through lane, or the Brisco Road UC would need to be widened or replaced to perpetuate the auxiliary lane. This alternative's preliminary construction cost estimate is \$5,820,000. Right of Way costs are estimated at \$40,625 for utility relocation.

### Alternative 3

This alternative proposes to construct a 0.6-mile climbing lane between the Halcyon Road and Oak Park Boulevard Interchanges. It is proposed to widen the roadway from the outside edge of travel way, starting from the Oak Park Boulevard on-ramp. This alternative allows the preservation of the median for future conversion of the roadway to a six-lane facility. This alternative avoids the need to widen the Brisco Road UC. As the Oak Park Boulevard OC was recently reconstructed, the climbing lane will traverse under the structure without any structure modifications. A mandatory design exception will be required to maintain the existing 5-foot median shoulder.

The concept for this alternative was initiated by District 5 Traffic Operations. A running speed survey will be conducted during the project study phase in order to confirm this alternative's benefits.

The climbing lane will allow more efficient merging and provide a greater weave length between the interchanges. However, this alternative does not address the non-standard deceleration lane length at the Halcyon Road off-ramp. This alternative's preliminary construction cost estimate is \$6,230,000. Right of Way costs are estimated at \$40,625 for utility relocation.

### No Build

The No-Build alternative does not provide any improvements in this corridor. As traffic volumes along Route 101 increase, the congestion at this location would be also expected to increase. This alternative would not meet the purpose and need of

the project.

5. System and Regional Planning

Various projects are proposed along the Route 101 corridor within the project limits, including the Brisco Road Interchange Project. Refer to the Alternatives section of this report for the compatibility of the major projects to this proposed project.

6. Environmental Determination and Environmental Issues

A Preliminary Environmental Analysis Report was completed in March 2008. The anticipated environmental document for the proposed project is a Negative Declaration/Mitigated Negative Declaration/Categorical Exclusion. The Department would act as lead agency in the preparation of a California Environmental Quality Act (CEQA) document and the National Environmental Policy Act (NEPA) exclusion process. Final environmental determination is projected to occur 14 months from the start of the environmental studies. The proposed project would require a 1601 Agreement with the California Department of Fish and Game if the final design alters the Meadow Creek streambed (which crosses Route 101 near the Oak Park Boulevard OC). While this creek is in the vicinity of work, preliminary designs avoid altering the streambed. Proposed work in streams and channels would also require permits to be in compliance with Section 401 and 404 of the Federal Clean Water Act. Biological mitigation may be necessary for certain animal species. Visual resources mitigation would include aesthetics on structures, replacement planting of natural vegetation, tree replacement and irrigation system replacement. Hazardous waste remediation would include an aerially deposited lead analysis.

7. Right of Way

Right of way acquisition would not be required for this project as the project limits are within existing State right of way. However, relocation and/or positive location of utilities may be required. Utility relocation and verification plans will be developed during the Project Report phase. Refer to Attachment F for the Right of Way Data Sheets.

8. Funding/Scheduling

**Project Schedule & Responsibilities**

<b>Milestone Dates</b>	<b>Month/Day/Year</b>
Supp PSR/PDS Approval	11/1/2008
PA&ED	11/1/2009
R/W Cert	4/1/2015
RTL	6/1/2015
Approve Contract	10/15/2015
CCA	4/15/2016

**Capital Outlay Estimate**

<b>Alternative</b>	<b>Range for Total Cost (1,000 of \$)</b>
1	\$9,500
2	\$5,900
3	\$6,300

Total Project Range: \$5,900,000 - \$9,500,000

The level of detail available to develop these capital cost estimates is only accurate to within the above ranges and are useful for long range planning purposes only. The capital costs should not be used to program or commit capital funds. The Project Report will serve as the appropriate document from which the remaining support and capital components of the project will be programmed.

## Cost Breakdown

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

Project Cost Component	Fiscal Years						Total
	Prior	08/09	13/14	14/15	15/16		
R/W Capital			\$60				\$ 60
Const. Capital**					\$13,227		\$ 13,227
PA&ED*	\$781						\$ 781
PS&E*			\$1,636				\$ 1,636
R/W Support*			\$53				\$ 53
Const.Support*					\$1,505		\$ 1,505
<b>Total</b>	<b>\$ 781</b>	<b>\$</b>	<b>\$ 1,749</b>		<b>\$ \$ 14,732</b>	<b>\$</b>	<b>\$ 17,262</b>

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

Construction Capital escalated at 5%. Right of Way Capital estimate is escalated.

Support cost escalated at 8% for one year and 3% for following years

Support Cost ratio: 29% [All Support Costs (\*) divided by the sum of the escalated Construction Capital (\*\*) and the escalated R/W Capital]

**Only the "PA&ED" milestone is programmed. All other milestones are used to indicate relative time frames for planning purposes.**

## 9. Risk Management Plan

The Risk Management Plan was prepared to assess, respond and monitor identified project risks that may occur throughout the life of the project (See Attachment J). The Risk Management Plan is designed as a tool to help the PDT and Project Sponsors in their decisions regarding project alternatives and objectives and encourages the PDT to take appropriate measures to minimize adverse impacts to the project scope, schedule or cost. However, the Risk Management Plan cannot identify all risks in advance of occurrence for a project where some risks are unknown.

The current cost estimate and/or schedule does not include quantitative impacts to costs and/or schedule for the risks identified in the Risk Management Plan.

## 10. Project Contacts

Project Manager:	Amy Donatello	(805) 549-3014
Design Manager:	Wendy O'Halloran	(805) 549-3681
Project Engineer:	JoAnne Engelmann	(805) 549-3165
Environmental Planner:	Mike Jacob	(805) 542-4685

## 11. Attachments

- A Vicinity Map
- B Alternative 1 Typical Cross Sections, Preliminary Layout, Cost Estimate
- C Alternative 2, Typical Cross Sections, Preliminary Layout, Cost Estimate
- D Alternative 3, Typical Cross Sections, Preliminary Layout, Cost Estimate
- E Preliminary Environmental Analysis Report
- F Right of Way Data Sheets
- G PDS Traffic Forecasting, Analysis and Operation Scoping Checklist
- H Traffic Management Plan Data Sheet/Checklist
- I Storm Water Data Report
- J Risk Management Plan
- K PSR(PDS) EA 0H370K

cc: HQ Division of Design - Design Report Routing  
HQ Transportation Programming - Ross Chittenden, Kurt Scherzinger  
HQ Environmental - Kelly Dunlap  
HQ Traffic Operations - Nagi Pagadala  
Project Manager – Amy Donatello  
Design Manager – Wendy O’Halloran  
Construction – Bob Hurd  
District Maintenance - Lance Gorman  
District Traffic Management - James Alessi  
Region Traffic Design - Hassan Marei  
District Traffic Operations - Paul McClintic  
Region Materials - Ron Sekhon  
Region Environmental – Jennifer Taylor  
Surveys - Tamara Gonzalez (electronic copy only), Nick Tatarian  
HQ DES/OPPM - Andrew T S Tan  
District Records – Gail Hayes  
Region Records – Victoria Pozuelo

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PROJECT PLANS FOR CONSTRUCTION ON  
 STATE HIGHWAY**  
 IN SAN LUIS OBISPO COUNTY  
 IN ARROYO GRANDE AND PISMO BEACH  
 ON RTE 101 FROM HALCYON ROAD TO 0.1 MI NORTH  
 OF OAK PARK BOULEVARD OVERCROSSING

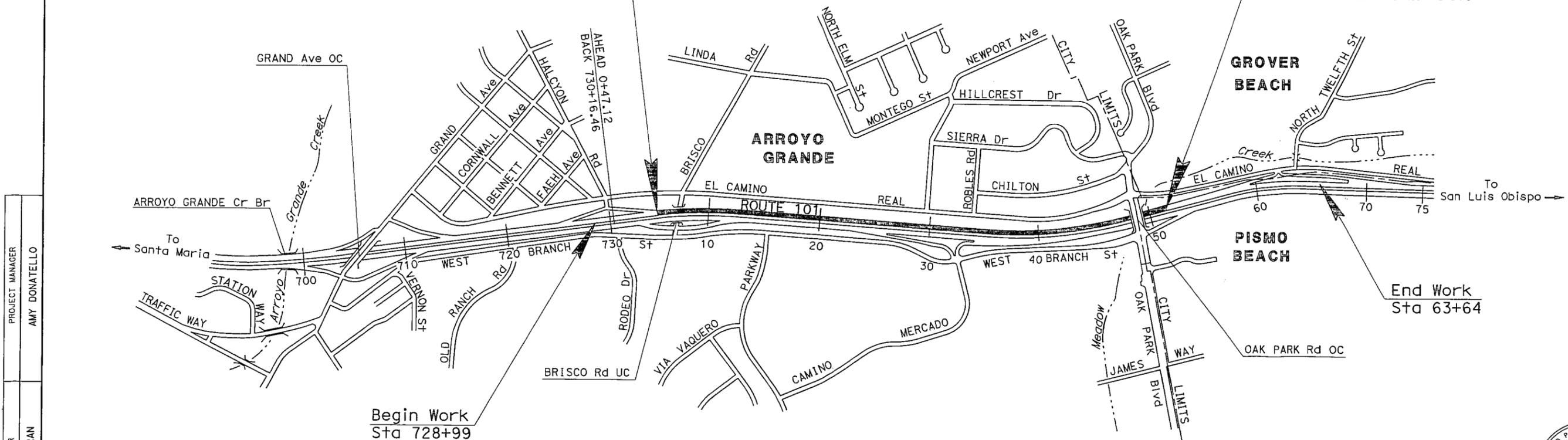
TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	13.4/14.7		

LOCATION MAP

**BEGIN CONSTRUCTION**  
 STA 0+90 PM 13.4

**END CONSTRUCTION**  
 STA 51+32 PM 14.7



Begin Work  
 Sta 728+99

End Work  
 Sta 63+64

NO SCALE

PROJECT MANAGER  
 AMY DONATELLO  
  
 DESIGN ENGINEER  
 WENDY O'HALLORAN

PROJECT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 REGISTERED CIVIL ENGINEER



PLANS APPROVAL DATE \_\_\_\_\_  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

**ATTACHMENT A**

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

CONTRACT No. **05-OH3714**

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-OH371K  
 Program Code: 20.20.075.600

**I. ROADWAY ITEMS**

<u>Section 1 - Earthwork</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Roadway Excavation	9,150	CY	\$40	\$366,000	
Imported Borrow	400	CY	\$65	\$26,000	
Clearing & Grubbing	1	LS	\$40,000	\$40,000	
Develop Water Supply	0	LS	\$0	\$0	
Top Soil Reapplication				\$0	
Stepped Slopes and Slope				\$0	
Rounding (Contour Grading)				\$0	
			<b>Subtotal Earthwork:</b>		<b>\$432,000</b>
<u>Section 2 - Pavement Structural Section*</u>					
PCC Pvmnt <u>Depth</u>	0	CY	\$0	\$0	
PCC Pvmnt <u>Depth</u>	0	CY	\$0	\$0	
Asphalt Concrete	5,931	Tons	\$120	\$711,720	
Lean Concrete Base	1,300	CY	\$244	\$317,200	
Cement-Treated Base	0	CY	\$0	\$0	
Aggregate Base	2,800	CY	\$58	\$162,400	
Treated Permeable Base	0	CY	\$0	\$0	
Aggregate Subbase	3,900	CY	\$58	\$226,200	
Pavement Reinforcing Fabric	0	FT <sup>2</sup>	\$0	\$0	
Edge Drains	0	FT	\$0	\$0	
				\$0	
				\$0	
			<b>Subtotal Structural Section:</b>		<b>\$1,417,520</b>
<u>Section 3 - Drainage</u>					
Large Drainage Facilities	0	LS	\$0	\$0	
Storm Drains	0		\$0	\$0	
Pumping Plants	0		\$0	\$0	
Project Drainage (X-Drains, overside, etc.)	1	LS	\$30,000	\$30,000	
AC Dike	0	FT	\$0	\$0	
CMP	0	FT	\$0	\$0	
RCP	0	FT	\$0	\$0	
			<b>Subtotal Drainage:</b>		<b>\$30,000</b>

\* Reference sketch showing typical pavement structural section elements of the roadway. Include (if available) T.I., R-Value and date when tests were performed.

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
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<u>Section 4 - Specialty Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Retaining Walls	1	LS	\$2,036,000	\$2,036,000	
Noise Barriers	0		\$0	\$0	
Guardrails	1,355	LF	\$40	\$54,200	
Equipment/Animal Passes	0		\$0	\$0	
Water Pollution Control	1	LS	\$0	\$0	
Environmental Permit	1	LS	\$6,000	\$6,000	
Biological Monitoring & Vegeta	1	LS	\$50,000	\$50,000	
Resident Engineer Office	1	LS	\$6,000	\$49,500	
	0		\$0	\$0	
	0	LS	\$0	\$0	
				\$0	
Subtotal Specialty Items:					\$2,195,700

<u>Section 5 - Traffic Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Lighting	0	LS	\$0	\$0	
Traffic Delineation	1	LS	\$24,700	\$24,700	
COZEEP	1	LS	\$85,200	\$85,200	
Overhead Sign Structures	0	LS	\$0	\$0	
Roadside Signs	1	LS	\$46,000	\$46,000	
Traffic Control Systems	0	LS	\$0	\$0	
Traffic Management Plan	1	LS	\$5,000	\$5,000	
Construction Area Signs	1	LS	\$17,250	\$17,250	
Traffic Handling (CMS)	1	LS	\$33,000	\$33,000	
Temporary Detection System	0	LS	\$0	\$0	
Staging	0	LS	\$0	\$0	
Maintain Traffic	1	LS	\$27,600	\$27,600	
Public Awareness	1	LS	\$25,000	\$25,000	
ITS	1	LS	\$25,000	\$25,000	
Subtotal Traffic Items:					\$288,750

TOTAL ROADWAY ITEMS Sections 1 thru 5 \$4,363,970



**PROJECT STUDY REPORT COST ESTIMATE**



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**III. ROADWAY ADDITIONS**

Section 8 - Minor Items

			<u>Item Cost</u>	<u>Section Cost</u>
	<u>\$5,495,570</u>	x	<u>0.10</u>	=
(Subtotal Sections 1 thru 7)			(5 to 10%)	=
				<u>\$549,557</u>

Minor Items: \$549,557

Section 9 - Roadway Mobilization

	<u>\$6,045,127</u>	x	<u>0.10</u>	=
(Subtotal Sections 1 thru 8)			(10%)	=
				<u>\$604,513</u>

Roadway Mobilization: \$604,513

Section 10 - Supplemental Work & Contingencies

Supplemental Work

	<u>\$6,045,127</u>	x	<u>0.10</u>	=
(Subtotal Sections 1 thru 8)			(5 to 10%)	=
				<u>\$604,513</u>

Contingencies

	<u>\$6,045,127</u>	x	<u>0.25</u>	=
(Subtotal Sections 1 thru 8)			(**%)	=
				<u>\$1,511,282</u>

Supplemental Work & Contingencies: \$2,115,794

TOTAL ROADWAY ADDITIONS Sections 8 thru 10: \$3,269,864

TOTAL ROADWAY: \$8,765,434  
 (Subtotal Sections 1 thru 10)

Estimate  
 Prepared by:

Kyle Birch  
 (Print or Type Name)

Phone: 805-549-3649      07/08/08  
 (Date)

Estimate  
 Checked by:

W. Halloran  
 (Print or Type Name)

Phone: 549-3681      07/08/08  
 (Date)

\*\*Use appropriate percentage per PDPM, Part 3 Chapter 20.  
<http://www.dot.ca.gov/hq/oppd/pdpm/pdpm.htm> - pdpm

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
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 Program Code: 20.20.075.600

**II. STRUCTURE ITEMS**

	STRUCTURE		
	No. 1	No. 2	No. 3
Bridge Name	<u>BRUC</u>	_____	_____
Structure Type	<u>CIP/RC</u>	_____	_____
Width (out to out) - (ft)	<u>14.0</u>	<u>0</u>	<u>0</u>
Span Length - (ft)	<u>42.7</u>	<u>0</u>	<u>0</u>
Total Area - ft <sup>2</sup>	<u>597.1</u>	<u>0</u>	<u>0</u>
Footing Type (pile/spread)	_____	_____	_____
Cost Per ft <sup>2</sup> (incl. 10% mobilization & 25% contingencies)	_____	<u>\$0</u>	<u>\$0</u>
Total Cost for Structure	<u>\$630,000</u>	<u>\$0</u>	<u>\$0</u>
Other	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>

\* Add additional structures as necessary

SUBTOTAL STRUCTURES ITEMS \$630,000

Railroad Related Costs (Not incl. in R/W Est) \$0

TOTAL STRUCTURES ITEMS \$630,000

**COMMENTS:**

Estimate  
 Prepared by: JoAnne Engelmann Phone: (805) 549-3165 07/08/08  
(Print or Type Name) (Date)

(If appropriate, attach additional pages as backup)

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**III. RIGHT OF WAY ITEMS**

	Current Values (Future Use)	<u>Escalation Rates</u>		Escalated Values*
Acquisition, including excess lands and damages to remainder(s) and Goodwill	\$0	0.0%	-	\$0
Utility Relocation (State share)	\$41,250	5.0%	-	\$43,313
Permit Fees	\$7,500	6.0%	-	\$7,950
RAP	\$0	0.0%	-	\$0
Title and Escrow Fees	\$0	0.0%	-	\$0
Construction Contract Work	\$0	0.0%	-	\$0
	<u>\$48,750</u>			<u>\$51,263</u>
	<b>TOTAL RIGHT OF WAY**</b>			<b>ESCALLATED VALUE*</b>

Date to which Values are Escalated: 2012

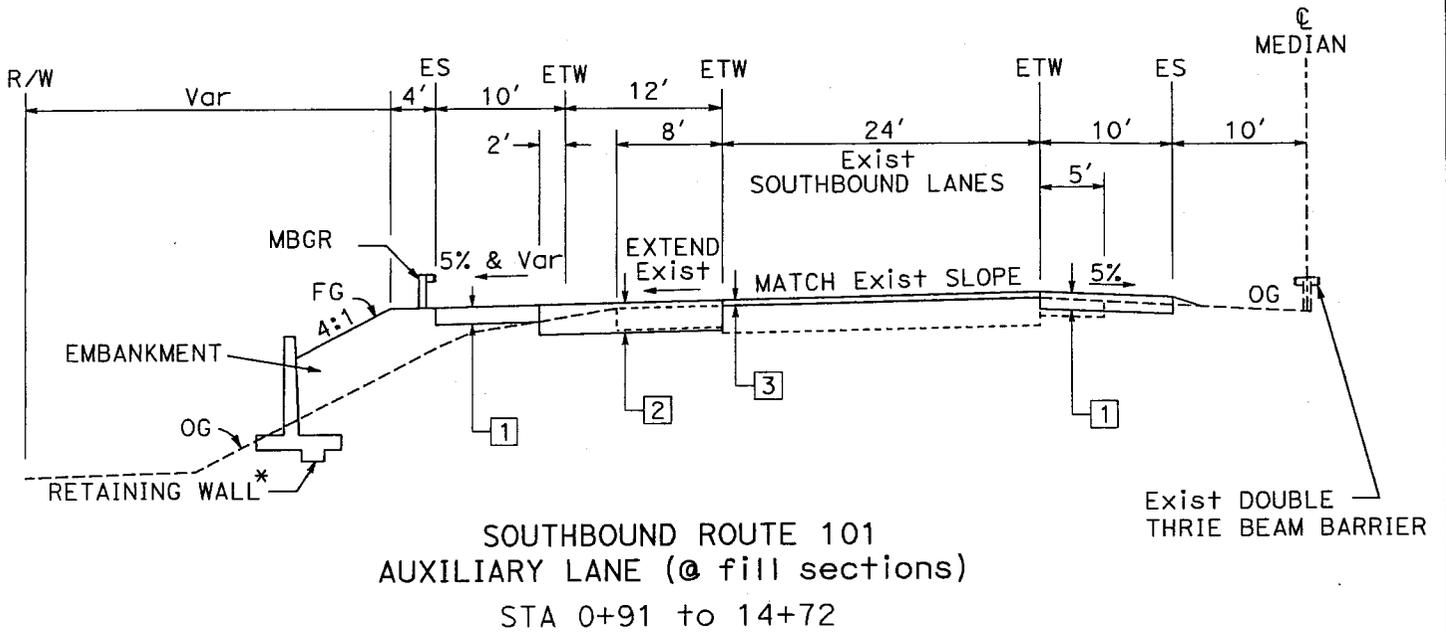
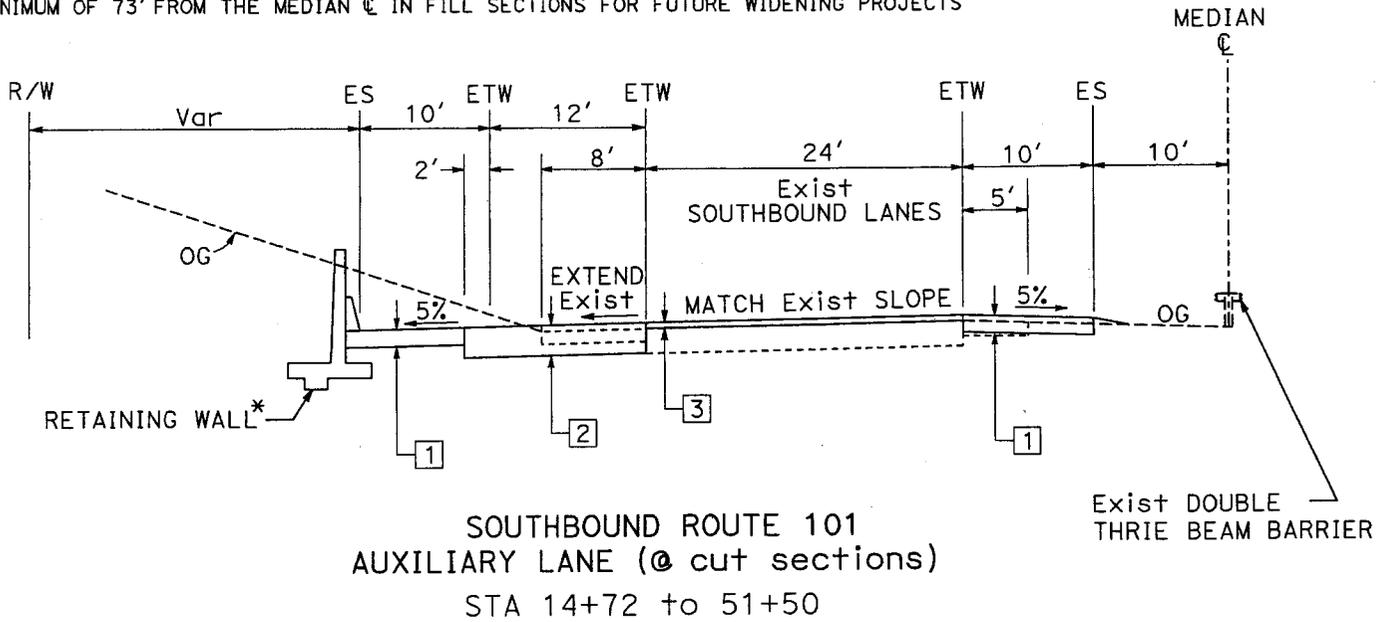
\* Escalated to assumed year of advertising. Values do not include 25% Contingency

\*\* Current total value for use on Sheet 1

Estimate  
 Prepared by: JoAnne Engelmann Phone: (805) 549-3165 07/08/08  
 (Print or Type Name) (Date)

(If appropriate, attach additional pages and backup including Right of Way Data Sheet and Environmental Mitigation and Compliance Cost Estimate Sheet).

\* NEED TO PLACE THE RETAINING WALL A MINIMUM DISTANCE OF 69' FROM THE MEDIAN  $\text{\textcircled{C}}$  IN CUT SECTIONS AND A MINIMUM OF 73' FROM THE MEDIAN  $\text{\textcircled{C}}$  IN FILL SECTIONS FOR FUTURE WIDENING PROJECTS



**TYPICAL STRUCTURAL SECTIONS**

- 1 [ 0.40 HMA Type A  
1.15 AB Class 2
- 2 [ 0.55 HMA Type A  
0.50 Lean Concrete Base  
1.50 ASB Class 4
- 3 [ 0.15 HMA Type A

**TYPICAL CROSS SECTIONS  
HALCYON/OAK PARK OPS IMPROVEMENTS  
RTE 101 (PM 13.4/14.7)  
ALTERNATIVE 1**

NO SCALE

**ATTACHMENT B**

PROJECT STUDY REPORT COST ESTIMATE



Dist-Co-Rte: 05-SLO-101  
PM: PM 13.4/14.7  
EA: 05-0H371K  
Program Code: 20.20.075.600

PROJECT DESCRIPTION:

Limits: In San Luis Obispo County on Route 101 Southbound from Halcyon Rd Southbound off-ramp to Oak Park Blvd Southbound on-ramp (PM 13.4/14.7)

Proposed Improvement: (Scope of Work) Widen southbound Route 101 from the outside edge of travel way to construct an auxiliary lane from the Halcyon Rd off-ramp to the Oak Park Blvd on-ramp (PM 13.4/14.7). Install retaining walls and widen Brisco Road Undercrossing (Bridge # 49-0154).

Alternative: Alternative #1

SUMMARY OF PROJECT COST ESTIMATE

I. ROADWAY ITEMS	Sections 1 - 5	\$ 4,363,970
II. ROADSIDE ITEMS	Sections 6 - 7	\$ 1,131,600
III. ROADWAY ADDITIONS	Sections 8 - 10	\$ 3,269,864
TOTAL ROADWAY	Total of Sections 1 - 10 shown above	\$ 8,770,000
TOTAL STRUCTURES		\$ 630,000
	SUBTOTAL CONSTRUCTION COSTS	\$ 9,400,000
	TOTAL RIGHT OF WAY ITEMS (Not Escalated)	\$ 48,750
	TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ 9,500,000

Reviewed by District Program Manager: Candy Eyo (Signature) 9-25-08 (Date)

Approved by Project Manager: Amy Donatelli (Signature) 9/23/08 (Date)

Phone Number: 805-549-3014

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN

FUNCTIONAL SUPERVISOR  
 WENDY D. O'HALLORAN

CALCULATED-DESIGNED BY  
 CHECKED BY

REVISED BY  
 DATE REVISED

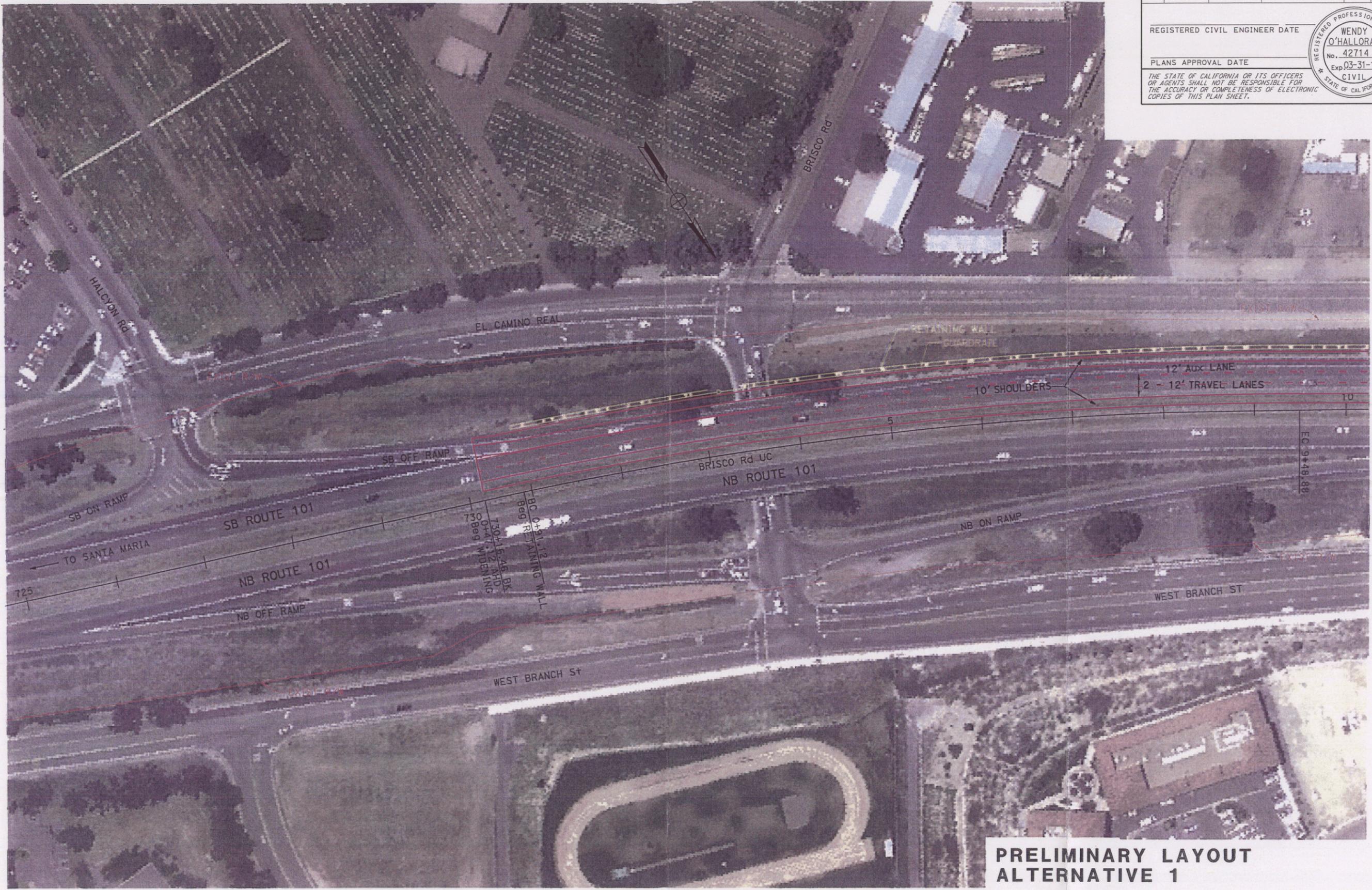
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	13.4/14.7		

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_

PLANS APPROVAL DATE \_\_\_\_\_

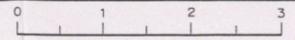
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 WENDY O'HALLORAN  
 No. 42714  
 Exp 03-31-10  
 CIVIL  
 STATE OF CALIFORNIA



**PRELIMINARY LAYOUT  
 ALTERNATIVE 1**

L-1



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**CD Caltrans** DESIGN

FUNCTIONAL SUPERVISOR  
 WENDY D. O'HALLORAN

CALCULATED-BY  
 DESIGNED BY

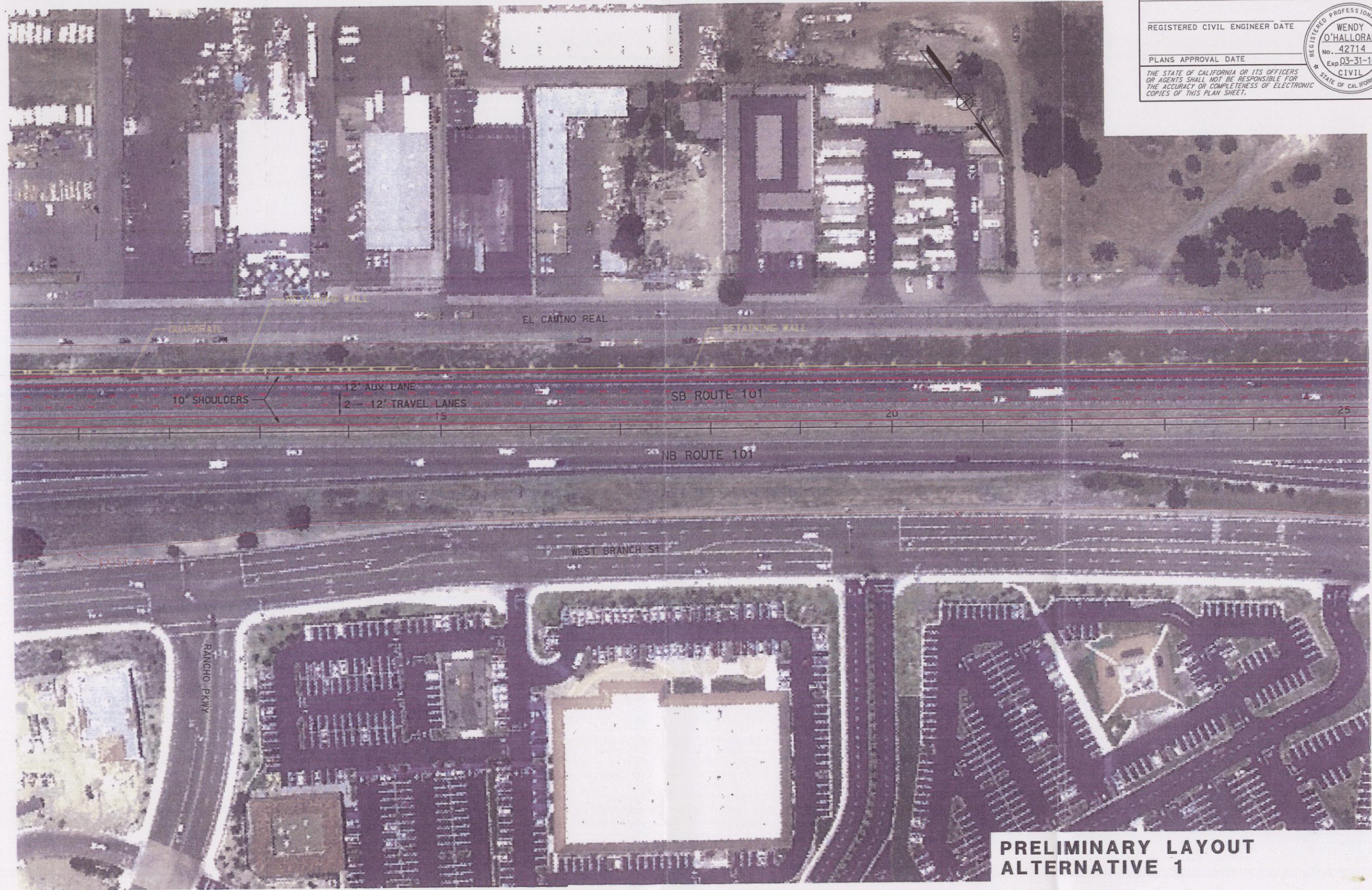
REVISOR BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	13.4/14.7		

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_  
 PLANS APPROVAL DATE \_\_\_\_\_

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 WENDY O'HALLORAN  
 No. 42714  
 Exp. 03-31-10  
 CIVIL  
 STATE OF CALIFORNIA

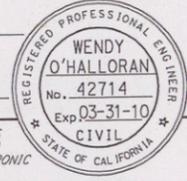


**PRELIMINARY LAYOUT  
 ALTERNATIVE 1**

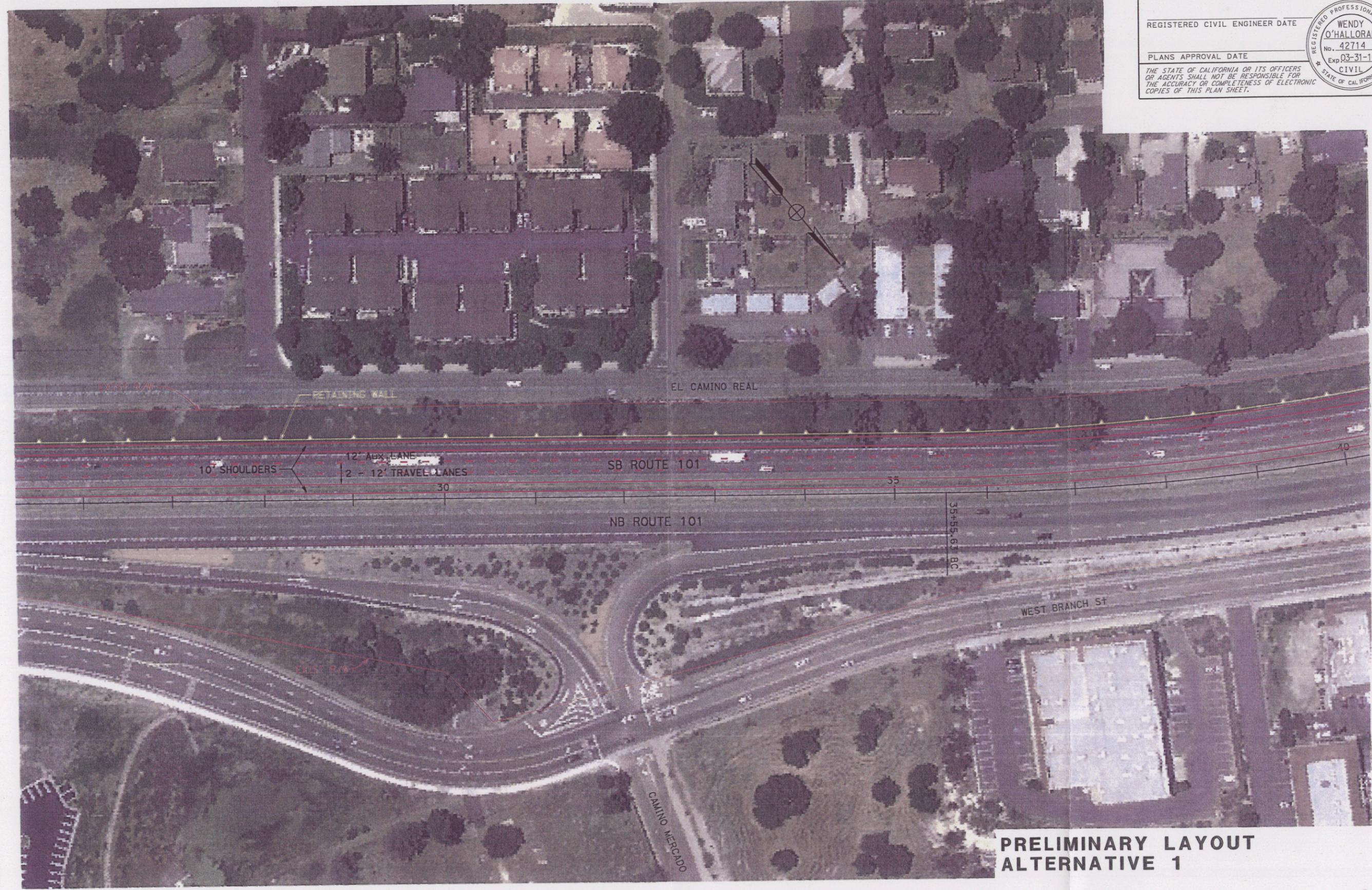
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	13.4/14.7		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE



THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

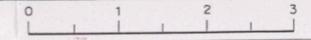


**PRELIMINARY LAYOUT  
ALTERNATIVE 1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
DESIGN  
FUNCTIONAL SUPERVISOR: WENDY D. O'HALLORAN  
REVISOR: [REDACTED]  
CHECKED BY: [REDACTED]  
DESIGNED BY: [REDACTED]  
DATE REVISION: [REDACTED]  
DATE REVISION: [REDACTED]  
DATE REVISION: [REDACTED]

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN INCHES



USERNAME => s132354  
DGN FILE => A1+ 1-L3.dgn

CU 06233

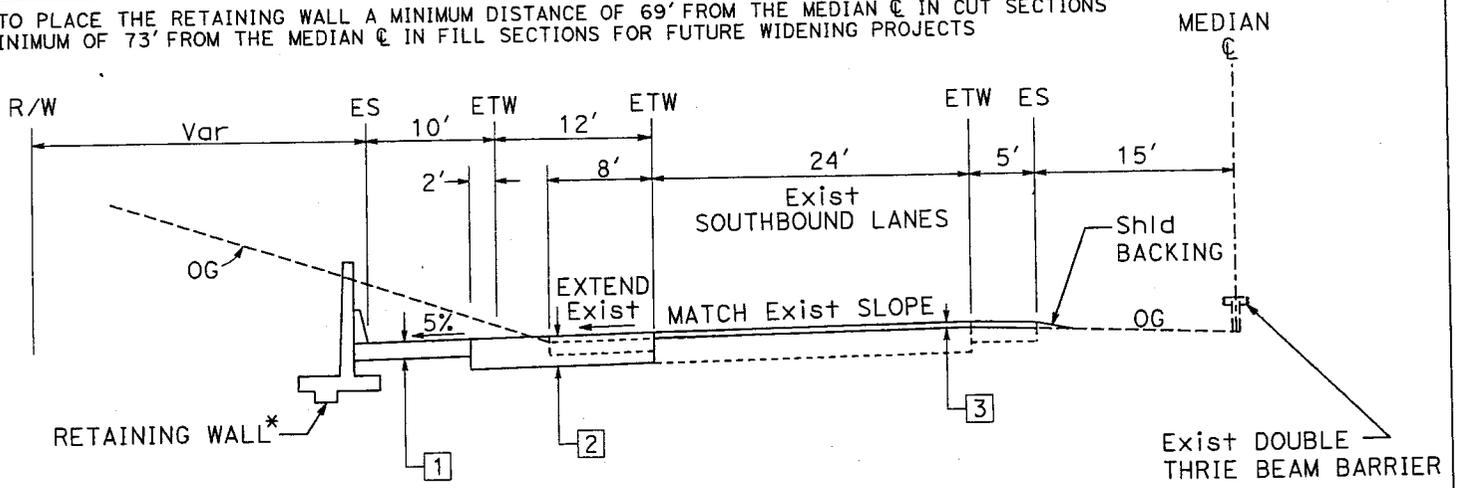
EA OH371K

**L-3**

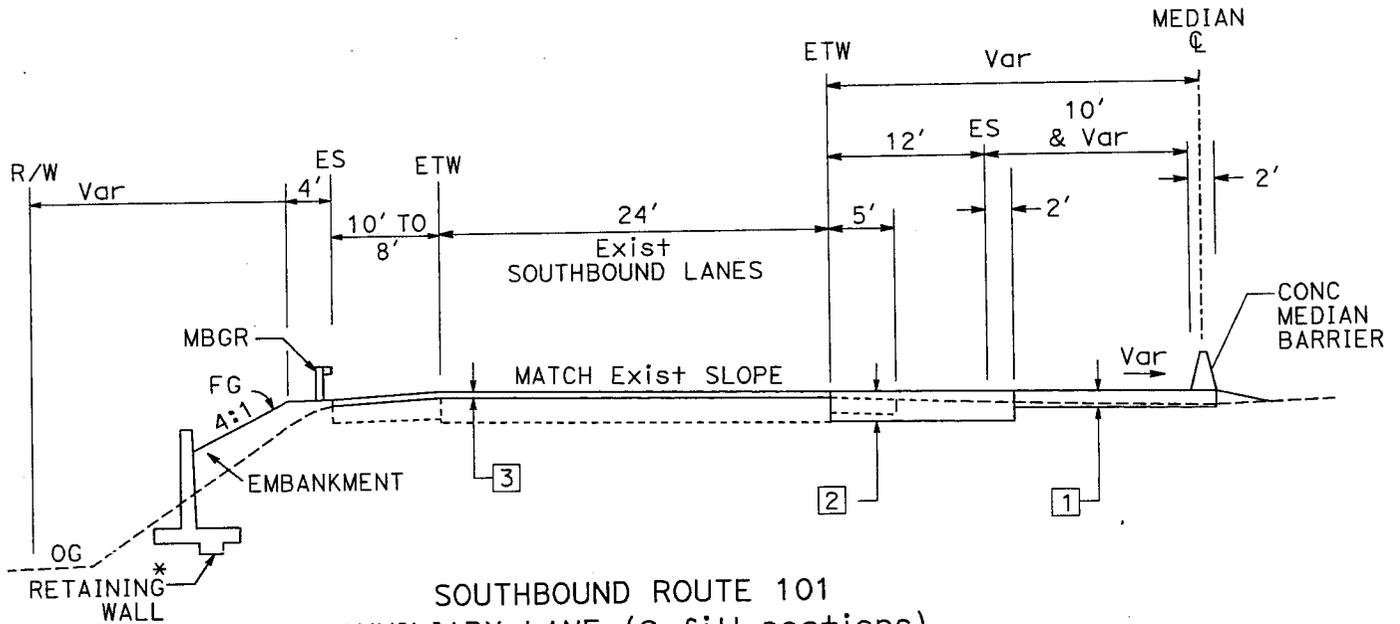
DATE PLOTTED => 20-AUG-2008  
TIME PLOTTED => 07:58



\* NEED TO PLACE THE RETAINING WALL A MINIMUM DISTANCE OF 69' FROM THE MEDIAN  $\text{C}$  IN CUT SECTIONS AND A MINIMUM OF 73' FROM THE MEDIAN  $\text{C}$  IN FILL SECTIONS FOR FUTURE WIDENING PROJECTS



SOUTHBOUND ROUTE 101  
AUXILIARY LANE (@ cut sections)  
STA 35+25 to 51+50



SOUTHBOUND ROUTE 101  
AUXILIARY LANE (@ fill sections)  
STA 720+67 to 8+74

TYPICAL STRUCTURAL SECTIONS

- 1 [ 0.40 HMA Type A  
1.15 AB Class 2
- 2 [ 0.55 HMA Type A  
0.50 Lean Concrete Base  
1.50 ASB Class 4
- 3 [ 0.15 HMA Type A

**TYPICAL CROSS SECTIONS  
HALCYON/OAK PARK OPS IMPROVEMENTS  
RTE 101 (PM 13.4/14.7)  
ALTERNATIVE 2**

NO SCALE

ATTACHMENT C

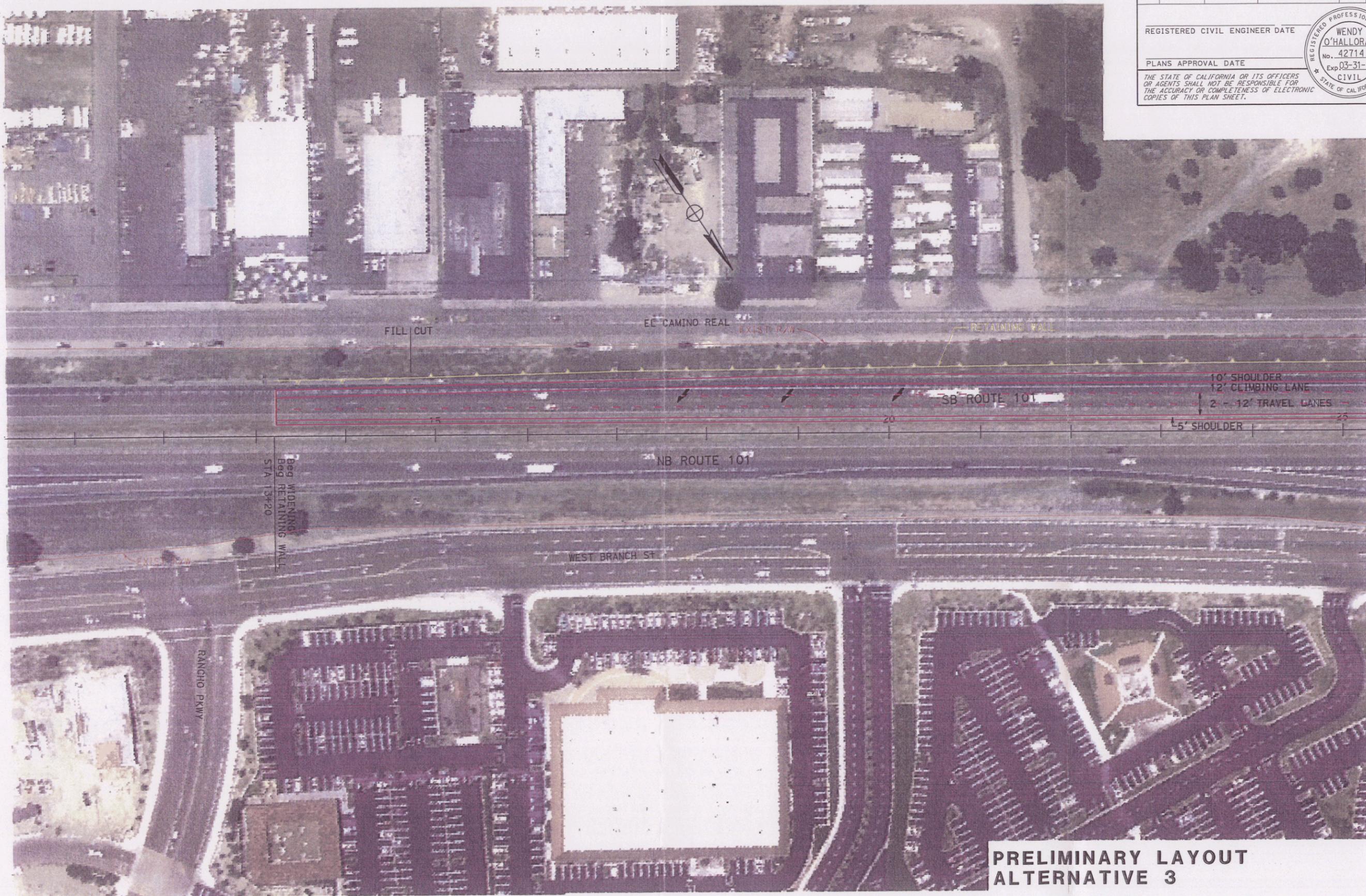
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION <b>Caltrans</b>	DESIGN	FUNCTIONAL SUPERVISOR WENDY D. O'HALLORAN	CALCULATED-DESIGNED BY CHECKED BY	REVISED BY DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	13.4/14.7		

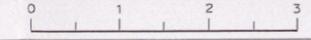
REGISTERED CIVIL ENGINEER DATE	
PLANS APPROVAL DATE	

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



**PRELIMINARY LAYOUT  
ALTERNATIVE 3**

L-1



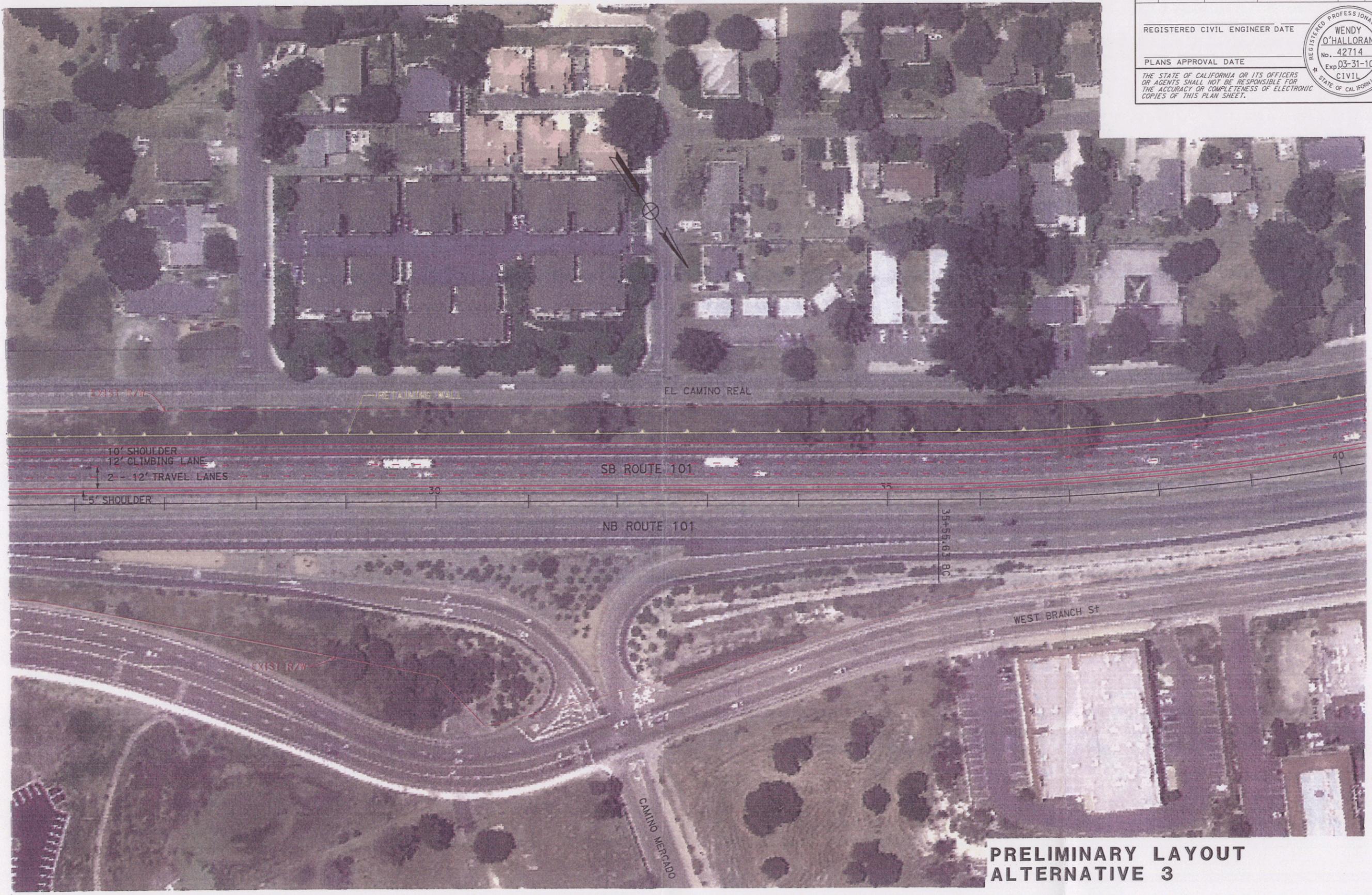
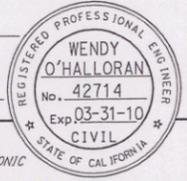
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR  
 WENDY D. O'HALLORAN  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 REVISIONS: x x x x x  
 REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	13.4/14.7		

REGISTERED CIVIL ENGINEER DATE

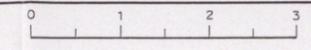
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



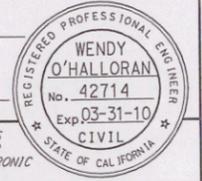
**PRELIMINARY LAYOUT  
 ALTERNATIVE 3**

L-2

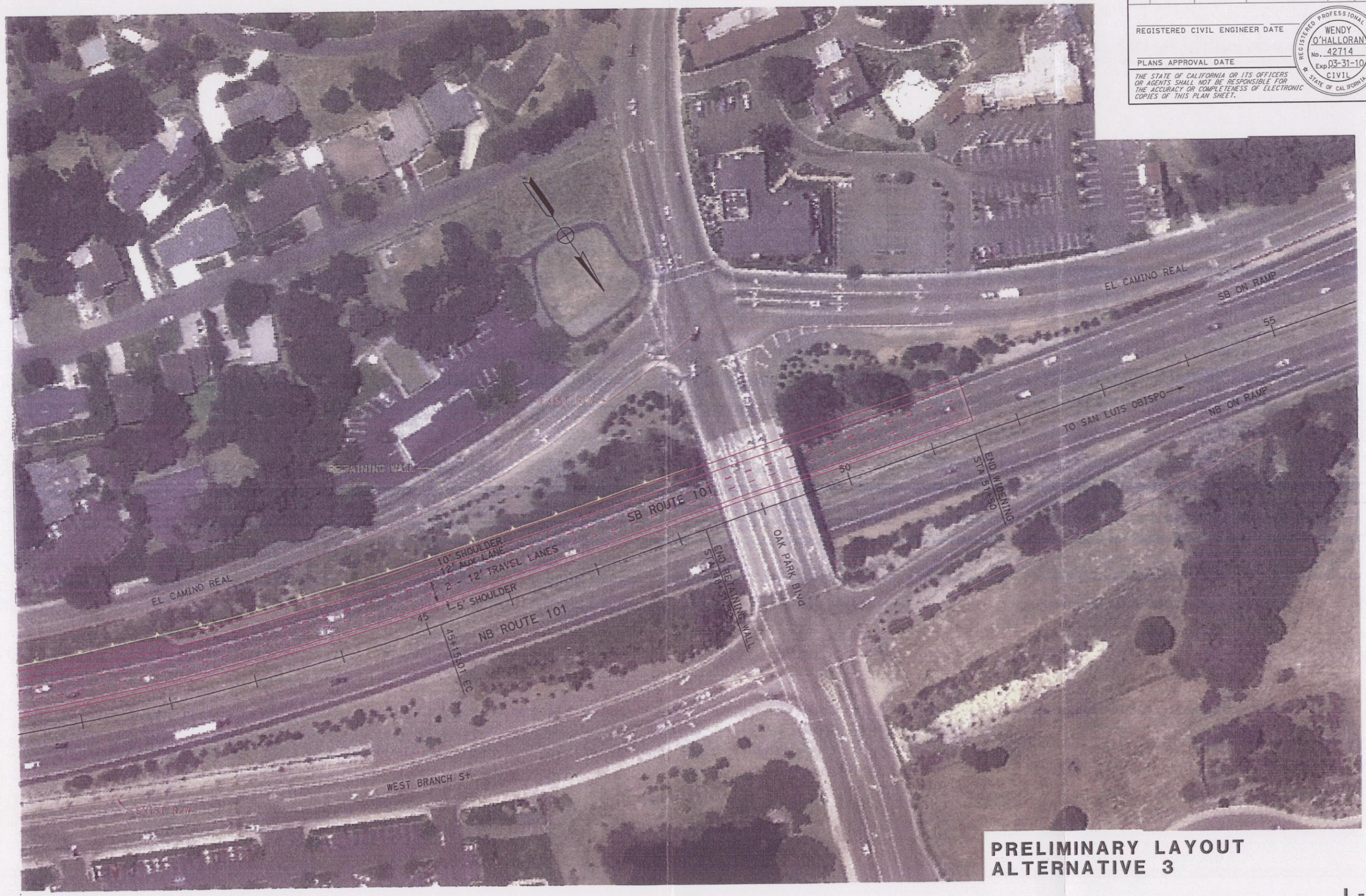


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	13.4/14.7		

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_  
 PLANS APPROVAL DATE \_\_\_\_\_  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

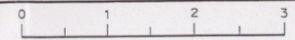


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	WENDY D. O'HALLORAN	CALCULATED/DESIGNED BY	CHECKED BY	REVISOR	DATE
<b>Caltrans</b>							



**PRELIMINARY LAYOUT  
ALTERNATIVE 3**

**L-3**



**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**PROJECT DESCRIPTION:**

**Limits:** In San Luis Obispo County on Route 101 Southbound from Halcyon Rd Southbound off-ramp to Oak Park Blvd Southbound on-ramp (PM 13.4/14.7)

**Proposed Improvement:** (Scope of Work) Widen southbound Route 101 to construct an auxiliary lane from the Halcyon Rd off-ramp to the Oak Park Blvd on-ramp (PM 13.4/14.7). Widen the roadway from the inside edge of travel way, toward the median, for approximately 1500 feet north of the Halcyon Rd off-ramp. Widen from the outside edge of travel way from approximately 1600 feet south of Oak Park Blvd on-ramp. Install concrete barrier and retaining walls.

**Alternative:** Alternative #2

**SUMMARY OF PROJECT COST ESTIMATE**

I. ROADWAY ITEMS	Sections 1 - 5	\$ 2,869,770
II. ROADSIDE ITEMS	Sections 6 - 7	\$ 773,600
III. ROADWAY ADDITIONS	Sections 8 - 10	\$ 2,167,805
TOTAL ROADWAY	Total of Sections 1 - 10 shown above	\$ 5,820,000
TOTAL STRUCTURES		\$ 0
	SUBTOTAL CONSTRUCTION COSTS	\$ 5,820,000
	TOTAL RIGHT OF WAY ITEMS (Not Escallated)	\$ 40,625
	TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ 5,900,000

Reviewed by  
 District Program Manager:

*Claudia G...*  
 (Signature)

9-25-08  
 (Date)

Approved by Project Manager:

*Angie...*  
 (Signature)

09/03/08  
 (Date)

Phone Number:

(805) 549-3014

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**I. ROADWAY ITEMS**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
<b>Section 1 - Earthwork</b>					
Roadway Excavation	4,780	CY	\$50	\$239,000	
Imported Borrow	200	CY	\$70	\$14,000	
Clearing & Grubbing	1	LS	\$20,000	\$20,000	
Develop Water Supply	0	LS	\$0	\$0	
Top Soil Reapplication				\$0	
Stepped Slopes and Slope				\$0	
Rounding (Contour Grading)				\$0	
			Subtotal Earthwork:		\$273,000
<b>Section 2 - Pavement Structural Section*</b>					
PCC Pvmt <u>Depth</u>	0	CY	\$0	\$0	
PCC Pvmt <u>Depth</u>	0	CY	\$0	\$0	
Asphalt Concrete	3,030	Tons	\$140	\$424,200	
Lean Concrete Base	445	CY	\$244	\$108,580	
Cement-Treated Base	0	CY	\$0	\$0	
Aggregate Base	1,910	CY	\$58	\$110,780	
Treated Permeable Base	0	CY	\$0	\$0	
Aggregate Subbase	1,330	CY	\$58	\$77,140	
Pavement Reinforcing Fabric	0	FT <sup>2</sup>	\$0	\$0	
Edge Drains	0	FT	\$0	\$0	
				\$0	
			Subtotal Structural Section:		\$720,700
<b>Section 3 - Drainage</b>					
Large Drainage Facilities	0	LS	\$0	\$0	
Storm Drains	0		\$0	\$0	
Pumping Plants	0		\$0	\$0	
Project Drainage	1	LS	\$30,000	\$30,000	
(X-Drains, overside, etc.)					
AC Dike	0	FT	\$0	\$0	
CMP	0	FT	\$0	\$0	
RCP	0	FT	\$0	\$0	
			Subtotal Drainage:		\$30,000

\* Reference sketch showing typical pavement structural section elements of the roadway. Include (if available) T.I., R-Value and date when tests were performed.

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

<u>Section 4 - Specialty Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Retaining Walls	1	LS	\$1,410,000	\$1,410,000	
Conc Median Barriers	980	LF	\$100	\$98,000	
Guardrails	880	LF	\$40	\$35,200	
Equipment/Animal Passes	0		\$0	\$0	
Water Pollution Control	1	LS	\$0	\$0	
Environmental Permits	1	LS	\$6,000	\$6,000	
Biological Monitoring & Veget	1	LS	\$50,000	\$50,000	
Resident Engineer Office	1	LS	\$27,600	\$27,600	
	0		\$0	\$0	
	0	LS	\$0	\$0	
				\$0	
			Subtotal Specialty Items:		\$1,626,800

<u>Section 5 - Traffic Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Lighting	0	LS	\$0	\$0	
Traffic Delineation	1	LS	\$14,820	\$14,820	
COZEEP	1	LS	\$40,200	\$40,200	
Overhead Sign Structures	0	LS	\$0	\$0	
Roadside Signs	1	LS	\$46,000	\$46,000	
Traffic Control Systems	0	LS	\$0	\$0	
Traffic Management Plan	1	LS	\$5,000	\$5,000	
Construction Area Signs	1	LS	\$17,250	\$17,250	
Traffic Handling (CMS)	1	LS	\$18,400	\$18,400	
Temporary Detection System	0	LS	\$0	\$0	
Staging	0	LS	\$0	\$0	
Maintain Traffic	1	LS	\$27,600	\$27,600	
Public Awareness	1	LS	\$25,000	\$25,000	
ITS	1	LS	\$25,000	\$25,000	
			Subtotal Traffic items:		\$219,270

TOTAL ROADWAY ITEMS Sections 1 thru 5 \$2,869,770



**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**III. ROADWAY ADDITIONS**

Section 8 - Minor Items

			<u>Item Cost</u>	<u>Section Cost</u>
	<u>\$3,643,370</u>	x	<u>0.10</u>	=
	(Subtotal Sections 1 thru 7)		(5 to 10%)	
				= <u>\$364,337</u>

Minor Items: \$364,337

Section 9 - Roadway Mobilization

	<u>\$4,007,707</u>	x	<u>0.10</u>	=
	(Subtotal Sections 1 thru 8)		(10%)	
				= <u>\$400,771</u>

Roadway Mobilization: \$400,771

Section 10 - Supplemental Work & Contingencies

Supplemental Work

	<u>\$4,007,707</u>	x	<u>0.10</u>	=
	(Subtotal Sections 1 thru 8)		(5 to 10%)	
				= <u>\$400,771</u>

Contingencies

	<u>\$4,007,707</u>	x	<u>0.25</u>	=
	(Subtotal Sections 1 thru 8)		(**%)	
				= <u>\$1,001,927</u>

Supplemental Work & Contingencies: \$1,402,697

TOTAL ROADWAY ADDITIONS Sections 8 thru 10: \$2,167,805

TOTAL ROADWAY: \$5,811,175  
 (Subtotal Sections 1 thru 10)

Estimate Prepared by: Kyle Birch  
 (Print or Type Name)

Phone: 805-549-3649 07/08/08  
 (Date)

Estimate Checked by: W O'Halloran  
 (Print or Type Name)

Phone: 549-3681 07/08/08  
 (Date)

\*\*Use appropriate percentage per PDPM, Part 3 Chapter 20.  
<http://www.dot.ca.gov/hq/oppd/pdpm/pdpm.htm> - pdpm

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**II. STRUCTURE ITEMS**

	STRUCTURE		
	No. 1	No. 2	No. 3
Bridge Name	_____	_____	_____
Structure Type	_____	_____	_____
Width (out to out) - (ft)	_____	0	0
Span Length - (ft)	_____	0	0
Total Area - ft <sup>2</sup>	_____	0	0
Footing Type (pile/spread)	_____	_____	_____
Cost Per ft <sup>2</sup> (incl. 10% mobilization & 25% contingencies)	_____	\$0	\$0
Total Cost for Structure	\$0	\$0	\$0
Other	\$0	\$0	\$0

\* Add additional structures as necessary

SUBTOTAL STRUCTURES ITEMS \_\_\_\_\_ \$0

Railroad Related Costs (Not incl. in R/W Est) \_\_\_\_\_

\$0

TOTAL STRUCTURES ITEMS \_\_\_\_\_ \$0

**COMMENTS:**

Estimate  
 Prepared by: \_\_\_\_\_  
 (Print or Type Name)

Phone: \_\_\_\_\_

07/08/08  
 (Date)

(If appropriate, attach additional pages as backup)

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**III. RIGHT OF WAY ITEMS**

	Current Values (Future Use)	Escalation Rates		Escalated Values*
Acquisition, including excess lands and damages to remainder(s) and Goodwill	\$0	0.0%	-	\$0
Utility Relocation (State share)	\$33,125	5.0%	-	\$34,781
Permit fees	\$7,500	6.0%	-	\$7,950
RAP	\$0	0.0%	-	\$0
Title and Escrow Fees	\$0	0.0%	-	\$0
Construction Contract Work	\$0	0.0%	-	\$0
	<u>\$40,625</u>			<u>\$42,731</u>
	<b>TOTAL RIGHT OF WAY**</b>			<b>ESCALLATED VALUE*</b>

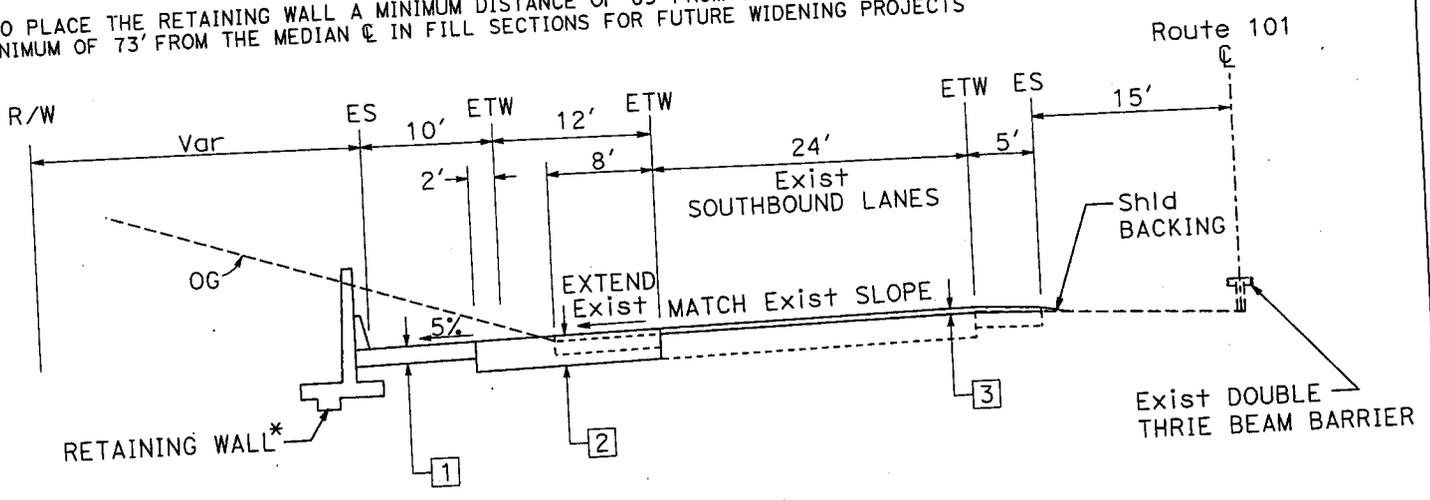
Date to which Values are Escalated: 2012

\* Escalated to assumed year of advertising. Values do not include 25% Contingency  
 \*\* Current total value for use on Sheet 1

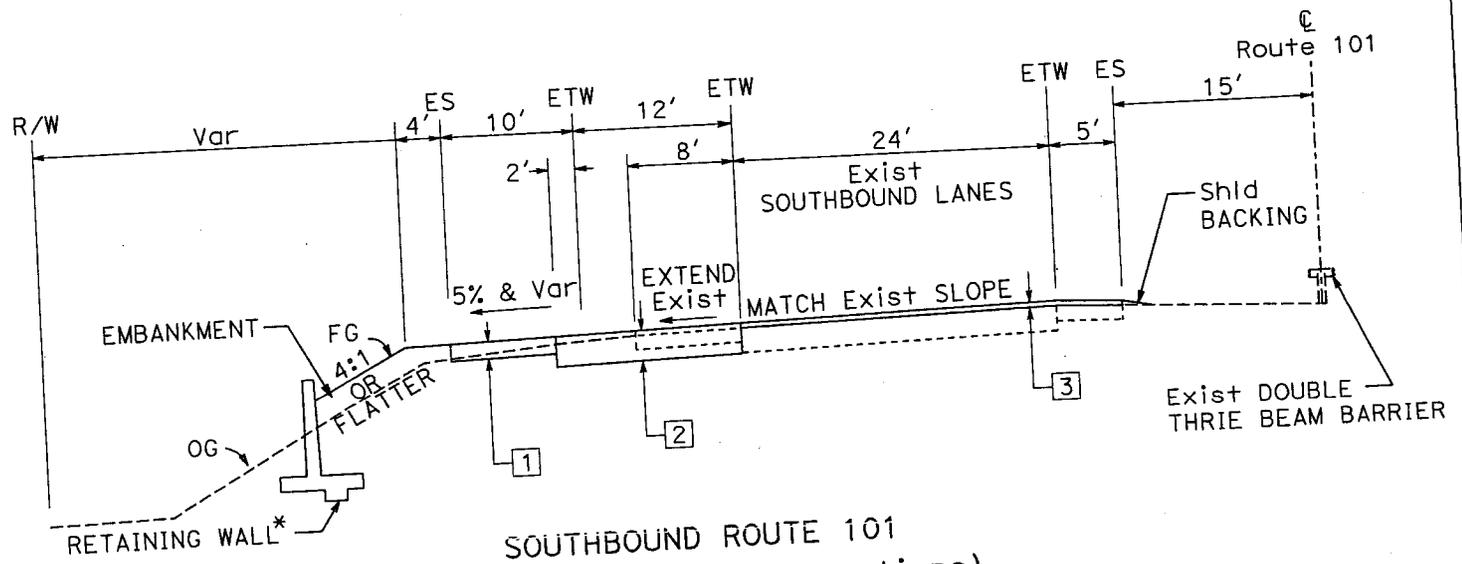
Estimate  
 Prepared by: \_\_\_\_\_ Phone: \_\_\_\_\_ 07/08/08  
 (Print or Type Name) (Date)

(If appropriate, attach additional pages and backup including Right of Way Data Sheet and Environmental Mitigation and Compliance Cost Estimate Sheet).

\* NEED TO PLACE THE RETAINING WALL A MINIMUM DISTANCE OF 69' FROM THE MEDIAN  $\text{\textcircled{C}}$  IN CUT SECTIONS AND A MINIMUM OF 73' FROM THE MEDIAN  $\text{\textcircled{C}}$  IN FILL SECTIONS FOR FUTURE WIDENING PROJECTS



SOUTHBOUND ROUTE 101  
CLIMBING LANE (@ cut sections)  
STA 14+72 to 51+50



SOUTHBOUND ROUTE 101  
CLIMBING LANE (@ fill sections)  
STA 13+20 to 14+72

TYPICAL STRUCTURAL SECTIONS

- 1 - 0.40 HMA Type A  
1.15 AB Class 2
- 2 - 0.55 HMA Type A  
0.50 Lean Concrete Base  
1.50 ASB Class 4
- 3 - 0.15 HMA Type A

**TYPICAL CROSS SECTIONS  
HALCYON/OAK PARK OPS IMPROVEMENTS  
RTE 101 (PM 13.4/14.7)  
ALTERNATIVE 3**

NO SCALE

ATTACHMENT D

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**PROJECT DESCRIPTION:**

**Limits:** In San Luis Obispo County on Route 101 Southbound from Halcyon Rd Southbound off-ramp to Oak Park Blvd Southbound on-ramp (PM 13.4/14.7)

**Proposed Improvement:**  
 (Scope of Work) Widen southbound Route 101 to construct a 0.6-mile climbing lane between the Halcyon Rd and Oak Park Blvd Interchanges. Install retaining walls.

**Alternative:** Alternative #3

**SUMMARY OF PROJECT COST ESTIMATE**

I. ROADWAY ITEMS	Sections 1 - 5	\$ 2,971,510
II. ROADSIDE ITEMS	Sections 6 - 7	\$ 931,600
III. ROADWAY ADDITIONS	Sections 8 - 10	\$ 2,322,350
TOTAL ROADWAY	Total of Sections 1 - 10 shown above	\$ 6,230,000
TOTAL STRUCTURES		\$ 0
	SUBTOTAL CONSTRUCTION COSTS	\$ 6,230,000
	TOTAL RIGHT OF WAY ITEMS (Not Escallated)	\$ 40,625
	TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ 6,300,000

Reviewed by District Program Manager: *Claudio G. Grijalva* (Signature) 9-25-08 (Date)

Approved by Project Manager: *Amy Bonatello* (Signature) 9/3/06 (Date)

Phone Number: (805) 549-3014

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**I. ROADWAY ITEMS**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
<b>Section 1 - Earthwork</b>					
Roadway Excavation	6,100	CY	\$45	\$274,500	
Imported Borrow	400	CY	\$65	\$26,000	
Clearing & Grubbing	1	LS	\$30,000	\$30,000	
Develop Water Supply	0	LS	\$0	\$0	
Top Soil Reapplication				\$0	
Stepped Slopes and Slope				\$0	
Rounding (Contour Grading)				\$0	
			<b>Subtotal Earthwork:</b>	<b>\$330,500</b>	
<b>Section 2 - Pavement Structural Section*</b>					
PCC Pvmnt	0	CY	\$0	\$0	
PCC Pvmnt	0	CY	\$0	\$0	
Asphalt Concrete	3,925	Tons	\$135	\$529,875	
Lean Concrete Base	990	CY	\$244	\$241,560	
Cement-Treated Base	0	CY	\$0	\$0	
Aggregate Base	1,240	CY	\$58	\$71,920	
Treated Permeable Base	0	CY	\$0	\$0	
Aggregate Subbase	2,960	CY	\$58	\$171,680	
Pavement Reinforcing Fabric	0	FT <sup>2</sup>	\$0	\$0	
Edge Drains	0	FT	\$0	\$0	
				\$0	
				\$0	
			<b>Subtotal Structural Section:</b>	<b>\$1,015,035</b>	
<b>Section 3 - Drainage</b>					
Large Drainage Facilities	0	LS	\$0	\$0	
Storm Drains	0		\$0	\$0	
Pumping Plants	0		\$0	\$0	
Project Drainage (X-Drains, overside, etc.)	1	LS	\$30,000	\$30,000	
AC Dike	0	FT	\$0	\$0	
CMP	0	FT	\$0	\$0	
RCP	0	FT	\$0	\$0	
			<b>Subtotal Drainage:</b>	<b>\$30,000</b>	

\* Reference sketch showing typical pavement structural section elements of the roadway. Include (if available) T.I., R-Value and date when tests were performed.

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

<u>Section 4 - Specialty Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Retaining Walls	1	LS	\$1,302,000	\$1,302,000	
Noise Barriers	0		\$0	\$0	
Barriers and Guardrails	150	LF	\$50	\$7,500	
Equipment/Animal Passes	0		\$0	\$0	
Water Pollution Control	1	LS	\$0	\$0	
Environmental Permits	1	LS	\$6,000	\$6,000	
Biological Monitoring & Vegeta	1	LS	\$50,000	\$50,000	
Resident Engineer Office	1	LS	\$25,500	\$25,500	
	0		\$0	\$0	
	0	LS	\$0	\$0	
				\$0	
				<b>Subtotal Specialty Items:</b>	<b>\$1,391,000</b>

<u>Section 5 - Traffic Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Lighting	0	LS	\$0	\$0	
Traffic Delineation	1	LS	\$18,525	\$18,525	
COZEEP	1	LS	\$39,000	\$39,000	
Overhead Sign Structures	0	LS	\$0	\$0	
Roadside Signs	1	LS	\$46,000	\$46,000	
Traffic Control Systems	0	LS	\$0	\$0	
Traffic Management Plan	1	LS	\$5,000	\$5,000	
Construction Area Signs	1	LS	\$17,250	\$17,250	
Traffic Handling (CMS)	1	LS	\$17,000	\$17,000	
Temporary Detection System	0	LS	\$0	\$0	
Staging	0	LS	\$0	\$0	
Maintain Traffic	1	LS	\$12,200	\$12,200	
Public Awareness	1	LS	\$25,000	\$25,000	
ITS	1	LS	\$25,000	\$25,000	
				<b>Subtotal Traffic Items:</b>	<b>\$204,975</b>

**TOTAL ROADWAY ITEMS Sections 1 thru 5** \$2,971,510

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-OH371K  
 Program Code: 20.20.075.600

**II. ROADSIDE ITEMS**

<u>Section 6 Planting and Irrigatio</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Highway Planting	1	LS	\$185,000	\$185,000	
Plant Establishment (3 yr)	1	LS	\$185,000	\$185,000	
Irrigation System	1	LS	\$350,000	\$350,000	
Supplemental Work Items	1	LS	\$20,000	\$20,000	
Facilities	0		\$0	\$0	
Irrigation Corssovers	0		\$0	\$0	
Structural Aesthetics	1	LS	\$168,000	\$168,000	
	0	LS	\$0	\$0	
	0		\$0	\$0	
	0	LS	\$0	\$0	
	0		\$0	\$0	
<b>Subtotal Planting and Irrigation Section:</b>					<b>\$908,000</b>

Section 7: Roadside Management and Safety Section

Vegetation Control Treatments	0	LS	\$0	\$0	
Gore Area Pavement	0	LS	\$0	\$0	
Pavement beyond the gore are	0	LS	\$0	\$0	
Miscellaneous Paving	0	LS	\$0	\$0	
Errosion Control	1	LS	\$23,600	\$23,600	
Slope Protection	0	LS	\$0	\$0	
Side Slopes/Embankment Slope	0	LS	\$0	\$0	
Maintenance Vehicle Pullouts	0	LS	\$0	\$0	
Off-freeway Access (gates, stairways, etc.)	0	LS	\$0	\$0	
Roadside Facilities (Vista Points, Transit, Park & Ride)	0	LS	\$0	\$0	
Relocating roadside facilities/features	0	LS	\$0	\$0	
	0	LS	\$0	\$0	
	0	LS	\$0	\$0	
	0	LS	\$0	\$0	
<b>Subtotal Roadside Management and Safety Section:</b>					<b>\$23,600</b>

**TOTAL ROADSIDE ITEMS Sections 6 thru 7** \$931,600

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**III. ROADWAY ADDITIONS**

Section 8 - Minor Items

			<u>Item Cost</u>	<u>Section Cost</u>
	\$3,903,110	x	<u>0.10</u>	= <u>\$390,311</u>
	(Subtotal Sections 1 thru 7)		(5 to 10%)	

Minor Items: \$390,311

Section 9 - Roadway Mobilization

	\$4,293,421	x	<u>0.10</u>	= <u>\$429,342</u>
	(Subtotal Sections 1 thru 8)		(10%)	

Roadway Mobilization: \$429,342

Section 10 - Supplemental Work & Contingencies

Supplemental Work

	\$4,293,421	x	<u>0.10</u>	= <u>\$429,342</u>
	(Subtotal Sections 1 thru 8)		(5 to 10%)	

Contingencies

	\$4,293,421	x	<u>0.25</u>	= <u>\$1,073,355</u>
	(Subtotal Sections 1 thru 8)		(**%)	

Supplemental Work & Contingencies: \$1,502,697

TOTAL ROADWAY ADDITIONS Sections 8 thru 10: \$2,322,350

TOTAL ROADWAY: \$6,225,460  
 (Subtotal Sections 1 thru 10)

Estimate  
 Prepared by:

Kyle Birch  
 (Print or Type Name)

Phone: 805-549-3649      07/08/08  
 (Date)

Estimate  
 Checked by:

WPHallor  
 (Print or Type Name)

Phone: 549-3681      07/08/08  
 (Date)

\*\*Use appropriate percentage per PDPM, Part 3 Chapter 20.  
<http://www.dot.ca.gov/hq/oppd/pdpm/pdpm.htm> - pdpm

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**II. STRUCTURE ITEMS**

	STRUCTURE		
	No. 1	No. 2	No. 3
Bridge Name	_____	_____	_____
Structure Type	_____	_____	_____
Width (out to out) - (ft)	_____	0	0
Span Length - (ft)	_____	0	0
Total Area - ft <sup>2</sup>	_____	0	0
Footing Type (pile/spread)	_____	_____	_____
Cost Per ft <sup>2</sup> (incl. 10% mobilization & 25% contingencies)	_____	\$0	\$0
Total Cost for Structure	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Other	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>

\* Add additional structures as necessary

SUBTOTAL STRUCTURES ITEMS \_\_\_\_\_ \$0

Railroad Related Costs (Not incl. in R/W Est) \_\_\_\_\_ \$0

TOTAL STRUCTURES ITEMS \_\_\_\_\_ \$0

**COMMENTS:**

Estimate  
 Prepared by: \_\_\_\_\_  
 (Print or Type Name)

Phone: \_\_\_\_\_

07/08/08  
 (Date)

(If appropriate, attach additional pages as backup)

**PROJECT STUDY REPORT COST ESTIMATE**



Dist-Co-Rte: 05-SLO-101  
 PM: PM 13.4/14.7  
 EA: 05-0H371K  
 Program Code: 20.20.075.600

**III. RIGHT OF WAY ITEMS**

	Current Values (Future Use)	<u>Escalation Rates</u>	-	Escalated Values*
Acquisition, including excess lands and damages to remainder(s) and Goodwill	\$0	0.0%	-	\$0
Utility Relocation (State share)	\$33,125	5.0%	-	\$34,781
Permit Fees	\$7,500	6.0%	-	\$7,950
RAP	\$0	0.0%	-	\$0
Title and Escrow Fees	\$0	0.0%	-	\$0
Construction Contract Work	\$0	0.0%	-	\$0
	<u>\$40,625</u>			<u>\$42,731</u>
	<b>TOTAL RIGHT OF WAY**</b>			<b>ESCALLATED VALUE*</b>

Date to which Values are Escalated: 2012

\* Escalated to assumed year of advertising. Values do not include 25% Contingency  
 \*\* Current total value for use on Sheet 1

Estimate  
 Prepared by: \_\_\_\_\_ Phone: \_\_\_\_\_ 07/08/08  
 (Print or Type Name) (Date)

(If appropriate, attach additional pages and backup including Right of Way Data Sheet and Environmental Mitigation and Compliance Cost Estimate Sheet).



## Preliminary Environmental Analysis Report

### Project Information

District 05 County SLO Route 101 Post Mile 13.4/14.7 EA 0H371K

Project Title: SB Auxiliary Lane between Halcyon Road and Oak Park Blvd.

Project Manager Amy Donatello Phone # (805) 549-3014

Project Engineer Wendy O'Halloran Phone # (805) 549-3681

Environmental Manager Yvonne Hoffmann Phone # (805) 542-4759

Environmental Planner Generalist Mike Jacob Phone # (805) 542-4685

### Project Description

**Purpose and Need:** The purpose of this project is to improve the weaving operations of Route 101, thereby restoring route capacity. Within the project limits vehicles currently experience congestion and operate at low Level of Service (LOS) during peak hour commutes. These operational deficiencies are located at weaving sections near the interchanges. Operational inefficiency and loss of route capacity at this location can be linked to non-standard deceleration length of the Halcyon Road off-ramp and the climbing grade south of the Oak Park Boulevard on-ramp.

**Description of work:** Construct a southbound auxiliary lane/climbing lane between Halcyon Road and Oak Park Blvd. in the city of Arroyo Grande. There are four alternatives: three Build Alternatives and a No-Build Alternative.

#### Alternative 1:

This alternative proposes to construct a 1.1 mile southbound auxiliary lane from the off-ramp at Halcyon Road to the on-ramp at Oak Park Blvd. This will require widening the roadway to the outside, constructing retaining walls, and modifying existing drainage systems. The Brisco Road Undercrossing will require widening to accommodate the auxiliary lane.

#### Alternative 2:

This alternative proposes to construct the auxiliary lane in two segments: a 1,000-foot auxiliary lane just north of the Halcyon Road off-ramp and a 1,000-foot auxiliary lane just south of the Oak Park Blvd. on-ramp. The 1,000-foot auxiliary lane segment north of the Halcyon Road off-ramp would be constructed by adding a lane in the median and shifting the two mainline lanes to the inside. A concrete median barrier would be installed.

The 1,000-foot auxiliary lane segment south of the Oak Park Blvd. on-ramp will require widening the roadway to the outside, constructing retaining walls, and modifying existing drainage systems. The additional lane in the median would enable the existing outside lane to be converted into the auxiliary lane. This alternative avoids the need to widen the Brisco Road Undercrossing.

Alternative 3:

This alternative proposes to construct a 0.6 mile southbound auxiliary lane from the on-ramp at Oak Park Blvd. to just north of the Brisco Road Undercrossing. This will require widening the roadway to the outside, constructing retaining walls, and modifying existing drainage systems. This alternative avoids the need to widen the Brisco Road Undercrossing.

Alternative 4:

No-Build Alternative: - This alternative would not make any changes to the existing conditions at the proposed project location. As traffic volumes along US Route 101 rise, congestion at this location would be expected to increase.

Funding

This project has been funded in the 2006 STIP (through PA&ED).

Anticipated Environmental Approval

CEQA

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

NEPA

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

PSR Summary Statement

The anticipated environmental document for the proposed project would be a Negative Declaration/Mitigated Negative Declaration/Categorical Exclusion. Caltrans would act as lead agency in the preparation of a CEQA document and the NEPA exclusion process. The final environmental determination is projected to occur 14 months from the start of the environmental studies. Assuming a "Begin Environmental" date of June 1, 2008, Project Approval and Environmental Document would be prepared by September 30, 2009.

The biological survey season for both federal and state endangered species is from January to September. The survey will take from 2-4 months to complete. A Phase I archaeological study to study construction access roads and staging areas beyond the existing right-of-way will take approximately 2 months to complete.

Assumptions and Risks

Assumptions:

An ND/MND/CE will be prepared if studies indicate potential impacts to species/wetlands/archaeology. The probability for this scenario is approximately 40%.

Risks:

Formal consultation is not anticipated for the project. If this changes, Biology hours and an extended schedule would be required for the preparation of a Biological Assessment and consultation with the appropriate agency.

At this time, only a Phase I Archaeology study is anticipated for the project. If this changes, additional Archaeology hours and an extended schedule would be required for Phase II studies.

**Mitigation**

**Right-of-Way Capital (050)**

Permit costs-\$6,000 (401, 1600, and Department of Fish and Game review fees)

**Construction Capital (050)**

Biology-\$50,000 for biological monitoring and vegetation.

**Disclaimer**

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

**Reviewed by:**

*Jennifer Taylor* <sup>GH</sup>  
\_\_\_\_\_  
Environmental Office Chief

*Amy Donatelli*  
\_\_\_\_\_  
Project Manager

Date: March 20, 2008

Date: March 21, 2008

**Environmental Technical Reports or Studies Required**

	Study	Document	N/A
Community Impact Study	0	0	X
Farmland	0	0	X
Section 4(f) Evaluation	0	0	X
Visual Resources	X	0	0
Water Quality	X	0	0
Floodplain Evaluation	X	0	0
Noise Study	X	0	0
Air Quality Study	X	0	0
Paleontology	0	0	X
Wild and Scenic River Consistency	0	0	X
Cumulative Impacts	X	0	0
<b>Cultural</b>			
ASR	X	X	0
HSR	0	0	X
HRER	0	0	X
HPSR	X	0	0
Section 106 / SHPO	X	0	0
Native American Coordination	X	0	X
Other			
Finding of Effect _____	0	0	X
Data Recovery Plan _____	0		X
<b>Hazardous Waste</b>			
ISA	X	0	0
PSI	0	0	X
Other			
ADL _____	0	X	0
<b>Biological</b>			
Endangered Species (Federal)	X	0	0
Endangered Species (State)	X	0	0
Species of Concern (CNPS, USFS, BLM, S, F)	0	0	X
Biological Assessment (USFWS, NMFS, State)	X	0	0
Wetlands	X	0	0
Invasive Species	0	X	0
Natural Environment Study	X	0	0
NEPA 404 Coordination	0	0	X
Other			
_____	0	0	0

**Permits**

401 Permit Coordination	X	O	O
404 Permit Coordination	X	O	O
1600 Permit Coordination	X	O	O
City/County Coastal Permit Coordination	O	O	X
State Coastal Permit Coordination	O	O	X
NPDES Coordination	X	O	O
US Coast Guard (Section 10)	O	O	X

## Discussion of Technical Review

Socio-economic and Community Effects. The project is not expected to have any effects on the local community or the economy.

Farmlands. There are no farmland issues associated with the project.

4(f) Impacts. No impacts are anticipated.

Visual Effects. A Visual Impact Assessment (VIA) will be required for the proposed project. A preliminary VIA states that visual impacts from the project could occur related to community character, depending on the extent of retaining walls and landscape removal. The estimated duration of the assessment is three months. The estimate of possible mitigation costs is \$50,000 for aesthetic treatment to retaining walls.

Water Quality and Erosion. A Water Quality Assessment (WQA) study, National Pollutant Discharge Elimination System (NPDES) permit, Notification of Construction (NOC), and Water Pollution Control Plan (WPCP) are anticipated for this project.

Floodplain. The project is in a 100-year flood zone. A detailed flood zone study may be required.

Air. Short-term effects will be a temporary increase in air pollutant emissions during the construction period. Caltrans Standard Specifications Chapter 7 for controlling dust and air pollution emissions will be implemented at the construction site.

Noise. The proposed work is not considered a Type I project. Minimization measures to address short-term noise impacts from construction are anticipated.

Cultural Resources. No cultural resources have been recorded within the right-of-way. A Phase I archaeological study is necessary for the areas outside of the right-of-way; it will take 2 months to complete and is estimated to cost \$15,000. If sites are discovered within the APE a Phase II study will be necessary which may take up to one year to complete and is estimated to cost between \$45,000 and \$89,000.

Biological Resources. Surveys for sensitive species and habitat are required. Survey season is from January to September, and biological studies will take from 2-4 months. Mitigation may be required and could include swallow netting on the overcrossing and special ESAs around wetlands if drainage improvements affect these areas. Permits could include 401, 404, and 1600.

Hazardous Waste. Based on the ISA, the possibility of Aerially Deposited Lead (ADL) may require a Preliminary Site Investigation (PSI) to determine the level of lead contamination. A Section 1601 agreement would be required if there were the potential that AC materials would reach waters of the State during construction.

Wild and Scenic River. There is no wild or scenic river associated with this project.

Native American Coordination. Native American coordination and consultation may be required.

Wetlands. A delineation of jurisdictional wetlands and waters of the United States may be required.

Invasive Pest Plant Species. Executive Order 13112 requires that any Federal action may not cause or promote the spread or introduction of invasive species.

Right-of-Way Relocation or Staging Area. Unknown at this time; these areas must be identified prior to initiating environmental studies.

Coastal Zone. This project is not within City or County coastal zone jurisdiction.

**List of Preparers**

Biological Review by Lisa Schicker	Date 10-26-07
Cultural Review by Tom Wheeler	Date 02-29-08
Air Quality and Noise Reviews by Wayne W. Mills	Date 10-19-07
Water Quality and Hazardous Reviews by Isaac Leyva	Date 11-06-07
Paleontology Review by Isaac Leyva	Date 11-14-07
Visual Review by Bob Carr	Date 02-15-08
Floodplain Review by Mark Cresswell	Date 11-20-07
Preliminary Environmental Assessment Report by Mike Jacob	Date 03-03-08

**Central Region Environmental Division  
Mitigation Cost Compliance Estimate Form**

**PEAR**     **Draft ED**     **Final ED**     **PS&E**

Dist.-Co.-Rte.-PM: SLO 101 13.4/14.7

EA: 0H371K

Project Name: SB AG Aux Lane Oak Park & Halcyon

Alternatives: 1-3

Project Description: Construct SB climbing/aux lane between Halcyon and Oak Park in AG

Environmental Manager: Yvonne Hoffmann

Phone Number: 542-4759

Environmental Planner: Mike Jacob

Phone Number: 542-4685

Project Manager: Amy Donatello

Phone Number: 549-3014

Design Manager: Wendy O'Halloran

Date: 01-15-08 (Revised 03-06-08)

Numbers are in thousands

	Right of Way Capital (Prior to Construction - Biology only) (050)	Construction Capital (During and Post Construction) (042)
Archaeological		0
Historical		0
Paleontology		0
Hazardous Waste		0
Noise		0
Biological		
Mitigation parcels (# of acres only)	0	
Mitigation Bank Credits (\$-amt)*	0	
Permit Costs		
401 Permit Fee	1.5	
404 Permit Fee	0	
1600 Permit Fee	2.5	
Coastal Development Permit Fee	0	
DFG Doc Review	2	
Other Biological monitoring and vegetation		50
<b>Total</b> (add only \$-amounts from Bio/Permits/Review fees)	6	50

- 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.

**Memorandum**

To: AMY DONATELLO  
SLO  
  
Attn WENDY O'HALLORAN  
SLO DESIGN II-B

Date: 6/30/2008  
File: CD 05 EA 0H371K Alt 1 REV  
Co SLO RTE 101

DESCRIPTION:  
OAK PARK/HALCYON OPS IMP AUXILIARY/CLIMBING LANE

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

Subject: RIGHT OF WAY DATA SHEET

We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated 4/30/2008

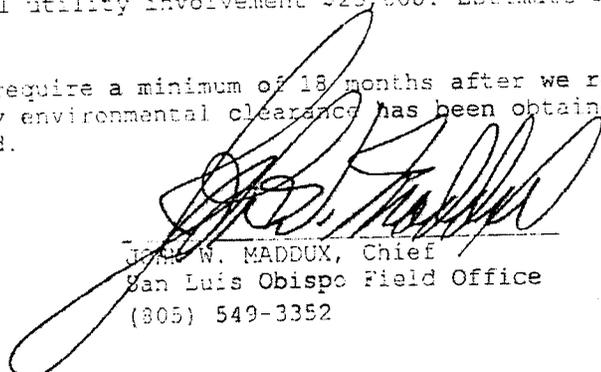
The following assumptions and limiting conditions were identified:

Appraisal

Utility

Highway 101 at this location is designated Freeway. Master Contracts would apply to determine liability for utility relocation. Utility verification plans will need to be requested for this project. Alt 1 proposes to construct SB aux lane from Oak Park to Halcyon. Encroachment Permit search indicates gas lines and oil pipeline crossing the right of way which could potentially conflict with the retaining wall footing. There is also the potential for conflicts with water lines and buried fiber optic cable. Potential conflict with underground gas lines at Briscoe Road if widening bridge. Estimate for potential utility involvement \$25,000. Estimate \$8,000 for postive location.

Right of Way Lead Time will require a minimum of 18 months after we receive certified Appraisal Maps, the necessary environmental clearance has been obtained, and freeway agreements have been approved.



JAMES W. MADDUX, Chief  
San Luis Obispo Field Office  
(805) 549-3352

### Right Of Way Cost Estimate

	Current Year 2008	Contingency Rate	Right of Way Escalation Rate	Escalated Year 2012
Acquisition:	\$0	25%	6%	\$0
Mitigation:	\$0	25%	6%	\$0
State Share of Utilities:	\$41,250	25%	5%	\$50,140
Expert Witness:	\$0	25%	6%	\$0
Relocation Assistance:	\$0	25%	6%	\$0
Demolition and Clearance:	\$0	25%	6%	\$0
Title and Escrow:	\$0	25%	6%	\$0
Condemnation:	\$0	25%	6%	\$0
Ad Signs:	\$0	25%	6%	\$0
Permit Fees:	\$7,500	25%	6%	\$9,469
<b>Total Current Value:</b>	<b>\$48,750</b>			<b>\$59,608</b>
If RW Cost Est fields are blank, Costs = \$0				
Estimated Construction Contract Work (CCW)	0	R/W LEAD TIME/Mo.	18	

Pot Hole	0
<b>Mitigation</b>	
Land	0
Bank	0
Permit Fee	0

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

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

### 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	0

### Utilities

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

EA: 05-0H371K ALT: 1 REV

	Parcel Area	Unit:
Total R/W Required:	0	Total R/W Cost: \$0
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.):  
 Permit fees based on MCCE form dated 1/15/08.

**General Description of Utility Involvement:**

Highway 101 at this location is designated Freeway. Master Contracts would apply to determine liability for utility relocation. Utility verification plans will need to be requested for this project. Alt 1 proposes to construct SB aux lane from Oak Park to Halcyon. Encroachment Permit search indicates gas lines and oil pipeline crossing the right of way which could potentially conflict with the retaining wall footing. There is also the potential for conflicts with water lines and buried fiber optic cable. Potential conflict with underground gas lines at Briscoe Road if widening bridge. Estimate for potential utility involvement \$25,000. Estimate \$8,000 for postive location.

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:

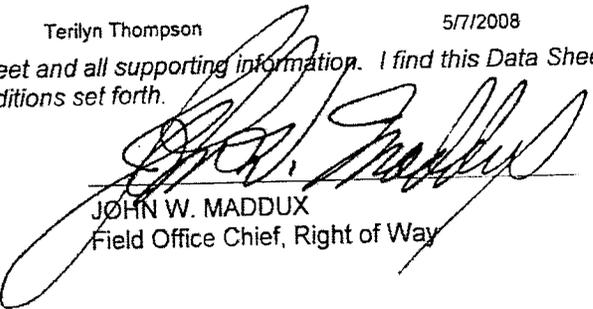
Are there any existing or potential airspace sites:

Are environmental mitigation parcels required:

**Data for evaluation provided by:**

Estimator:	NANCIE THOMAS	6/3/2008
Railroad Liason Agent:	SALLY A. HOPKINS	5/31/2008
Utiltiy Relocation Coordinator:	Terilyn Thompson	5/7/2008

*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.*

  
 JOHN W. MADDUX  
 Field Office Chief, Right of Way

Date  
 ENTERED PMCS 6/27/2008  
 BY: NANCIE THOMAS



# PDS Traffic Forecasting, Analysis and Operations Scoping Checklist

## Project Information

District 05 County SLO Route 101 Post Mile 13.4/14.7 EA 0H371K

## Project Description:

To improve the operations along Route 101 by analyzing the existing merge/diverge, weaving, and propose/design auxiliary climbing lane and utilizing freeway demand management facility.

Project Manager Amy Donatello  
Phone # (805) 549-3398  
Project Engineer Wendy D O'Halloran  
Phone # (805) 549-3681  
Traffic Forecasting Functional Manager Claudia Espinos  
Phone # (805) 549-3640  
Traffic Operations Functional Manager Paul McClintic  
Phone # (805) 549-3473

## Traffic Forecasting, Traffic Analysis Scoping

Operational improvements along San Luis Obispo County State Route 101. Improvement location were proposed as documented in the 2005 PDS Checklist (EA 0H370K) is now revised to focus on the Oak Park-Halcyon (Aux. Lane). The project could also includes CCTV, ramp-meter and MVDS (with associated service connections) at selected locations. For detail description of the improvement please see page 5-7 of 7.

Existing estimated year 2006 Peak Month AADT and Truck traffic census data for each improvement locations were listed as follows:

(Oak Park-Halcyon)-PM 13.4/14.7 ~ 79,000 AADT, Truck % = 8.8%(est.), future demand using the facilities will be needed to determine the facility capacity.

## Traffic Operations Scoping

All analysis must be based on updated traffic volume. Traffic volume/data collection effort will be needed.

## Project Screening

1. Project Features: New R/W? X Excavation or fill? X
2. Project Setting

- Existing Year
  - Design Year ( )
  - Interim Year ( )

Other:  
N/A

### Traffic Analysis

- Mainline LOS
  - Merge/Diverge LOS
    - Ramp Int. LOS
- Adjacent IC LOS
  - Ramp Metering (open)
  - Ramp Metering (later)
- Left/Right Turn Storage
  - Accident / Safety Analysis
    - Queues Analysis
- Construction Staging
  - Project Staging

Other:

For any lane closure analysis during any construction or project staging, please contact Jacques Van Zeverter in District 5 Traffic Management (805 594-6196).

Any ramp modification or upgrade needs to include future implementation of metering on interchange on-ramps by constructing fill for the ramps per Caltrans ramp meter design manual. These ramps should be designed to accommodate a future single mixed flow lane and HOV bypass lane (that can be striped at a later date when ramp meters are installed). In the interim, the on-ramps can be paved and striped for single mixed flow lane. Detector loops should be installed on the ramps that can be used for future metering.

### Traffic Management Systems

- Ramp Meters
  - HOV Ramp Bypass
    - Mainline HOV Lanes
- Detector Loops
  - Communication Networks (fiber optic, telephone, MDVS, etc.)
- Closed Circuit Television
  - Changeable Message Sign
  - Highway Advisory Radio

Other:

District 5 TMS Elements - June 2003 (Rev. Jan 2008)

TOS_TYPE	#	DIST	CO	RTE	PREFIX	PM	SUFFIX	DIR	LOCATION	EA	Comments
CCTV	39	5	SLO	101		12.50			Traffic Way	0H530k	
CCTV	40	5	SLO	101		13.20			Grand Ave	0H530k	
CCTV	41	5	SLO	101		13.80			Brisco Rd	0H530k	
CCTV	42	5	SLO	101		14.60			Oak Park Blvd	0H530k	
CCTV	43	5	SLO	101		19.80			Shell Beach Uc	0H530k	
CCTV	44	5	SLO	101		21.10			Avila Rd Uc	0H530k	
CCTV	45	5	SLO	101		22.30			San Luis Bay Dr	0H530k	
CCTV	46	5	SLO	101		24.30			So Higuera St	0H530k	
CCTV	47	5	SLO	101		28.10			Marsh St	0H530k	
CCTV	48	5	SLO	101		29.70			Grand SB Onramp	0H530k	
CCTV		5	SLO	101		13.47		SB	Grand Ave SB offramp	485621	on existing cantilever sign
CCTV		5	SLO	101		14.34		NB	Camino Mercado	485621	
CCTV		5	SLO	101		19.86		SB	Spyglass Dr	485611	SB at end of bridge rail
CCTV		5	SLO	101		20.96		NB	Avila Beach Dr	485611	NB 30' from ETW
CCTV		5	SLO	101		22.07		SB	San Luis Bay Dr	485611	SB onramp 30' from ETW
CCTV		5	SLO	101		24.32		NB	S. Higuera St	0H1901	NB near OC
CCTV		5	SLO	101		25.97		SB	Los Osos Valley Rd	0H1901	near OC structure SB
CCTV		5	SLO	101		27.53		SB	Madonna Rd	0H1901	SB next to south-side of the OC structure
CCTV		5	SLO	101		28.06		SB	Marsh St	0H1901	SB next to new Maintenance Vehicle Pullout construct in this
CCTV		5	SLO	101		30.08		NB	Monterey St	0H1901	

District 5 TMS Elements - June 2003 (Rev. Jan 2008)

TOS_TYPE	#	DIST	CO	RTE	PREFIX	PM	SUFFIX	DIR	LOCATION	EA	Comments
MVDS			5	SLO	101	13.47		BO	Grand Ave SB offramp	485621	on existing cantilever sign
MVDS			5	SLO	101	13.73		BO	Halcyon Rd NB offramp	485621	
MVDS			5	SLO	101	14.34		BO	Camino Mercado	485621	30' from NB ETW?
MVDS			5	SLO	101	14.78		BO	Oak Park Blvd NB onramp	485621	
MVDS			5	SLO	101	15.23		BO	4th St prior to NB offramp	485621	
MVDS			5	SLO	101	15.75		BO	4th St NB onramp	485621	
MVDS			5	SLO	101	16.21		BO	Price St NB offramp	485621	on existing cantilever sign
MVDS			5	SLO	101	16.71		BO	Price St OC	485621	
MVDS			5	SLO	101	17.24		BO	Route 1 Jct SB Exit	485621	on existing pole w/ CCTV
MVDS			5	SLO	101	17.92		BO	Shell Beach Rd NB onramp	485621	
MVDS			5	SLO	101	18.3		BO	Mattie Rd	485621	30' from NB ETW
MVDS			5	SLO	101	R	19.86	BO	Spyglass Dr	485611	SB at end of bridge rail
MVDS			5	SLO	101	R	20.96	BO	Avila Beach Dr	485611	NB 30' from ETW
MVDS			5	SLO	101	R	22.07	BO	San Luis Bay Dr	485611	SB onramp 30' from ETW
MVDS			5	SLO	101	R	24.32	BO	S. Higuera St OC	0H1901	NB near OC
MVDS			5	SLO	101	R	24.86	BO	S. Higuera St NB onramp	0H1901	
MVDS			5	SLO	101		25.88	BO	Los Osos Valley Rd SB onramp	0H1901	
MVDS			5	SLO	101		26.37	BO	Between LOVR and Prado Rd	0H1901	on existing CMS site
MVDS			5	SLO	101		26.92	BO	Prado Rd NB onramp	0H1901	
MVDS			5	SLO	101		27.53	BO	Madonna Rd	0H1901	s/o of the OC structure
MVDS			5	SLO	101		28.06	BO	Marsh St	0H1901	next to new Maintenance Vehicle Pullout installed in this
MVDS			5	SLO	101		28.79		Broad St		MVDS to be installed on CCTV Type 40 pole on EA 05-0H8901 (currently in construction) next to location where new Maintenance Vehicle Pullout on SB on ramp to be installed in this 0H1901 project
MVDS			5	SLO	101			BO		0H1901	
MVDS			5	SLO	101		29.2	BO	Toro St NB offramp	0H1901	New VDS30 pole at NB exit ramp
MVDS			5	SLO	101		29.63		Grand St NB offramp		next to existing cantilever sign at the NB Grand St exit (across 101 from new CCTV to be installed on SB 101 hillside on EA 05-0H8901)
MVDS			5	SLO	101			BO		0H1901	
MVDS			5	SLO	101		30.08	BO	Monterey St NB	0H1901	

# DISTRICT 5

## TRAFFIC MANAGEMENT PLAN DATA SHEET/CHECKLIST

District / EA: 05/0H371K  
 Project Engineer: Wendy O'Halloran  
 Date Prepared: 1/23/2008

Co.-Rte-PM: SLO-101-13.4/14.7  
 Description: Operational Improvements - Phase 2  
 Working Days: 118 Days

Check each box and reference your attachments to the item(s) number(s) shown on the list.

	Required	Recommended	Not required	COMMENTS
--	----------	-------------	--------------	----------

**1.0 Public Information**

- 1.1 Public Awareness Campaign
- 1.2 Other Strategies

	x			Include \$25,000
--	---	--	--	------------------

**2.0 Motorist Information Strategies**

- 2.1 Changeable Message Signs - Portable
- 2.2 Construction Area Signs
- 2.3 Highway Advisory Radio (fixed and mobile)
- 2.4 Planned Lane Closure Web Site
- 2.5 Caltrans Highway Information Network (CHIN)

	x			Provide one CMS @ \$.200/day
	x			
			x	
	x			Construction to provide information to TMC
			x	Construction to provide information to TMC

**3.0 Incident Management**

- 3.1 COZEEP
- 3.2 Freeway Service Patrol

	x			Estimate \$75/hour
			x	

**4.0 Traffic Management Strategies**

- 4.1 Lane/Ramp Closures Charts
- 4.2 Total Facility Closure
- 4.3 Coordination with adjacent construction
- 4.4 Contingency Plan
  - 4.4.1 Material/Equipment Standby
  - 4.4.2 Emergency Detour Plan
  - 4.4.3 Emergency Notification Plan
- 4.5 SSP 12-220 and Others
- 4.6 Other Strategies:

SSP 12-128

(Include \$300/day for Maintain Traffic.)

	x			To be provided @ PS&E
			x	
		x		
	x			Standard SSP
	x			Construction/Contractor to provide
	x			Construction/Contractor to provide
	x			Construction/Contractor to provide
	x			
	x			No Special Days
	x			

**5.0 Anticipated Delays**

- 5.1 Lane Closure Review Committee (for anticipated delays over 30 minutes)
- 5.2 Planned freeway closures

			x	
			x	

**5.3 Minimal delay anticipated -**  
no further action required

yes     no    If no, explain additional measures on attached sheet.

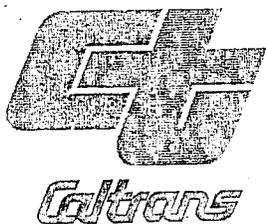
**6.0 Placement of CMS**

	x			At direction of RE.
--	---	--	--	---------------------

Shayne Sandeman

Prepared by:

Long Form - Storm Water Data Report



Dist-County-Route: 05-SLO-101

Post Mile (Kilometer Post) Limits: PM 13.4/14.7

Project Type: Operational Improvement

EA: 05-0H371

RU: 06-233

Program Identification: STP

Phase:  PID  PA/ED  PS&E

Regional Water Quality Control Board(s): Central Coast Region #3

Is the project required to consider incorporating Treatment BMPs?  Yes  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: <sup>3.63</sup>~~3.70~~ Acres

Estimated Construction Start Date: 3/2013 Construction Completion Date: 10/2013

Notification of Construction (NOC) Date to be submitted: 30 days or more prior to Construction Start

Notification of ADL reuse (if Yes, provide date)  Yes Date: \_\_\_\_\_  No

Separate Dewatering Permit (if Yes, permit number)  Yes Permit #: \_\_\_\_\_  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.

Signature: JoAnne G. Engelmann Date: 8.5.08  
JoAnne G. Engelmann, Registered Project Engineer

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

Signature: Amy Donatello Date: 8-13-08  
Amy Donatello, Project Manager

Signature: David Perez Date: 8-18-08  
David Perez, Designated Maintenance Representative

Signature: Dennis Reeves Date: 8/20/08  
Dennis Reeves, Designated Landscape Architect Representative

Signature: Pete Riegeluth Date: 8/27/08  
Pete Riegeluth, District/Regional SW Coordinator or Designee

FOR MARISSA NISHIKAWA



# Utility Form

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District 05 EA OH371k Alt 1 REV

Co	RTE	PM
SLO	101	13.4 - 14.7

Contingency Rate 25% Escalation Rate 5% Number of Esc Yrs 4 Escalated Year 2012  
 Contingency value Total  
 State share of Relocation Cost 0 0 0  
 (Escalated value)

U4-1	0	U5-7	8
U4-2	0	U5-8	0
U4-3	2	U5-9	2
U4-4	0		

YES Are Utility or other Rights of Way affected? (If yes, please complete the following)

Electric: PG&E Gas: Southern CA Gas Telephone: AT&T Cable TV: Charter Communications  
 Water: SLO County, City of Pismo Sewer: SLO County, city of PB Fiber Optics: AT&T Other: ConocoPhillips - PM 14.0/15.0

### Additional Information concerning Utility involvements on this project

Highway 101 at this location is designated Freeway. Master Contracts would apply to determine liability for utility relocation. Utility verification plans will need to be requested for this project. Alt 1 proposes to construct SB aux lane from Oak Park to Halcyon. Encroachment Permit search indicates gas lines and oil pipeline crossing the right of way which could potentially conflict with the retaining wall footing. There is also the potential for conflicts with water lines and buried fiber optic cable. Potential conflict with underground gas lines at Briscoe Road if widening bridge. Estimate for potential utility involvement \$25,000. Estimate \$8,000 for postive location.

### Assumptions and limiting conditions identified

Are verification plans required? If yes, how many months 18



**Memorandum**

To: AMY DONATELLO  
SLO

Attn WENDY O'HALLORAN  
SLO DESIGN II-B

Date: 6/30/2008

File: CD 05 EA 08371K Alt 2 REV  
Co SLO RTE 101

DESCRIPTION:  
OAK PARK/HALCYON OPS IMP AUXILIARY/CLIMBING LANE

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

Subject: RIGHT OF WAY DATA SHEET

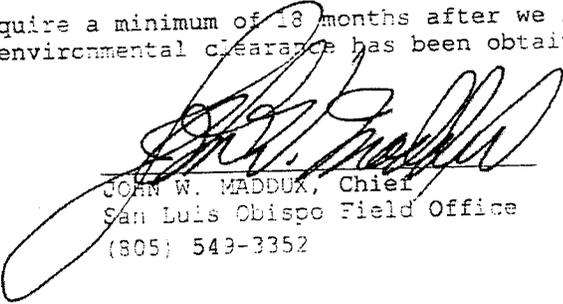
We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated 4/30/2008

The following assumptions and limiting conditions were identified:

Appraisal

Utility

Right of Way Lead Time will require a minimum of 18 months after we receive certified Appraisal Maps, the necessary environmental clearance has been obtained, and freeway agreements have been approved.



JOHN W. MADDUX, Chief  
San Luis Obispo Field Office  
(805) 543-3352

EA: 05-0H371K  
 ALT: 2 REV

CO/RTE/PM-PM (Rte 1 and Rte 2) : SLO/101/13.4-14.7 & /0/-0

Request Date: 4/30/2008  
 Revised Date:

### Right Of Way Cost Estimate

	Current Year 2008	Contingency Rate	Right of Way Escalation Rate	Escalated Year 2012
Acquisition:	\$0	25%	6%	\$0
Mitigation:	\$0	25%	6%	\$0
State Share of Utilities:	\$33,125	25%	5%	\$40,264
Expert Witness:	\$0	25%	6%	\$0
Relocation Assistance:	\$0	25%	6%	\$0
Demolition and Clearance:	\$0	25%	6%	\$0
Title and Escrow:	\$0	25%	6%	\$0
Condemnation:	\$0	25%	6%	\$0
Ad Signs:	\$0	25%	6%	\$0
Permit Fees:	\$7,500	25%	6%	\$9,469
<b>Total Current Value:</b>	<b>\$40,625</b>			<b>\$49,732</b>

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

Estimated Construction Contract Work (CCW):

0 RW LEAD TIME/Mo. 18

Pot Hole	0
Mitigation	
Land	0
Bank	0
Permit Fee	0

#### Parcel Data

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

# of Excess Parcels: 0

#### Misc RW Work

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

#### 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	0

#### Utilities

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

EA: 05-0H371K

ALT: 2 REV

	Parcel Area	Unit:	
Total R/W Required:	0	Total R/W Cost:	\$0
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.):

Permit fees based on MCCE form dated 1/15/08.

General Description of Utility Involvement:

Highway 101 at this location is designated Freeway. Master Contracts would apply to determine liability for utility relocation. Utility verification plans will need to be requested for this project. Alt 2 proposes to construct 1000 foot SB aux lane from Oak Park, then constructing 1000 foot lane in median and shifting traffic. Encroachment Permit search indicates gas lines and oil pipeline crossing the right of way which could potentially conflict with the retaining wall footing. There is also the potential for conflicts with water lines and buried fiber optic cable. Estimate for potential utility involvement \$20,000. Estimate \$6,500 for postive location.

Is there a significant effect on assessed valuation: No

Were any previously unidentified sites with hazardous waste or material found: No

Are RAP displacements required: No

# of single family: 0 # of muliti-family: 0 # of business/nonprofit: 0 # of farms: 0

Sufficient replacement housing will be available without last resort housing:

Are material borrow or disposal sites required: No

Are there potential relinquishments or abandonments: No

Are there any existing or potential airspace sites: No

Are environmental mitigation parcels required: No

Data for evaluation provided by:

Estimator:	NANCIE THOMAS	6/3/2008
Railroad Liason Agent:	SALLY A. HOPKINS	5/31/2008
Utility Relocation Coordinator:	Terilyn Thompson	5/7/2008

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

Date ENTERED PMCS 6/3/2008 BY: NANCIE THOMAS

Signature of John W. Maddux, Field Office Chief, Right of Way

# Utility Form

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Find Record | 05-OH371K-2 REV

District | 05 EA | OH371K Alt | 2 REV

Co	RTE	PM
SLO	101	13.4 - 14.7

Contingency Rate	25%	Escalation Rate	5%	Number of Esc Yrs	4	Escalated Year	2012
State share of Relocation Cost		Contingency value		Total			
		0	0	0		(Escalated value)	

U4-1	0	U5-7	8
U4-2	0	U5-8	0
U4-3	2	U5-9	2
U4-4	0		

YES Are Utility or other Rights of Way affected? (if yes, please complete the following)

Electric	PG&E	Gas	Southern CA Gas	Telephone	AT&T	Cable TV	Charter Communications
Water	SLO County; city of Pismo	Sewer	SLO County; city of PB	Fiber Optics	AT&T	Other	ConocoPhillips - PM 14.0/15.0

**Additional information concerning Utility Involvements on this proj**

Highway 101 at this location is designated Freeway. Master Contracts would apply to determine liability for utility relocation. Utility verification plans will need to be requested for this project. Alt 2 proposes to construct 1000 foot SB aux lane from Oak Park, then constructing 1000 foot lane in median and shifting traffic. Encroachment Permit search indicates gas lines and oil pipeline crossing the right of way which could potentially conflict with the retaining wall footing. There is also the potential for conflicts with water lines and buried fiber optic cable. Estimate for potential utility involvement \$20,000. Estimate \$6,500 for postive location.

**Assumptions and limiting conditions identified**

Are verification plans required. If yes, how many months | 18



**Memorandum**

To: AMY DONATELLO  
SLO

Attn WENDY O'HALLORAN  
SLO DESIGN II-B

Date: 6/30/2008

File: CD 05 EA 08371K Alt 3 REV  
Co SLO RTE 101

DESCRIPTION:  
OAK PARK/HALCYON OPS IMP AUXILIARY/CLIMBING LANE

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

Subject: RIGHT OF WAY DATA SHEET

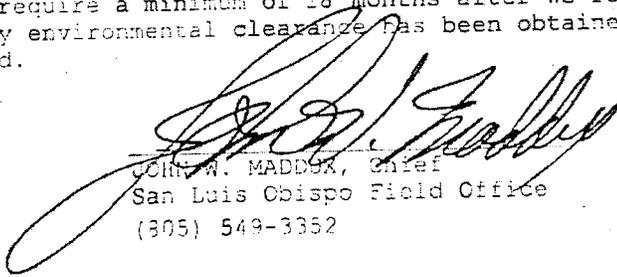
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The following assumptions and limiting conditions were identified:

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Utility

Right of Way Lead Time will require a minimum of 18 months after we receive certified Appraisal Maps, the necessary environmental clearance has been obtained, and freeway agreements have been approved.



JOHN W. MADDOX, Chief  
San Luis Obispo Field Office  
(805) 549-3352

**Right Of Way Cost Estimate**

	Current Year 2008	Contingency Rate	Right of Way Escalation Rate	Escalated Year 2012
Acquisition:	\$0	25%	6%	\$0
Mitigation:	\$0	25%	6%	\$0
State Share of Utilities:	\$33,125	25%	5%	\$40,264
Expert Witness:	\$0	25%	6%	\$0
Relocation Assistance:	\$0	25%	6%	\$0
Demolition and Clearance:	\$0	25%	6%	\$0
Title and Escrow:	\$0	25%	6%	\$0
Condemnation:	\$0	25%	6%	\$0
Ad Signs:	\$0	25%	6%	\$0
Permit Fees:	\$7,500	25%	6%	\$9,469
<b>Total Current Value:</b>	<b>\$40,625</b>			<b>\$49,732</b>

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

Estimated Construction Contract Work (CCW):

0 R/W LEAD TIME/Mo. 18

Pot Hole	0
Mitigation	
Land	0
Bank	0
Permit Fee	0

**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	0

**Parcel Data**

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

# of Excess Parcels: 0

**Misc R/W Work**

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

**Utilities**

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

EA: 05-0H371K ALT: 3 REV

Parcel Area		Unit:	
Total R/W Required:	0	Total R/W Cost:	\$0
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.):

Permit fees based on MCCE form dated 1/15/08.

General Description of Utility Involvement:

Highway 101 at this location is designated Freeway. Master Contracts would apply to determine liability for utility relocation. Alt 3 proposes to construct 0.9 mile SB climbing lane from Oak Park to just prior to Brisco Road UC. Utility verification plans will need to be requested for this project. Encroachment Permit search indicates gas lines and oil pipeline crossing the right of way which could potentially conflict with the retaining wall footing. There is also the potential for conflicts with water lines and buried fiber optic cable. Estimate for potential utility conflicts \$20,000. Estimate \$6,500 for postive location.

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 muliti-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:

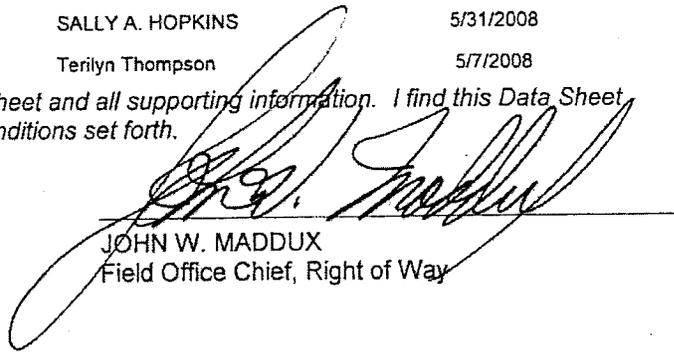
Are there any existing or potential airspace sites:

Are environmental mitigation parcels required:

Data for evaluation provided by:

Estimator	NANCIE THOMAS	6/3/2008
Railroad Liason Agent:	SALLY A. HOPKINS	5/31/2008
Utility Relocation Coordinator:	Terilyn Thompson	5/7/2008

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.



JOHN W. MADDUX  
Field Office Chief, Right of Way

Date  
ENTERED PMCS 6/27/2008  
BY: NANCIE THOMAS

Utility Form

Back to Main Menu

Print Current Record

Duplicate Current Record

Find Record 05-OH371K-3 REV

District 05 EA OH371K Alt 3 REV

Co	RTE	PM
SLO	101	13.4 - 14.7

Contingency Rate	25%	Escalation Rate	5%	Number of Esc Yrs	4	Escalated Year	2012
State share of Relocation Cost		Contingency value		Total		(Escalated value)	
0		0		0			

U4-1	0	U5-7	8
U4-2	0	U5-8	0
U4-3	2	U5-9	2
U4-4	8		

YES Are Utility or other Rights of Way affected? (if yes, please complete the following)

Electric	PG&E	Gas	Southern CA Gas	Telephone	AT&T	Cable TV	Charter Communications
Water	SLO County; City of Pismo	Sewer	SLO County; city of PB	Fiber Optics	AT&T	Other	ConocoPhillips - PM 14.0/15.0

Additional information concerning Utility Involvements on this project

Assumptions and limiting conditions identified

Highway 101 at this location is designated Freeway. Master Contracts would apply to determine liability for utility relocation. Alt 3 proposes to construct 0.9 mile SB climbing lane from Oak Park to just prior to Brisco Road UC. Utility verification plans will need to be requested for this project. Encroachment Permit search indicates gas lines and oil pipeline crossing the right of way which could potentially conflict with the retaining wall footing. There is also the potential for conflicts with water lines and buried fiber optic cable. Estimate for potential utility conflicts \$20,000. Estimate \$6,500 for positive location.

Are verification plans required If yes, how many months 18



PROJECT RISK MANAGEMENT PLAN

Dist - E.A		Co-Rte-PM		Project Name			Project Manager		Telephone Number		Date	Version/Draft					
05-0H371k		SLO-101-PM 13.0/30.0		Oak Park/Halcyon Climbing Lane			Amy Donatello		805-549-3014		1/29/2008	1					
PROJECT RISK MANAGEMENT PLAN																	
Priority	Identification					Qualitative Analysis				OPTIONAL Quantitative Analysis			Risk Response Plan		Monitoring and Control		
	Status	ID #	Date Identified Project Phase	Functional Assignment	Threat/Opportunity Event	Risk Trigger	Type	Probability	Impact	Risk Matrix	Probability (%)	Impact (\$ or days)	Effect (\$ or days)	Strategy	Response Actions including advantages and disadvantages	Responsibility (Risk Manager)	Last date changes made to risk and Comments
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14) = (12)x(13)	(15)	(16)	(17)
Active	1	2/27/2008	PID	Project Management	Politics	Disagreements occur between the two cities that are involved within the project limits.	Cost Schedule Scope	Very High	Very High		90%			Avoidance	Project Management is to keep both parties informed to prevent politics/disagreements.	AD	
Active	2	2/27/2008	PID	Project Management	Funding for Construction	Caltrans funding for construction falls short or exceeds programmed amount.	Cost Schedule	Very High	Very High		90%			Avoidance	Programmed amounts and resources are tracked and monitored to prevent over running of funds/resources.	AD	
Active	3	2/27/2008	PID	Planning	Consistent with Arroyo Grande and Pismo Beach circulation elements	Caltrans is not consistent with Arroyo Grande and Pismo Beach circulation elements.	Schedule Scope Cost	Very High	Very High		90%			N/A	Caltrans needs to become familiar with Arroyo Grande and Pismo Beach's circulation elements.		
Active	4	2/27/2008	PID	Design	Design Exceptions	Many desing exceptions are required due to several esiting non standard components.	Cost Schedule	High	Very High		70%			Acceptance	All design exceptions to be noted and identified prior to construction.	WO	
Dormant	5	2/27/2008	PID	Environmental Permits	Coastal Development Permit Required	It is discovered that a Coastal Development Permit is required.	Cost Schedule	Low	Very High		30%			Acceptance	Research is to be done to identify if a Costal Development Permit is needed.	TW	
Dormant	6	2/27/2008	PID	Right of Way	Potential Utility Conflicts	All High Risk Utility(s) are not identified.	Cost Schedule	High	High		70%			Avoidance	During PS&E work, utilities are to be properly identified.	TT, JM	
Active	7	2/27/2008	PID	Project Management	Local Community Support	Public Affairs receives phone calls of resident's complaints.	Scope Schedule Cost	Moderate	High		50%			Acceptance	Locals are to be given information during the Construction Phase so to keep them involved and keep their support for the project.	AD	

PROJECT RISK MANAGEMENT PLAN

Dist - E.A		Co-Rte-Plan		Project Name			Project Manager		Telephone Number		Date		Version/Draft				
05-0H371k		SLO-101-PM 13.0/30.0		Oak Park/Halcyon Climbing Lane			Amy Donatello		805-549-3014		1/29/2008		1				
PROJECT RISK MANAGEMENT PLAN																	
Priority	Identification					Qualitative Analysis			OPTIONAL Quantitative Analysis			Risk Response Plan		Monitoring and Control			
	Status	ID #	Date Identified Project Phase	Functional Assignment	Threat/Opportunity Event	Risk Trigger	Type	Probability	Impact	Risk Matrix	Probability (%)	Impact (\$ or days)	Effect or days (\$ or days)	Strategy	Response Actions including advantages and disadvantages	Responsibility (Risk Manager)	Last date changes made to risk and Comments
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14) = (12)x(13)	(15)	(16)	(17)
	Active	8	2/27/2008 PID	Project Management	Two Cities - non agreement of project details	Due to the location of the project, two cities are involved and do not always agree on everything.	Scope Schedule Cost	Moderate	High		50%			Acceptance	Project Management will work closely with the cities ensuring both parties are involved and problems will get worked out.	AD	
	Active	9	2/27/2008 PID	Traffic	Insufficient Traffic Information	Insufficient traffic information will cause problems and worse congestion.	Schedule Cost	Moderate	High		50%			N/A	Traffic/staging plans are reviewed during PS&E to ensure traffic problems will not occur.		
	Dormant	10	2/27/2008 PID	Right of Way	Utilities effected due to retaining walls	Due to a possible retaining wall, some utilities may be effected due to the construction of the structure.	Schedule Cost	Moderate	High		50%			Avoidance	Before construction, Caltrans is to identify all utilities where the retaining wall will be placed and have the utilities moved, if applicable.	TT, JM	
	Dormant	11	2/27/2008 PID	Hydraulics	Drainage Issues	Due to a possible retaining wall, drainage issues may occur and existing culverts may need to be upgraded.	Scope Cost Schedule	Moderate	High		50%			Avoidance	Measures are taken during construction to upgrade culverts, if applicable	Ben Erchel	
	Active	12	2/27/2008 PID	Environmental	Stormwater Biofiltration		Cost	Low	High		30%			Acceptance			
	Active	13	2/27/2008 PID	Design	Water Use Separation	Two cities involved with this project disagree on the water use separation or do not allow use of water.	Scope Cost Schedule	High	Moderate		70%			Acceptance	Design to work closely with cities to ensure water use separation is followed and agreed upon by the cities.	WO	
	Dormant	14	2/27/2008 PID	Environmental	Hazardous Waste A.D.L	A Hazardous Waste A.D.L	Cost Schedule	High	Moderate		70%			Acceptance	An investigation will be done by the Hazardous Waste Department to determine all locations of A.D.L	JT, IL	

PROJECT RISK MANAGEMENT PLAN

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PROJECT RISK MANAGEMENT PLAN																	
Priority	Identification						Qualitative Analysis				OPTIONAL Quantitative Analysis			Risk Response Plan		Monitoring and Control	
	Status	ID #	Date Identified Project Phase	Functional Assignment	Threat/Opportunity Event	Risk Trigger	Type	Probability	Impact	Risk Matrix	Probability (%)	Impact (\$ or days)	Effect (\$ or days)	Strategy	Response Actions including advantages and disadvantages	Responsibility (Risk Manager)	Last date changes made to risk and Comments
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14) = (12)x(13)	(15)	(16)	(17)	(18)
	Dormant	15	2/27/2008 PID		Retaining Wall Treatment	Retaining wall treatment may be needed for the proposed new structure.	Cost Quality	Moderate	Moderate		50%			Acceptance	Measures are to be taken to ensure treatment is done, if applicable.		
	Dormant	16	2/27/2008 PID	Geotech	Geotechnical Foundation Soils for retaining walls	Foundation soils will be needed for the new structure.	Cost	Moderate	Moderate		50%			Acceptance	Measures are to be taken to ensure we have Geotechnical foundation soils for the new structure, if applicable.		
	Active	17	2/27/2008 PID	Design	Coordination with local project at Halcyon/Brisco interchange	Due to the local project at Halcyon/Brisco interchange, conflicts may arise.	Cost Schedule Scope	Moderate	Moderate		50%			Acceptance	Necessary steps are taken to prevent conflicts with the local project.	WO	
	Active	18	2/27/2008 PID	Design, Traffic Operations	Amount of traffic - compared with overall need	Traffic information may not address the amount of traffic compared to the overall need for the project.	Cost Schedule	Moderate	Moderate		50%			Acceptance	Traffic needs to research and compare the traffic information in comparison to the overall need for the proposed project.	WO, RB	
	Active	19	2/27/2008 PID	Design, Landscape Architecture	Design for Safety at Halcyon	This project may want to consider Design for Safety at Halcyon due to the dangerous location for Caltrans workers.	Schedule Cost Scope	Moderate	Moderate		50%			Acceptance	Design may want to consider planting scope change removal due to the dangerous work location.	WO, PB	
	Dormant	20	2/27/2008 PID	Environmental	Wet land impacts	Due to the retaining wall, the wet lands would be impacted.	Cost Schedule	Low	Moderate		30%			Mitigation	Measures are taken to ensure wet land impacts are mitigated and that there is room within the project limits to mitigate.	YH	
	Active	21	2/27/2008 PID	Design, Construction	Water Spring at Oak Park	During construction, a problem may arise with the already identified water spring at Oak Park.	Cost Schedule Scope	Moderate	Low		50%			Mitigation	Measures are taken to deal with the water spring at Oak Park.	WO	

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PROJECT RISK MANAGEMENT PLAN

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	Status	ID #	Date Identified Project Phase	Functional Assignment	Threat/Opportunity Event	Risk Trigger	Type	Probability	Impact	Risk Matrix	Probability (%)	Impact (\$ or days)	Effect (\$ or days)	Strategy	Response Actions including advantages and disadvantages	Responsibility (Risk Manager)	Last date changes made to risk and Comments
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14) = (12)x(13)	(15)	(16)	(17)	(18)
	Dormant	22	2/27/2008 PID	Environmental	Flood Plain Issue related to proposed structures (retaining walls)	Retaining walls will cause flood plain issues.	Cost Schedule	Moderate	Low		50%			Acceptance	Measures are to be taken in construction to deal with Flood Plain issues.	IL	
	Dormant	23	2/27/2008 PID	Environmental	Sensitive Species Require Surveys	If Sensitive Species are discovered, then additional surveys are required.	Cost Schedule	Moderate	Low		50%			Acceptance	Addequate time is to be allowed to make sure surveys can be completed, if applicable.	IL	
	Active	24	2/27/2008 PID		Structures APS yet to be prepared	A Structures APS report will need to be completed.	Cost Schedule	Low	Low		30%			N/A	The schedule is to allow for time to prepare the Structures APS.		
	Active	25	2/27/2008 PID	Design	Equipment/Materials (Storage Areas?)	Project will need to have a storage area for equipment and materials that will be used for the project.	Cost	Low	Low		30%			Acceptance	Research is to be done to locate open and empty places for storage areas.	WO	
	Dormant	26	2/27/2008 PID	R/W	Late-identified utility conflicts may not be able to be relocated by utility owner(s) in timely manner	During construction, high risk utilities may be discovered, thus, causing a delay since they will need to be relocated at the time of discovery.	Cost Schedule	Low	High		30%			Avoidance	During PS&E work, utilities are properly identified.	TT, JM	

# PROJECT STUDY REPORT (Project Development Support)

This document can be used to program only the Engineering and Environmental Support for Project Approval and Environmental Document component. The remaining support and capital components of the project are preliminary estimates and are not suitable for programming purposes. Either a Supplement PSR or a Project Report will serve as the programming document for the remaining support and capital components of the project.



On Route 101 at various locations in San Luis Obispo County

From 0.4 kilometers South of El Campo Road near Arroyo Grande

To 0.1 kilometer North of San Luis Obispo Creek in San Luis Obispo

APPROVAL RECOMMENDED BY:

AMY DONATELLO  
PROJECT MANAGER

APPROVED BY:

R. GREGG ALBRIGHT  
DISTRICT DIRECTOR, DISTRICT 5

1/13/06  
DATE

PROJECT SCOPE AND TECHNICAL DATA ARE VALID THROUGH: 1/13/09  
COST AND WORKPLAN MUST BE UPDATED PRIOR TO USE FOR PROGRAMMING

This Project Study Report (Project Development Support) 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.

Christopher L Gardner  
CHRISTOPHER L. GARDNER  
REGISTERED CIVIL ENGINEER

9/27/05  
DATE



## 1. Introduction

This State Transportation Improvement Program (STIP) candidate project proposes to improve the traffic operational characteristics of United States (US) Route 101 in San Luis Obispo County at the following seven locations:

- Location 1: KP 18.6/19.6(PM 11.6/12.2) At the intersection of El Campo Road near Arroyo Grande.
- Location 2: KP 20.6/21.2(PM 12.8/13.2) Southbound US Route 101 between SR 227/Grand Avenue and Fair Oaks Avenue in the City of Arroyo Grande.
- Location 3: KP 21.5/23.7 (PM 13.4/14.7) Southbound US Route 101 between Oak Park Boulevard in the City of Pismo Beach and Halcyon Road in the City of Arroyo Grande.
- Location 4: KP 25.1/25.9 (PM 15.6/16.1) Northbound US Route 101 between 4<sup>th</sup> Street and the northbound off-ramp to Price Street in the City of Pismo Beach.
- Location 5: KP 45.0/46.4 (PM 28.0/28.8) Northbound US Route 101 between Marsh Street and Broad Street in the City of San Luis Obispo.
- Location 6: KP 45.0/46.4 (PM 28.0/28.8) Southbound US Route 101 between Broad Street and Marsh Street in the City of San Luis Obispo.
- Location 7: KP 34.1 (PM 21.2) At the interchange of Avila Beach Drive near Shell Beach.

Each location is unique in range of alternatives. For a comprehensive explanation of alternatives, see the Alternative section of this report. The total capital cost (2005/2006 fiscal year) including escalated right of way capital, for all seven locations ranges from \$9.4 to \$32.1 Million. The project is a candidate for the STIP with funding from the Regional Improvement Program (20.20.075.600). The capital outlay support costs for completing the Project Approval and Environmental Document (PA&ED) phase is estimated at \$1.8 Million. The expected environmental document for the proposed project is an Initial Study with a Negative Declaration/Finding of No Significant Impact (ND/FONSI) and is expected to be completed in the 2010/2011 fiscal year. This project has been initially assigned the Project Development Category 3 since a revised Freeway Agreement would be required to reconfigure ramps as proposed in some alternatives.

## 2. Background

This project was initiated on October 16, 2002 by the San Luis Obispo Council of Governments (SLOCOG) as a result of a US Route 101 Major Investment Study (MIS) prepared by Korve Engineering on September 8, 1997. The MIS was commissioned to address the growing traffic demand on the US Route 101 corridor and to provide a comprehensive strategy to reduce traffic congestion by maximizing the efficiency of the existing facility.

Many improvements identified in the MIS were addressed in Phase 1 of the San Luis Obispo Operational Improvement project (EA 05-485621, 05-485611). This project is considered Phase 2 of the effort to implement the MIS strategy and improve traffic operations along US Route 101. The remaining measures identified in the MIS and not included with this project will be studied as part of other projects or programs. It should be noted that since this project consists of several locations, each having independent utility, a need may develop in the PA&ED phase where the project is split into multiple expenditure authorizations (EA). Separate EAs may simplify the environmental clearance of less constrained locations and could facilitate construction capital funding of select locations.

### **Existing Facility**

US Route 101 is the principal north-south highway serving San Luis Obispo County. US Route 101 begins at Interstate 5 in Los Angeles and extends north to the Oregon Border, closely paralleling the coastline at times. It connects the Central Coast to the Bay Area to the north and Los Angeles metropolitan area to the south. US Route 101 bisects the City of San Luis Obispo and provides vital access to the Five Cities Area (Shell Beach, Pismo Beach, Grover Beach, Arroyo Grande, and Oceano). It is an important multifunctional route that experiences its highest traffic volumes during weekday commute hours. Through the project limits, US Route 101 is typically a four-lane freeway, with the exception of the four-lane expressway segment at the at-grade intersection with El Campo Road near Arroyo Grande. The traffic lanes are a standard 3.6 meters (12 feet) in width. Outside shoulders are typically 2.4 meters (8 feet) and inside shoulders are 1.5 meters (5 feet). The median width varies between 11 meters (36 feet) to 14 meters (46 feet). During the 1950s, the route was incrementally converted from expressway to freeway. The existing land-use commitments, railroad line and natural barriers (i.e. coastal mountain topography, proximity to the coastline, rivers) complicated the design of the freeway. The route has a patchwork of ramps without a comprehensive frontage road and crossroad network. Consequently, local traffic is dependent upon the route to make short trips within the community. Furthermore, US Route 101 does not meet various current design standards within the project limits. Some ramp deficiencies are spacing, weaving length, geometrics and intersection terminus design, which can impede operational characteristics. The design speed of the facility is 100 km/h and the design vehicle is STAA truck. For a more specific description of the existing facility at each location, please see below.

**Location 1:** At the intersection of El Campo Road near Arroyo Grande.

During the morning commute hours, traffic volumes on US Route 101 are largest in the northbound direction at this unsignalized intersection location. Although there are existing northbound deceleration and acceleration lanes at El Campo Road, they are non-standard in length for the corresponding speed of the mainline. Often, vehicles come to a stop at the end of the acceleration lane because they do not have sufficient speed and room to weave into the through lane. The southbound direction does not have deceleration and acceleration lanes. During the afternoon commute, the slower speed of southbound US Route 101 traffic exiting to, or entering from El Campo Road causes spot congestion of southbound traffic north of the intersection. The southbound roadway at this location is situated on a high embankment with a 1:1.5 Vertical:Horizontal (V:H) side slope.

**Location 2:** Southbound US Route 101 between SR 227/Grand Avenue and Fair Oaks Avenue in the City of Arroyo Grande.

Traffic congestion associated with this segment of southbound US Route 101 is primarily due to the non-standard weaving length of the auxiliary lane. A 130 meter (427 foot) auxiliary lane resides on southbound US Route 101 between the on-ramp from SR 227/Grand Avenue and the off-ramp to Fair Oaks Avenue. Local traffic circulation is dependent upon the auxiliary lane because of the absence of a frontage road in the immediate area. El Camino Real, the frontage road that runs along the west side of southbound US Route 101 north of the planned work, changes to Barnett Street and currently terminates at Grand Avenue. Agricultural land-use commitments and Arroyo Grande Creek on the southbound side of the freeway have precluded the frontage road from being extended south. The southbound off-ramp to Fair Oaks Avenue is an isolated off-ramp and does not have a large storage capacity. The ramp intersection at Fair Oaks Avenue operates inefficiently because of non-standard geometrics. It is a four-way stop control intersection with a 22 meter (72 foot) offset between the opposing legs of Orchard Road and the off-ramp terminus. Arroyo Grande High School is located near the off-ramp. High school classes start during the morning peak hour, which places additional load on the off-ramp. Traffic can queue onto mainline because of the lack of storage capacity and inefficient ramp intersection. The two intersections for the southbound US Route 101 ramps and SR 227/Grand Avenue also cause inefficient traffic operation. The interchange is a tight diamond with signal control, however the two ramps termini are offset by 60 meters (197 feet) which necessitates the two intersections.

**Location 3:** Southbound US Route 101 between Oak Park Boulevard in the City of Pismo Beach and Halcyon Road in the City of Arroyo Grande.

Traffic congestion at this location is caused by large vehicles slowing on the southbound incline slightly after the southbound on-ramp from El Camino Real. The slower vehicles can reduce the efficiency of merging of traffic from the on ramp. The incline has a maximum grade of 5.75% and stretches for approximately 0.8 kilometers (0.5 miles). Congestion is also evident at the southbound off-ramp to Halcyon Road. The hook off-ramp has a non-standard deceleration length and traffic can queue onto

the mainline during the peak hours, reducing route capacity.

**Location 4:** Northbound US Route 101 between 4<sup>th</sup> Street and the northbound off-ramp to Price Street in the City of Pismo Beach.

This portion of northbound US Route 101 has three ramps within 0.87 kilometers (0.54 miles), which causes a decrease in route capacity. The interchange spacing of the James Way on-ramp to the adjacent interchanges is below current standards. The successive northbound on-ramps from 4<sup>th</sup> Street and James Way are spaced 440 meters (1444 feet) apart and essentially service the same area. A 425 meter (1394 foot) auxiliary lane connects the hook on-ramp from James Way to the off-ramp to Price Street. During the morning peak hour, long platoons of vehicles enter the 4<sup>th</sup> Street on-ramp from the signalized ramp intersection with 4<sup>th</sup> Street. The vehicle platoons are caused by the dual left-turn from northbound 4<sup>th</sup> Street merging down to one lane along the on-ramp. Additionally, there is a heavy local traffic demand on the northbound off-ramp to Price Street. Pismo Beach is divided by Pismo Creek as well as the Union Pacific Railroad. US Route 101, via the Pismo Creek Bridge and the Pismo Overhead, is the only route currently linking the two halves of the community. Compounding this problem, are the geometrics of the hook on-ramp from James Way. Vehicles enter the auxiliary lane at a substantially lower speed than mainline traffic.

**Locations 5 and 6:** US Route 101 between Marsh Street and Broad Street in the City of San Luis Obispo.

Interchange spacing is also non-standard at this location, which impairs the traffic operations of the route. The interchange at Broad Street and Marsh Street are spaced approximately 1.0 kilometers (0.6 miles) apart. The Broad Street interchange is comprised of four hook ramps with no cross road connecting either side of the freeway. The Marsh Street interchange has a trumpet configuration. Local traffic is heavy on the two interchanges because they both service downtown San Luis Obispo.

**Location 7:** At the interchange of Avila Beach Drive.

Avila Beach Drive interchange is situated to the north of Shell Beach in a more rural setting. Avila Beach Drive is the main road that connects the community of Avila Beach to US Route 101. It also connects to the termination of Shell Beach Road, the frontage road on the west side of the freeway that services the community of Shell Beach. During peak hours this interchange is widely used by commuters. This location was targeted in the MIS for a proposed park and ride lot.

3. Need and Purpose

Within the project limits, the US Route 101 corridor has several spot locations that currently experience congestion and operate at low Level of Service (LOS) during peak hour commutes. These operational deficiencies are located at weaving sections near interchanges and at the El Campo Road intersection. Weaving sections are segments of highway where vehicles entering and leaving the highway cross paths. Substantial operational inefficiency and loss of route capacity at these locations can be linked to non-standard design features. The general purpose of this project is operational improvements along the US Route 101 corridor. More specifically, the purpose is:

- Location 1 - to improve the traffic operation of the US Route 101 mainline movement through the intersection.
- Locations 2-6 - to improve the weaving operations of US Route 101 and thereby restoring lost route capacity.
- Location 2 - to improve the traffic operation of the southbound ramp intersections with SR 227/Grand Avenue.
- Location 7 - to reduce transportation demand on the US Route 101 corridor.

Note: The geometric design of new facilities should normally be based on estimated traffic 20 years after completion of construction. This project deviates from that standard and will be designed based upon the "current year" design period. Approval was granted by the District 5 Director and the Headquarters Project Development Coordinator on July 13, 2005.

**Traffic**

The existing mainline and ramp traffic volumes are listed in the tables below:

TABLE 1 – 2004 MAINLINE TRAFFIC VOLUMES

Location (Count Station)	Peak Hour (vehicles/hour)	Average Annual Daily Traffic (vehicles/day)
Location 1 (PM 12.52)	6,600	56,000
Location 2 (PM 13.17)	5,900	49,000
Location 3 (PM 13.75)	7,100	57,000
Location 4 (PM 15.58)	10,100	79,000
Location 5 & 6 (PM 28.09)	7,300	65,000

TABLE 2 – 2002/2003 RAMP TRAFFIC VOLUMES

Location Ramp	Average Daily Traffic (vehicles/day) [year]
Location 2	
SB off to Valley Rd (Fair Oaks Ave) (PM 12.930)	2,700 [2002]
SB on from SR 227/Grand Ave (PM 13.100)	5,150 [2002]
Location 3	
SB off to Brisco Rd (Halcyon Rd) (PM 13.680)	5,200 [2002]
SB on from El Camino Real (PM 14.776)	2,400 [2003]
Location 4	
NB on from Pismo Oaks (4 <sup>th</sup> Street) (PM 15.760)	6,900 [2002]
NB on from Five Cities Dr (James Way) (PM 16.020)	3,850 [2002]
NB off to South Price Street (PM 16.320)	6,900 [2003]
Location 5	
NB on from Marsh St (PM 28.182)	5,650 [2003]
NB off to Broad St (PM 28.690)	1,850 [2003]
Location 6	
SB off to Marsh St (PM 28.050)	3,200 [2003]
SB on from Broad St (PM 28.790)	2,700 [2003]

**Accident Rate**

The Traffic Accident Surveillance and Analysis System (TASAS) "Table B" indicates that at the six project locations on the mainline there were 100 collisions (0-fatal, 26-injury, 74-property damage only) reported within a three-year period. The accident rate breakdown for each location is as follows:

TABLE 3 – MAINLINE “TABLE B”  
 April 1, 2001 to March 31, 2004

Location	ACTUAL			STATE AVERAGE		
	Fatal	Fatal+Injury	Total	Fatal	Fatal+Injury	Total
Location 1 (PM 11.6/12.2)	0.0	0.06	0.46	0.022	0.46	1.01
Location 2 (SB PM 12.8/13.2)	0.0	0.39	1.74	0.010	0.32	0.87
Location 3 (SB PM 13.4/14.8)	0.0	0.17	0.57	0.010	0.33	0.90
Location 4 (NB PM 15.6/16.1)	0.0	0.16	0.74	0.012	0.40	1.09
Location 5 (NB PM 28.0/28.8)	0.0	0.21	0.46	0.013	0.42	1.14
Location 6 (SB PM 28.0/28.8)	0.0	0.09	0.43	0.013	0.42	1.14

Note - Rates are in accidents per million vehicle miles

At the intersection and eleven ramps located within the six project locations, 33 collisions (0-fatal, 11-injury, 22-property damage only) were reported during the same three-year period. The accident rate breakdown for each ramp/intersection is as follows:

TABLE 4 – RAMP / INTERSECTION “TABLE B”  
April 1, 2001 to March 31, 2004

Ramp/Intersection	ACTUAL			STATE AVERAGE		
	Fatal	Fatal+Injury	Total	Fatal	Fatal+Injury	Total
Location 1						
El Campo Rd	0.0	0.03	0.15	0.008	0.16	0.33
Location 2						
SB off to Valley Rd (Fair Oaks Ave)	0.0	0.39	0.39	0.005	0.61	1.50
SB on from SR 227/Grand Ave	0.0	0.64	0.85	0.002	0.32	0.80
Location 3						
SB off to Brisco Rd (Halcyon Rd)	0.0	0.22	1.52	0.005	0.39	1.15
SB on from El Camino Real	0.0	0.0	0.0	0.002	0.20	0.60
Location 4						
NB on from Pismo Oaks (4 <sup>th</sup> Street)	0.0	0.0	0.31	0.002	0.19	0.55
NB on from Five Cities Dr (James Way)	0.0	0.0	0.42	0.001	0.24	0.70
NB off to South Price Street	0.0	0.0	0.16	0.003	0.31	0.90
Location 5						
NB on from Marsh St	0.0	0.33	0.33	0.004	0.13	0.40
NB off to Broad St	0.0	0.55	1.66	0.005	0.39	1.15
Location 6						
SB off to Marsh St	0.0	0.28	0.83	0.004	0.26	0.90
SB on from Broad St	0.0	0.39	0.39	0.002	0.20	0.60

Note - Rates are in accidents per million vehicles

#### 4. Alternatives

It is noted that each of the locations includes at least one alternative that will conform to current design standards. Concurrence by the Project Development Coordinator for further study of the viable alternatives included in this PSR(PDS) does not constitute approval of any non-standard features identified currently or in the future. Separate documentation and approval(s) will be required as per Chapter 21 of the Project Development Procedure Manual.

All "build" alternatives will require a topographic survey, traffic analysis and preliminary design to be performed in order to fully assess the limits of construction and level of site impact. These should be accomplished early in the next phase of the project to allow for adequate coordination between the design and environmental planning departments. Rubberized Asphalt Concrete (RAC) was not recommended by the District Materials Laboratory for a couple of reasons. At issue is the construction of new RAC structural section next to existing non-RAC structural section creating lateral discontinuous joint problems. Since this project also contains small segments of work at different locations, cost and availability of RAC become prohibitive factors. Since some locations are located in a floodplain, any alternative proposed would be designed to not adversely affect the base floodplain. Floodplain evaluations would be required as part of the environmental assessment process. Other environmental studies will also be required during the next phase of the project. For a comprehensive list of all of the environmental studies required, refer to the Preliminary Environmental Analysis Report (Attachment H).

In addition to the specific improvements at each location mentioned below, Intelligent Transportation Systems (ITS) elements that are consistent with the Central Coast ITS Strategic Deployment Plan and Caltrans District 5 Ten-Year ITS Plan are proposed to be incorporated into the project. The proposed ITS elements are (3) Closed Circuit Television (CCTV) cameras, (21) Traffic Monitoring Stations (TMS) and (2) Highway Advisory Radios (HAR). Ramp metering technologies are also noted in the plan, but will be implemented on a case by case basis. Individual ramps will be evaluated for demand and potential diversion from adjacent ramps during the next stage of the project. CCTV camera systems are roadside electronic video systems, consisting of hardware and software components. CCTV systems are used to provide visual analysis of highways. Primary users of video information are Transportation Management Centers (TMC) operators and staff. Secondary users are the public, private entities, and other organizations which may have access to the video. The key functions or "Use Cases" provided by CCTV systems in this application are: Incident Verification, Response Coordination and Management, and Congestion Surveillance. TMS are electronic data acquisition systems used to collect and communicate real time traffic volumes, speeds and occupancy data along segments of highways. Detectors are used to continuously and automatically monitor the flow of traffic. The data is reported to the TMC every 20 to 30 seconds. Such data is used at the TMC to identify unexpected congestion, to determine the impact of incidents on traffic flow, and to inform travelers of current conditions. HAR is a low powered radio station

operated by Caltrans. Its purpose is to transmit localized traffic and road information to motorist on the State highway system. Each HAR station transmits voice messages over a surrounding area typically two to three miles from the station. Within the coverage area, extinguishable message signs can be installed along the highway to inform motorists when a message is being broadcast, and tell them the frequency to which they should tune their radio to listen. For the preliminary location of the proposed ITS elements refer to Attachment J.

Alternatives for each location will be considered as follows:

**Location 1:** At the intersection of El Campo Road near Arroyo Grande.

**Alternative 1**

The alternative that meets current design standards is to construct southbound deceleration and acceleration lanes and extend the northbound deceleration and acceleration lanes. The standard acceleration lanes and deceleration lanes will allow vehicles entering or leaving the highway to change speeds over a longer distance in a dedicated lane, reducing the impact on through traffic. Preliminary site investigations reveal that the southbound acceleration and deceleration lanes will require retaining walls to facilitate the wider roadway and to preclude right of way acquisition. The northbound deceleration and acceleration lanes can be accommodated in the median. Existing drainage systems will be modified due to the nature of the work. A separate PSR(PDS) (EA 05-0A360K) was prepared with a scope for constructing a new interchange at El Campo Road. Construction of an interchange is beyond the scope of this project and the MIS. The southbound features proposed in this alternative, specifically the retaining walls, do not benefit any of the five alternatives contained in the El Campo Road Interchange project. However, it is probable that the southbound deceleration and acceleration lanes would be utilize in a future six-lane facility. This alternative's capital cost, including escalated right of way, is estimated to range from \$2,600,000 to \$3,200,000.

**Alternative 2**

Another alternative is to extend the northbound deceleration and acceleration lanes, as proposed in Alternative 1, and construct the southbound deceleration and acceleration lanes without the use of retaining walls. The proposed southbound roadway embankment would be widened by adding additional embankment. The side slope along the southbound speed change lanes would be 1:2 V:H. Since the proposed 1:2 V:H embankment side slopes are steeper then the standard 1:4 V:H, an advisory design exception would be required. Right of way acquisition of two full parcels would also be required. One parcel includes a residential home. The project features in this alternative, including the right of way acquisition are compatible with Alternative 1 of the El Campo Road Interchange project and a future six-lane facility. This alternative's capital cost, including escalated right of way, is estimated to range from \$6,500,000 to \$6,900,000.

### Alternative 3

The minimum "build" alternative is to extend the northbound deceleration and acceleration lanes, as proposed in Alternative 1, and construct the southbound deceleration and acceleration lanes by adding a lane in the median. An additional lane in the median would allow the two southbound mainline lanes to be shifted to the inside. This would enable the existing outside lane to be the deceleration and acceleration lanes. Right of way acquisition and retaining walls would not be required, however, a concrete median barrier is needed. Furthermore, a mandatory design exception would be processed for a minimum 1.2 meter (4 foot) non-standard inside shoulder width and a 2.4 meter (8 foot) non-standard outside shoulder width. The project features in this alternative are compatible with a future six-lane facility but would not benefit the El Campo Road Interchange project. This alternative's capital cost, including escalated right of way, is estimated to range from \$2,000,000 to \$2,400,000.

The No-build alternative would not propose improvements. As traffic volumes along US Route 101 rise, the spot congestion at El Campo Road intersection would be expected to increase. This alternative would not meet the purpose and need of the project. However, this alternative would not construct features (i.e. retaining walls) that would be removed in the future by the proposed El Campo Road Interchange project. The general plan for the City of Arroyo Grande includes an interchange at El Campo Road. The proposed project is slated for construction in 2010, however, it does not have construction or right of way capital funding programmed. Funding for environmental and engineering studies also has not been secured. The work covered by this report at this location could be eliminated if the interchange improvements were programmed and the construction year followed closely behind the construction year of this project.

**Location 2:** Southbound US Route 101 between SR 227/Grand Avenue and Fair Oaks Avenue in the City of Arroyo Grande.

### Alternative 1

The alternative that meets current design standards is to close the southbound off-ramp to Fair Oaks Avenue and extend the auxiliary lane approximately 100 meters (328 feet). This would allow traffic entering southbound US Route 101 from the on-ramp at SR 227/Grand Avenue to obtain adequate speed before merging with mainline traffic. Modifications to the southbound US Route 101 ramp intersections with SR 227/Grand Avenue would also occur. The two ramp intersections would be combined into one. Because of the proximity of the Barnett Street and Grand Avenue intersection to the new ramp terminus intersection, Barnett Street access to Grand Avenue would be eliminated. A cul-de-sac on Barnett Street would adversely change the traffic patterns of the frontage road and impact the access to the businesses located on the corner of Grand Avenue and Barnett Street. Although these improvements would improve traffic operation on US Route 101 and at the southbound ramp intersection, local traffic circulation would be negatively impacted. Traffic on alternate routes could cause congestion on local streets. Community support for this alternative will likely not materialize because of these impacts. Improvement to the

southbound US Route 101 ramp intersections with SR 227/Grand Avenue are also targeted in the Brisco Road Interchange project (EA 0A3701). Coordination between the two projects will be required to avoid conflicts and redundant work. A hospital guide sign currently exists at the off-ramp to Fair Oaks Avenue terminus, however an advance sign does not appear on the mainline indicating that this exit should be used. The primary route to the same hospital is signed at the southbound off-ramp to Halcyon Road. Minor right of way acquisition of agricultural land would be required for reconstruction of the ramp intersection at SR 227/Grand Avenue. This alternative's capital cost, including escalated right of way, is estimated to range from \$1,000,000 to \$1,500,000.

#### Alternative 2

Another alternative is to construct a two-way frontage road between SR 227/Grand Avenue and Fair Oaks Avenue with new hook on and off-ramps. These ramps would replace the southbound off-ramp to SR 227/Grand Avenue, the southbound on-ramp from SR 227/Grand Avenue, and the southbound off-ramp to Fair Oaks Avenue. The hook ramps would have non-standard geometrics requiring advisory and mandatory design exceptions. Because the off-ramp exit nose is located just beyond the "closed-end" abutment of the SR 227/US 101 separation, an auxiliary lane would connect to the proposed hook off-ramp. The auxiliary lane would compensate for the non-standard decision sight distance and increase the storage capacity of the off-ramp. An additional lane and concrete barrier would be constructed in the median in conjunction with shifting the two mainline through lanes to the inside. This would enable the existing outside lane to be the auxiliary lane and to defer replacing the SR 227/US 101 separation until US 101 is upgraded to a six-lane facility. The auxiliary lane would extend south to the proposed auxiliary lane connecting the southbound on-ramp from Brisco Road (Halcyon Road) to the southbound off-ramp to SR 227/Grand Avenue (EA 05-485621). Constructing a frontage road would provide an additional local route for traffic and thereby reduce the demand on US Route 101. El Camino Real, the frontage road to the north, can be realigned in place of the off-ramp to SR 227/Grand Avenue. This will provide continuity to the frontage road network by containing it to one intersection on SR 227/Grand Avenue. On the south end, the frontage road would terminate at the intersection of Orchard Street and Fair Oaks Avenue. The proposed county right of way along the frontage road would have access control to preclude the construction of driveways or other local roads intersections associated with undesired future development of the agricultural land. The acquired right of way between the frontage roads and the hook ramps may be used for storm water basins. Two new bridges across Arroyo Grande Creek would be required for the proposed frontage road and the southbound off-ramp. There is concern with this alternative that the LOS for the connection between the two state routes may decrease. Headquarter Design Reviewers in the past have expressed reluctance in supporting hook ramps where a diamond interchange configuration may work. Furthermore, a mandatory design exception would be required for non-standard interchange spacing with the interchange at Brisco Road since the ramps are being relocated. Significant right of way acquisition of agricultural land would be required to facilitate the frontage road, hook ramps, and storm water treatment best

management practices (BMPs). Some Arroyo Grande city council members and members of the public have expressed opinions indicating that extensive right of way acquisition of the agricultural land would impact their decision to support improvements at this location. To minimize right of way acquisition, some advisory design exceptions [i.e. 1:2 (V:H) embankment side slopes] could be processed. Final determination of processing advisory design exceptions will be reserved until topographic surveys, preliminary design and environmental studies (i.e. Farmland Conversion Impact Rating) have been performed. This alternative's capital cost, including escalated right of way, is estimated to range from \$9,000,000 to \$10,000,000.

#### Alternative 3

The minimum "build" alternative is to install ramp meters on the southbound on-ramp from SR 227/Grand Avenue in conjunction with ramp modifications as described in Alternative 1. The modifications would include combining the two SR 227/Grand Avenue ramp intersections into one. The cul-de-sac of Barnett Street is not proposed, however, a mandatory design exception would be processed to perpetuate the existing condition of non-standard ramp intersection spacing to a local road intersection. Ramp metering would break up the platoon caused by the signalized intersection. The mainline weaving would improve, however, the weaving distance would remain the same. This alternative's capital cost, including escalated right of way, is estimated to range from \$1,200,000 to \$1,600,000.

The No-build alternative would not propose improvements. As traffic volumes along US Route 101 rise, the spot congestion at this location would be expected to increase. This alternative would not meet the purpose and need of the project.

#### Rejected Alternatives

Community input has often suggested re-aligning the off-ramp ramp terminus at Fair Oaks Avenue to align with Orchard Street. This configuration would simplify the intersection but would not improve its efficiency to an acceptable LOS, even with signalization. This alternative could increase the potential for wrong movements from Orchard Street to the off-ramp. Other alternatives include improving the efficiency of Fair Oaks Avenue by restricting turning movements at Orchard Street intersection or working with the administration at Arroyo Grande High School to stagger school start times. While all these alternatives improve traffic efficiency on Fair Oaks Avenue and at the ramp terminus, they do not adequately address mainline weaving deficiencies. Since these alternatives do not achieve the project objectives they are therefore rejected as unreasonable.

**Location 3:** Southbound US Route 101 between Oak Park Boulevard in the City of Pismo Beach and Halcyon Road in the City of Arroyo Grande.

#### Alternative 1

The alternative that meets current design standards is to construct a 1.7 kilometer (1.1 mile) southbound auxiliary lane from the on-ramp from El Camino Real to the off-ramp to Halcyon Road. This will allow more efficient merging for the on-ramp from

El Camino Real. Likewise, vehicles exiting the freeway at the off-ramp to Halcyon Road can weave over a greater length. During peak hours, the queue that currently extends onto the US Route 101 mainline from the off-ramp will be moved to the auxiliary lane, thus restoring lost route capacity. The auxiliary lane will require widening the roadway to the outside to preserve the median for future conversion to a six-lane facility. Due to the proximity of the frontage road, retaining walls will be constructed to facilitate the wider roadway. Existing drainage systems will be modified. A cooperative agreement with the San Luis Obispo County Flood Control and Water Conservation District may be required for highway drainage. Brisco Road Undercrossing will also require widening to accommodate the auxiliary lane. Coordination between this project and the Brisco Road interchange project will be ongoing to provide route consistency. The Oak Park Boulevard Overcrossing was reconstructed recently, and will allow the auxiliary lane to traverse underneath without structure modifications. This alternative's capital cost, including escalated right of way, is estimated to range from \$5,000,000 to \$6,100,000.

#### Alternative 2

The minimum "build" alternative is to construct a 300 meter (984 foot) auxiliary lane after the on-ramp from El Camino Real and a 300 meter (984) foot) auxiliary lane prior to the off-ramp to Halcyon Road. This will achieve some of the benefits as described in the standard alternative, but with a relatively lower construction cost. The auxiliary lane after the on-ramp from El Camino Real will be constructed in the same manner as described in Alternative 1. The auxiliary lane prior to the off-ramp to Halcyon Road would be constructed by adding a lane in the median and shifting the two mainline lanes to the inside. Since there is a reduction in median width, concrete median barrier would be installed. A mandatory design exception would be processed for a 2.2 meter (7 foot) non-standard inside shoulder width. The median width would require an advisory design exception for a non-standard median width of 8.6 meters (28.2 feet). The additional lane in the median would enable the existing outside lane to be converted into an auxiliary lane and avoid the need for widening the Brisco Road Undercrossing. However, if in the future when the facility is converted to six-lanes, the outside auxiliary lane would revert to a through lane requiring structure widening or replacement to perpetuate the auxiliary lane. A short transition area facilitating the lane shift to the inside would require embankment widening and a retaining wall. Embankment side slopes in this area would be steepened to 1:2 V:H from the standard 1:4 V:H requiring an advisory design exception. The retaining wall would be designed to accommodate a future standard six-lane facility with auxiliary lanes within the existing right of way. This alternative's capital cost, including escalated right of way, is estimated to range from \$2,200,000 to \$2,900,000.

The No-build alternative would not propose improvements. As traffic volumes along US Route 101 rise, the spot congestion at this location would be expected to increase. This alternative would not meet the purpose and need of the project.

**Location 4:** Northbound US Route 101 between 4<sup>th</sup> Street and the northbound off-ramp to Price Street in the City of Pismo Beach.

#### Alternative 1

The alternative that meets current design standards is to close the northbound on-ramp from James Way and extend the auxiliary lane back to the on-ramp from 4<sup>th</sup> Street. The longer auxiliary lane would improve efficiency by providing 865 meters (2,838 feet) of weaving length between the on-ramp from 4<sup>th</sup> Street and the off-ramp to Price Street. The continuous auxiliary lane would also improve local traffic circulation by not requiring a vehicle entering the on-ramp at 4<sup>th</sup> Street to merge into mainline traffic only to diverge onto the off-ramp to Price Street. A local trip from one side of Pismo Beach, across the Union Pacific Railroad, to the other side could be accomplished strictly within the auxiliary lane. Some local residents and the Pismo Beach Fire Department have indicated that they would not support the closure of the James Way on-ramp. Residents are generally concerned with the loss of egress from their neighborhood and being rerouted to the 4<sup>th</sup> Street interchange. Furthermore, The 1990 Pismo Beach General Plan indicates that a new fire station was planned to be constructed in 1996 at the corner of James Way and Ventana Drive. However, lack of funding has prevented it from being built and no clear revised date has been set. The fire department contends that if the James Way on-ramp was closed, response time to Downtown Pismo Beach could increase by vehicles having to backtrack to the on-ramp from 4<sup>th</sup> Street. The out-of-direction travel is approximately 520 meters (1,706 feet). This alternative's capital cost, including escalated right of way, is estimated to range from \$1,000,000 to \$1,200,000.

#### Alternative 2

The minimum "build" alternative is to install ramp meters on the on-ramp from 4<sup>th</sup> Street in conjunction with widening the ramp. Ramp metering would break up the platoon caused by the signalized intersection. The mainline weaving would improve, however, the weaving distance would remain the same. This alternative's capital cost, including escalated right of way, is estimated to range from \$500,000 to \$800,000.

The No-build alternative would not propose improvements. As traffic volumes along US Route 101 rise, the spot congestion at this location would be expected to increase. This alternative would not meet the purpose and need of the project.

#### Rejected Alternative

Community input has suggested extending the auxiliary lane back to the on-ramp from 4<sup>th</sup> Street and relocating the on-ramp from James Way. The principle is to perpetuate the on-ramp from James Way for possible future use by the fire station and local residents. The on-ramp from James Way would merge with the auxiliary lane. However, the proximity of James Way (frontage road) to the freeway prevents the development of a hook ramp that meets geometric design standards. The ramp intersection would also require a mandatory design exception for non-standard access control and spacing to a local road intersection. Furthermore, the placement of the ramp interchange would require a mandatory design exception for interchange spacing. The resulting non-standard weave length would operate inefficiently and not

achieve the project objective. This alternative is therefore rejected as unreasonable.

**Location 5:** Northbound US Route 101 between Marsh Street and Broad Street in San Luis Obispo

Alternative 1

The alternative that meets current design standards is to connect the on-ramp from Marsh Street to the off-ramp to Broad Street with a 760 meter (2,493 foot) auxiliary lane added to the outside of the roadway. This alternative would be in conjunction with Alternative 1 at Location 6. A retaining wall would be added to facilitate the wider embankment and would be designed to accommodate a future standard six-lane facility with auxiliary lanes within the existing right of way. The retaining wall would be constructed at the edge of shoulder with a new sound wall on top resulting in no landscaping visible from the freeway. The existing sound wall that separates the freeway from a residential neighborhood along Brizzolara Street would be removed. Existing drainage systems will be modified due to the nature of the work. A cooperative agreement with the San Luis Obispo County Flood Control and Water Conservation District may be required for highway drainage. No modifications to the median would be required. This alternative's capital cost, including escalated right of way, is estimated to range from \$3,600,000 to \$4,500,000.

Alternative 2

The minimum "build" alternative is to construct an additional lane in the median and thereby, shift the two mainline lanes to the inside. This would enable the existing outside lane to be the auxiliary lane between the on-ramp from Marsh Street and the off-ramp to Broad Street. This alternative would be in conjunction with Alternative 2 at Location 6. Since there is a reduction in median width, concrete median barrier would be installed. A mandatory design exception would be processed for a non-standard 1.5 meter (5 foot) inside shoulder width and a 3.6 meter (12 foot) median width. This alternative would not require widening the roadway embankment to the outside thus preserving the existing sound wall and landscaping. However, if in the future when the facility is converted to six-lanes, the outside auxiliary lane would revert to a through lane. This future improvement would prompt widening to the outside to retain the auxiliary lane. Existing drainage systems will be modified due to the nature of the work. This alternative's capital cost, including escalated right of way, is estimated to range from \$1,400,000 to \$1,800,000.

The No-build alternative would not propose improvements. As traffic volumes along US Route 101 rise, the spot congestion at this location would be expected to increase. This alternative would not meet the purpose and need of the project.

**Location 6:** Southbound US Route 101 between Marsh Street and Broad Street in San Luis Obispo

Alternative 1

The alternative that meets current design standards is to connect the on-ramp from Broad Street to the off-ramp to Marsh Street with a 1000 meter (3,280 foot) auxiliary lane added to the outside of the roadway. This alternative would be in conjunction with Alternative 1 at Location 5. Most of the wider roadway can be accomplished with embankment widening within the right of way. A retaining wall would be added near the off-ramp to Marsh Street and be designed to accommodate a future standard six-lane facility with auxiliary lanes. The retaining wall would be constructed at the edge of shoulder and cut into the hillside. Existing drainage systems will be modified due to the nature of the work. No modifications to the median would be required. This alternative's capital cost, including escalated right of way, is estimated to range from \$1,500,000 to \$2,000,000.

Alternative 2

The minimum "build" alternative is to construct an additional lane in the median and shift the two mainline lanes to the inside. This would enable the existing outside lane to be the auxiliary lane between the on-ramp from Broad Street and the off-ramp to Marsh Street. This alternative would be in conjunction with Alternative 2 at Location 5. Since there is a reduction in median width, concrete median barrier would be installed. A mandatory design exception would be processed for a non-standard 1.5 meter (5 foot) inside shoulder width and a 3.6 meter (12 foot) median width. This alternative would not require widening the roadway embankment to the outside. If in the future, when the facility is converted to six-lanes, the outside auxiliary lane would revert to a through lane. This future improvement would prompt widening to the outside to retain the auxiliary lane. Existing drainage systems will be modified due to the nature of the work. This alternative's capital cost, including escalated right of way, is estimated to range from \$1,200,000 to \$1,700,000.

The No-build alternative would not propose improvements. As traffic volumes along US Route 101 rise, the spot congestion at this location would be expected to increase. This alternative would not meet the purpose and need of the project.

**Location 7:** At the interchange of Avila Beach Drive near Shell Beach

The alternative presented at this location is to construct a park and ride lot at the undeveloped southwest corner of Avila Beach Drive and Shell Beach Road. The park and ride lot would service commuters whose trips originate from both Avila Beach and northern Shell Beach. Expanding the park and ride lot system would result in less demand on the US Route 101 corridor as a whole, and for this location, specifically the Avila Beach Drive interchange. The parking lot would be designed to hold 20-60 vehicles depending on demand analysis. Pedestrian loading areas, bicycle parking and special parking for persons with disabilities would be incorporated. Coordination with San Luis Obispo Regional Transportation Authority would be required to determine if their intercity fixed route service could be expanded to have a station at the proposed park and ride. Caltrans District 5 is currently not taking ownership of

any new park and ride lots. Therefore, the park and ride lot will be owned and maintained by third party, possibly a San Luis Obispo local government agency. There is an element of project delivery risk associated with the development of a park and ride lot at only one location. If the owner of the parcel is uncooperative with the Department's right of way acquisition offers, the power of eminent domain may not be able to be exercised. This alternative's capital cost, including escalated right of way, is estimated to range from \$1,100,000 to \$1,400,000.

## 5. System and Regional Planning

US Route 101 is included in the Federal-aid Highway System of the United States Department of Transportation, Federal Highway Administration (FHWA). It is part of the National Highway System and functionally classified as a Principal Arterial within the project limits. It is on the Strategic Highway Corridor Network (STRAHNET). STRAHNET routes are identified by the United States Department of Defense as critical for supporting defense requirements and are mandatory components of the National Highway System. US Route 101 is part of the National Network that can accommodate longer trucks as defined by the Surface Transportation Assistance Act (STAA). US Route 101 is an Interregional Road System (IRRS) High Emphasis and Focus Route and is on the California Freeway and Expressway System. US Route 101 is also a State Highway Extra Legal Load (SHELL) Route. The route is an eligible Scenic Highway throughout San Luis Obispo County. The alternatives that contain proposed ramp metering are consistent with the Caltrans District 5 10-Year ITS Plan.

The 2001 US Route 101 Transportation Concept Report has established a LOS D for the peak hour in the 20-year planning horizon (2020). Recommended actions are presented in the report to achieve this goal. They include, but are not limited to the following:

- Implement ITS components from Central Coast ITS Strategic Deployment Plan
- Reduce demand by encouraging and improving alternative modes such as transit, vanpools and ridesharing.
- Construct system-wide operational improvements such as auxiliary lanes and interchange modifications.
- Ensure any improvements to the facility will accommodate a future six-lane facility.

This project is consistent with SLOCOG's *Vision 2025: 2005 Regional Transportation Plan (RTP)*. The plan states in the executive summary, "VISION 2025 recognizes the eventual need for widening US 101 from the current four-lane configuration to a six-lane facility. However, given the current levels of highway service and constrained funding resources, the Plan recommends deferring six-laning beyond 2025 and devoting available funds toward operational improvements, parallel route development, transit investments and multimodal improvements." The proposed improvements are listed in Chapter 5: System Development of the RTP,

however, they are not included in the financially constrained project list. The improvements are included in the Reasonably Expected Revenue Scenario outlined in the RTP. Additionally, this project is consistent with the MIS adopted by SLOCOG, as it was the basis for the project's initiation.

Various projects are proposed along the US Route 101 corridor within the project limits. Refer to the Alternatives section of this report for the compatibility of the major projects to this proposed project.

Two freeway agreements between the State and local governments (Arroyo Grande, Pismo Beach) will need to be revised if the ramps are modified at locations 2 and 4. The May 1989 superseding freeway agreement with Arroyo Grande covers location 2 (Ramps at Fair Oaks Avenue, SR 227/ Grand Avenue). Location 4 (Ramps at 4<sup>th</sup> Street and James Way) is covered under the June 1989 superseding freeway agreement with Pismo Beach. This freeway agreement appears not to be consistent with the current ramp configurations at 4<sup>th</sup> Street and James Way, therefore the disposition of the freeway agreement should be addressed at the next phase of the project.

## 6. Environmental Determination and Environmental Issues

A Preliminary Environmental Analysis Report was completed in December of 2005. The expected environmental document for the proposed project is an Initial Study with a Negative Declaration/Findings of No Significant Impact (ND/FONSI). FHWA and the State of California Department of Transportation would act as lead agencies in the preparation of a joint California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) environmental document. The final environmental determination is projected to occur within 43 months from the start of environmental studies. The proposed project would require a 1601 Agreement with the California Department of Fish and Game for Location 2 (Arroyo Grande Creek). An agreement would be required if final design suggests the alteration of the streambed at Location 3 (Meadow Creek), 5 and 6 (San Luis Obispo Creek). While these creeks are in the vicinity of work, preliminary design avoids alteration of the streambed. Proposed work in streams and channels would also require permits to be in compliance with Section 401 and 404 of the Federal Clean Water Act. A Coastal Zone permit would be required for the locations within the coastal zone (Locations 1-4,7). Habitat for 21 plant species and seven animal species have the potential to exist within the project limits. Biological mitigation may be necessary for certain animal species. Visual resources mitigation would include aesthetics on structures, replacement planting of natural vegetation, tree replacement and irrigation system replacement. Hazardous waste remediation would include an aerially deposited lead analysis.

7. Right of Way

Right of way acquisition would be required for three project locations. Location 1 - Alternative 2 proposes acquisition of two full parcels of adjacent land. One parcel has a residence and would require relocation assistance. Location 2 has two alternatives that impact land adjacent to the freeway differently. Alternative 1 has a relatively small partial acquisition of three parcels at the corner of the ramp intersection with SR 227/Grand Avenue. One of these parcels is commercial while the other two parcels are agriculture land. This alternative also would involve minor acquisition of two commercial parcels to facilitate the cul-de-sac on Barnett Street. Alternative 2 proposes partial acquisition four parcels. One parcel is commercial and the other three parcels comprise a wide sliver of agricultural land. Local agencies and the community may not support an alternative that has extensive right of way acquisition of agricultural land. Location 7 proposes acquisition of approximately 0.4 hectares (1.0 acre) of vacant land at the southwest corner of Shell Beach Road and Avila Beach Drive. Although many of these parcels are zoned for agriculture they have the potential to be commercial and have been valued accordingly.

Extensive utility verification of “high and low risk” facilities will be required for the proposed project. The State’s share of utility relocation has a preliminary estimate of \$183,000 (Fiscal Year 2014).

The total right of way capital cost is estimated at \$10,615,000 (Fiscal Year 2014). An 18-month lead-time has been established to conduct right of way activities.

8. Funding/Scheduling

**Capital Outlay Support Estimate for PA&ED**

Fiscal Year	STIP PY's/\$'s	
	PY's	1000 of \$'s
2006/07	3.00	376
2007/08	3.17	405
2008/09	3.16	412
2009/10	4.06	534
2010/11	0.62	83
<b>Total Support Cost</b>	14.01	1,810

**Capital Outlay Estimate**

Location/ Alternative	Range for Total Cost (1,000 of \$)	Location/ Alternative	Range for Total Cost (1,000 of \$)
<b>Location 1</b>		<b>Location 4</b>	
Alternative 1	\$2,600-\$3,200	Alternative 1	\$1,000-\$1,200
Alternative 2	\$6,500-\$6,900	Alternative 2	\$500-\$800
Alternative 3	\$2,000-\$2,400	<b>Location 5</b>	
<b>Location 2</b>		Alternative 1	\$3,600-\$4,500
Alternative 1	\$1,000-\$1,500	Alternative 2	\$1,400-\$1,800
Alternative 2	\$9,000-\$10,000	<b>Location 6</b>	
Alternative 3	\$1,200-\$1,600	Alternative 1	\$1,500-\$2,000
<b>Location 3</b>		Alternative 2	\$1,200-\$1,700
Alternative 1	\$5,000-\$6,100	<b>Location 7</b>	
Alternative 2	\$2,200-\$2,900	Alternative 1	\$1,100-\$1,400

Total Project Range: \$9,400,000 - \$32,100,000

The level of detail available to develop these capital cost estimates is only accurate to within the above ranges and are useful for long range planning purposes only. The capital costs should not be used to program or commit capital funds. The Project Report will serve as the appropriate document from which the remaining support and capital components of the project will be programmed.

Tentative Project Schedule

Milestone	Fiscal Year
Circulate Draft Project Report/ Draft Environmental Document	2009/10
Public Hearing	2009/10
PA&ED	2010/11
PS&E	2013/14
Construction Completion	2015/16

This schedule assumes PA&ED Support funding in the 2006 STIP. Only the "PA&ED" milestone is to be used for programming commitments. All other milestones are used to indicate relative time frames for planning purposes.

9. Programming Recommendation

It is recommended that the support cost for PA&ED for the project outlined in this PSR(PDS) be funded in the 2006 STIP from the Regional Improvement Program (20.10.075.600). Alternatives may be added or revised during the PA&ED phase as more information becomes available.

10. Risk Management Plan

The Risk Management Plan was prepared to assess, respond and monitor identified project risks that may occur throughout the life of the project, (See Attachment M). The Risk Management Plan is designed as a tool to help the Project Development Team and Project Sponsor in their decisions regarding project alternatives and objectives and encourages the project team to take appropriate measures to minimize adverse impacts to the project scope, schedule or cost. However, the Risk Management Plan cannot identify all risks in advance of occurrence for a project where some risks are unknown.

The current cost estimate and/or schedule does not include quantitative impacts to costs and/or schedule for the risks identified in the Risk Management Plan.

11. District Contacts

Project Manager:	Amy Donatello	(805)549-3398
Design Manager	Boris Ayaviri	(559)244-2854
Project Engineer	Chris Gardner	(559)244-2859
Environmental Manager	Larry Newland	(805)542-4603

12. Attachments

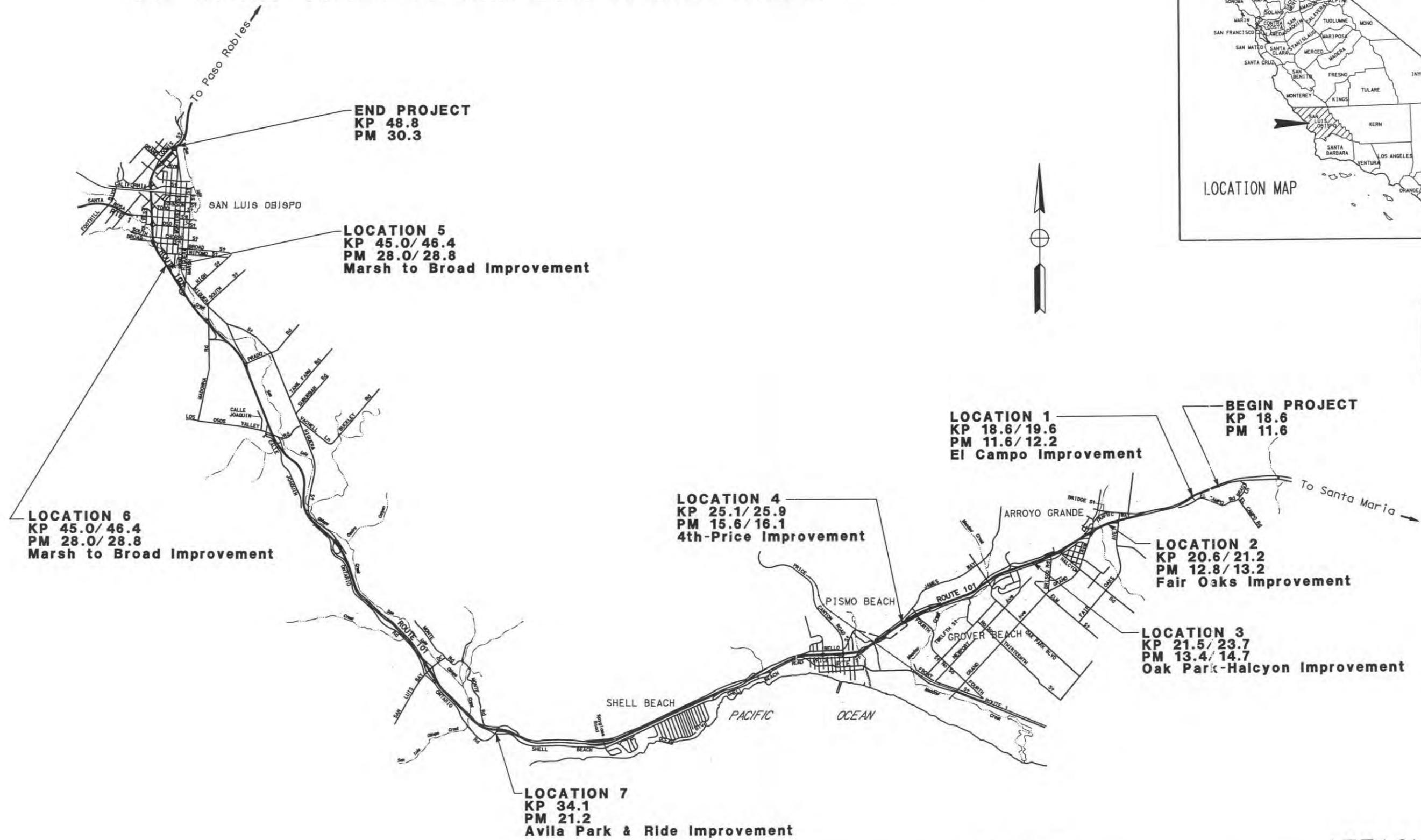
- A Vicinity Map
- B Location 1 Maps, Typical Cross Sections, PSR(PDS) Cost Estimates
- C Location 2 Maps, Typical Cross Sections, PSR(PDS) Cost Estimates
- D Location 3 Maps, Typical Cross Sections, PSR(PDS) Cost Estimates
- E Location 4 Maps, Typical Cross Sections, PSR(PDS) Cost Estimates
- F Locations 5 and 6 Maps, Typical Cross Sections, PSR(PDS) Cost Estimates
- G Location 7 Map, PSR(PDS) Cost Estimate
- H Preliminary Environmental Analysis Report
- I Right of Way Data Sheet
- J PDS Traffic Forecasting, Analysis and Operation Scoping Checklist
- K Traffic Management Plan Data Sheet/Checklist
- L Storm Water Data Sheet
- M Risk Management Plan
- N Support Cost Estimate Report (PA&ED Only)

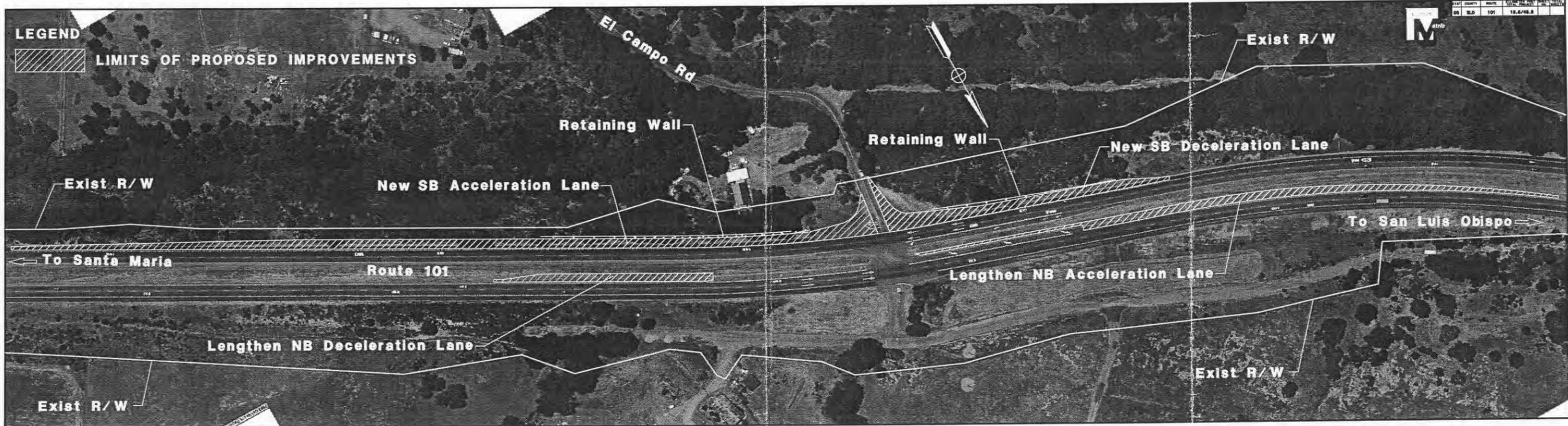
cc: FHWA - Dominic Hoang  
HQ Division of Design - Design Report Routing  
HQ Transportation Programming - Ross Chittenden, Kurt Scherzinger  
HQ Environmental - Kelly Dunlap  
HQ Traffic Operations - Nagi Pagadala  
Project Manager – Amy Donatello  
Design Manager – Boris Ayaviri  
Resident Engineer – Held by Boris Ayaviri  
District Maintenance - Lance Gorman  
District Traffic Management - James Alessi  
Region Traffic Design - Hassan Marei  
District Traffic Operations - Paul McClintic  
Region Materials - Ron Sekhon  
Region Environmental - Christine Cox  
Surveys - Tama Gonzalez (electronic copy only), Nick Tatarian  
HQ DES/OPPM - Andrew T S Tan  
District Records - Victoria Pozuelo  
Region Records - Tami Cox

# VICINITY MAP

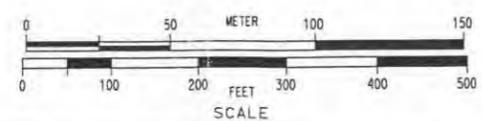
ON ROUTE 101 AT VARIOUS LOCATIONS IN SAN LUIS OBISPO COUNTY  
 FROM 0.4 KM SOUTH OF EL CAMPO ROAD NEAR ARROYO GRANDE  
 TO 0.1 KM NORTH OF SAN LUIS OBSIPO CREEK IN SAN LUIS OBSIPO

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SLO	101	18.6/48.8		

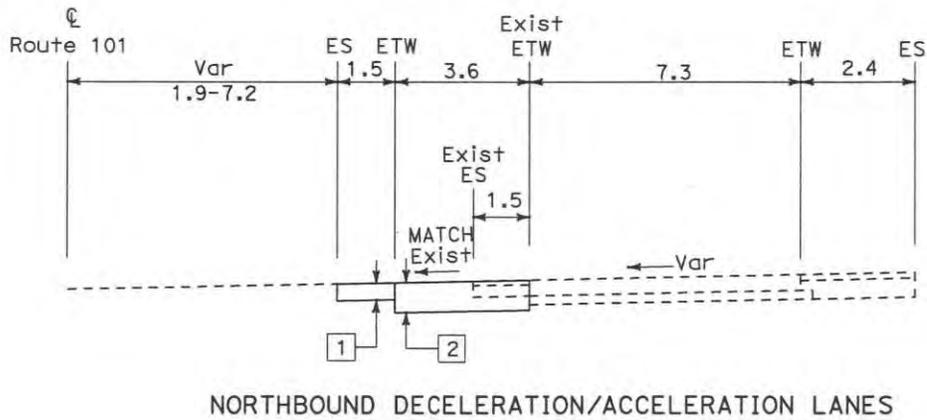
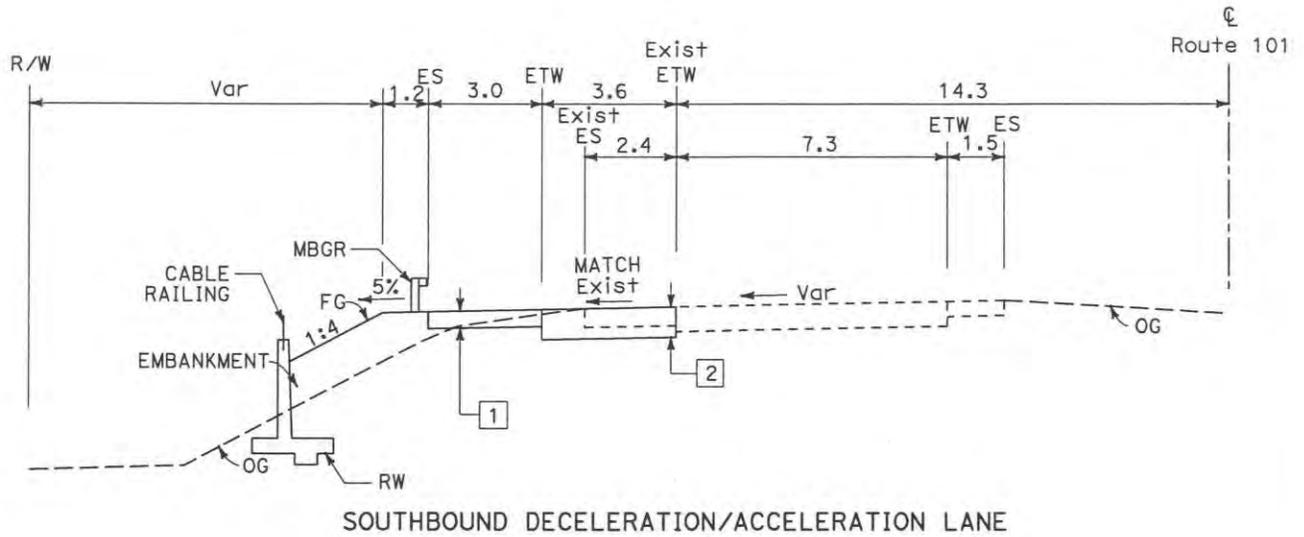




DATE	QUANTITY	ROUTE	LENGTH	AREA
06	8.0	101	18.6/19.6	10.6/12.2



LOCATION 1  
EL CAMPO IMPROVEMENT  
KP 18.6/19.6  
(PM 11.6/12.2)  
ALTERNATIVE 1  
ATTACHMENT B-1



NO SCALE

**TYPICAL STRUCTURAL SECTIONS**

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

- 1 90 mm AC Type A  
270 mm AB Class 2
- 2 150 mm AC Type A  
450 mm AB Class 2

**TYPICAL CROSS SECTIONS**

**LOCATION 1  
EL CAMPO IMPROVEMENT  
KP 18.6/19.6  
(PM 11.6/12.2)  
ALTERNATIVE 1**



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101  
KP(PM) KP 18.6/48.8  
(PM 11.6/30.3)  
EA 0H370K  
Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 at El Campo Road KP 18.6/19.6 (PM 11.6/12.2)  
Proposed Improvement (Scope) Lengthen NB acceleration/deceleration lane,  
Construct a SB acceleration/deceleration lane utilizing retaining walls for embankment widening

Alternate Location 1 (Alternative #1)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ <u>2,600,000 (average)</u>
TOTAL STRUCTURE ITEMS	\$ <u>0</u>
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ <u>250,000</u>
SUBTOTAL CONSTRUCTION COSTS	\$ <u>2,850,000 (average)</u>
TOTAL RIGHT OF WAY ITEMS	\$ <u>29,000</u>
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ <u>2,600,000 to 3,200,000</u>

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$2,000,000</u>	<u>1.3</u>	<u>\$2,600,000</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ Retaining wall, MBGR, water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	<u>0</u>	<u>0</u>	<u>0</u>
Total Cost for Structure	<u>0</u>	<u>0</u>	<u>0</u>

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$250,000</u>	<u>\$250,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Aesthetics treatment for retaining wall could require an additional \$50,000. Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$180,000  
 Structural Aesthetics = \$50,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$250,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

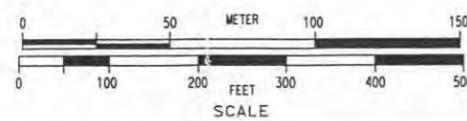
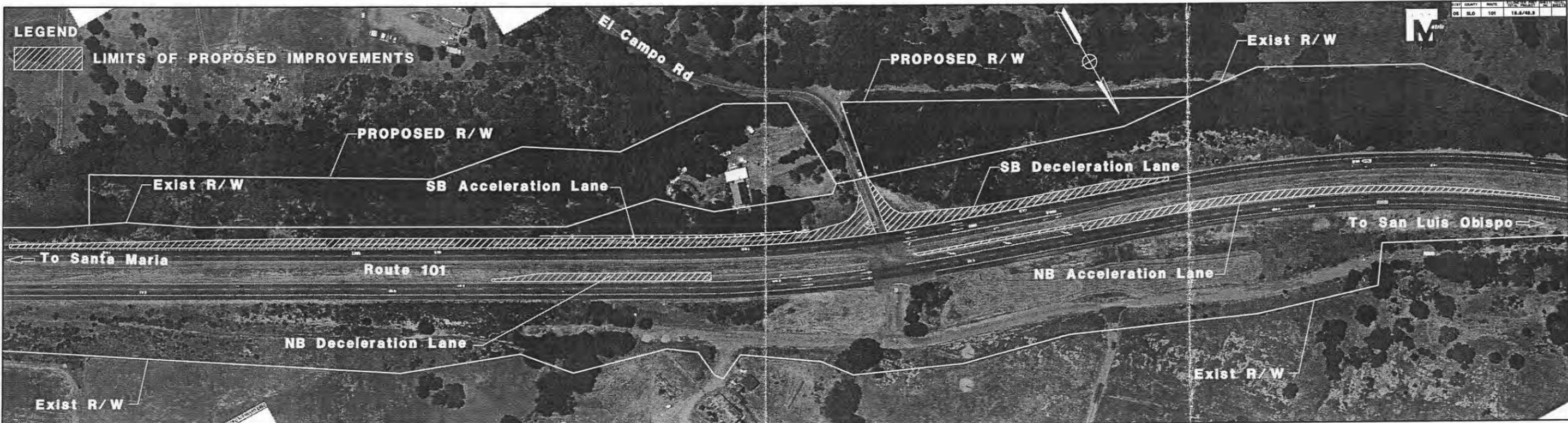
ESCALATED VALUE

A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ <u>0</u>
B. Utilities (State share)	\$ <u>29,000</u>

TOTAL RIGHT OF WAY ITEMS \$ 29,000  
 (Escalated Value)

Anticipated Date of Right of Way Certification 2014  
 (Date to which values are escalated)

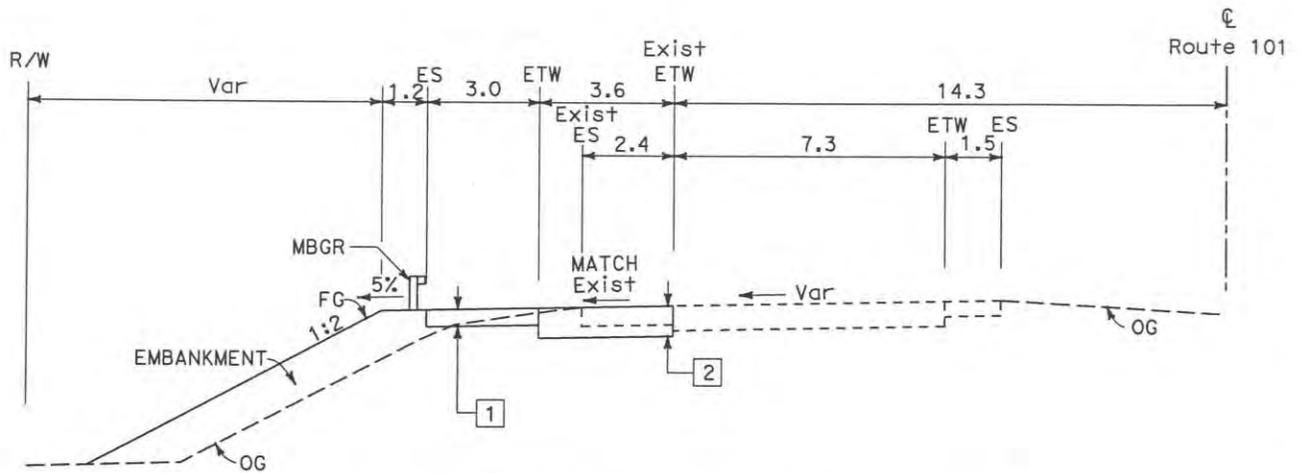
This alternative is not acquiring any land. Should further explanations be desired, please contact the following:  
 John W. Maddux (R/W Field Office Chief) Phone # (805) 549-3352



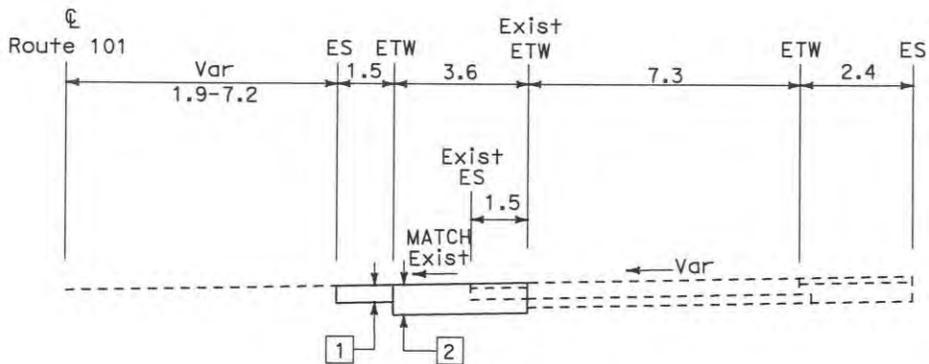
ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

**LOCATION 1**  
**EL CAMPO IMPROVEMENT**  
 KP 18.6/19.6  
 (PM 11.6/12.2)  
**ALTERNATIVE 2**

ATTACHMENT B-4



SOUTHBOUND DECELERATION/ACCELERATION LANE



NORTHBOUND DECELERATION/ACCELERATION LANES

TYPICAL STRUCTURAL SECTIONS

- 1 90 mm AC Type A  
270 mm AB Class 2
- 2 150 mm AC Type A  
450 mm AB Class 2

NO SCALE

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

TYPICAL CROSS SECTIONS

LOCATION 1  
EL CAMPO IMPROVEMENT  
KP 18.6/19.6  
(PM 11.6/12.2)  
ALTERNATIVE 2



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101  
KP(PM) KP 18.6/48.8  
(PM 11.6/30.3)  
EA 0H370K  
Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 at El Campo Road KP 18.6/19.6 (PM 11.6/12.2)  
Proposed Improvement (Scope) Lengthen NB acceleration/deceleration lane,  
Construct a SB acceleration/deceleration lane , acquiring right of way and utilizing a 1:2 (V:H) side slope  
Alternate Location 1 (Alternative #2)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ <u>1,260,000 (average)</u>
TOTAL STRUCTURE ITEMS	\$ <u>0</u>
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ <u>200,000</u>
 SUBTOTAL CONSTRUCTION COSTS	 \$ <u>1,460,000 (average)</u>
 TOTAL RIGHT OF WAY ITEMS	 \$ <u>5,253,000</u>
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ <u>6,500,000 to 6,900,000</u>

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$1,800,000</u>	<u>0.7</u>	<u>\$1,260,000</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	<u>0</u>	<u>0</u>	<u>0</u>
Total Cost for Structure	<u>0</u>	<u>0</u>	<u>0</u>

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$200,000</u>	<u>\$200,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$180,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$200,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

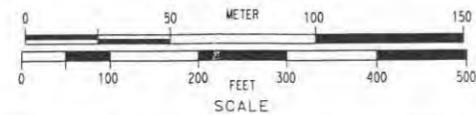
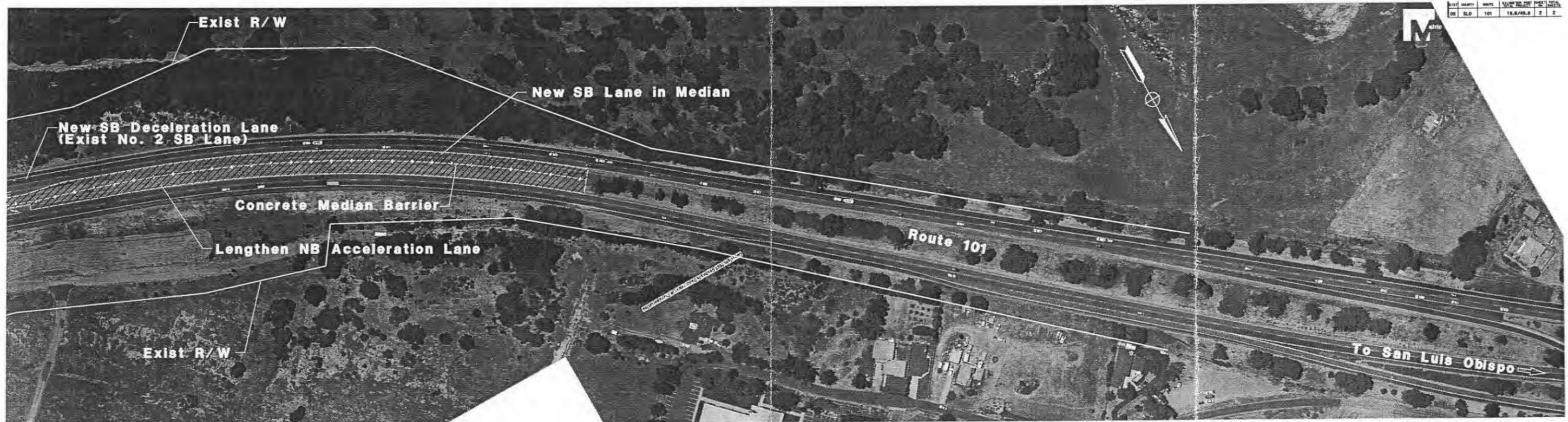
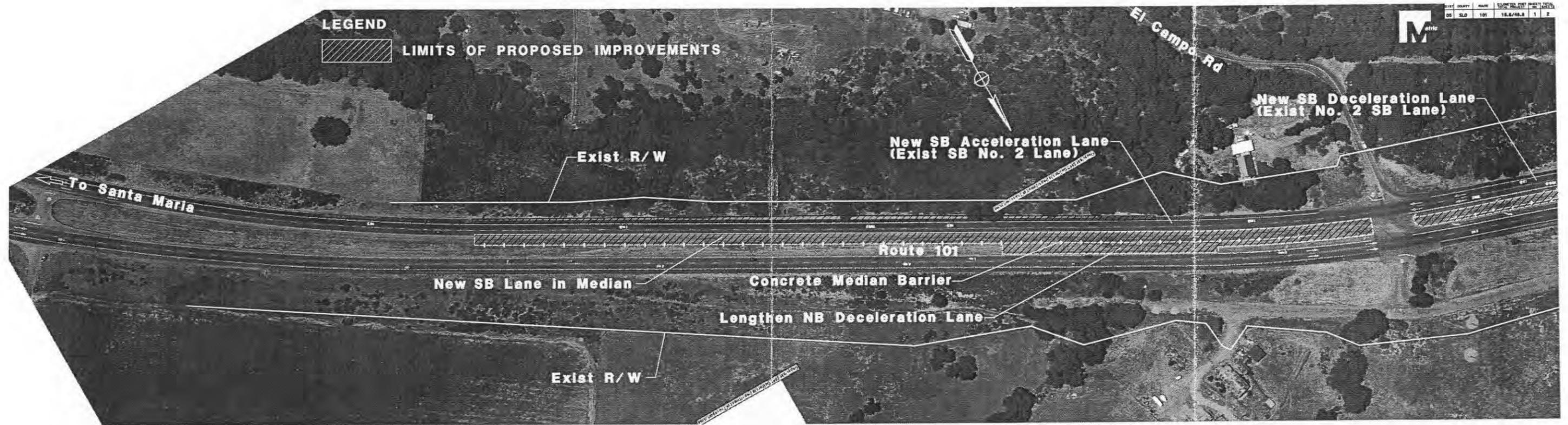
ESCALATED VALUE

A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	<u>\$4,698,000</u>
B. Utility Relocation (State share)	<u>\$ 29,000</u>
C. RAP	<u>\$ 194,000</u>
D. Clearance/Demo	<u>\$ 58,000</u>
E. Title and Escrow	<u>\$ 235,000</u>
F. Expert Witness	<u>\$ 39,000</u>

TOTAL RIGHT OF WAY ITEMS \$ 5,253,000  
 (Escalated Value)

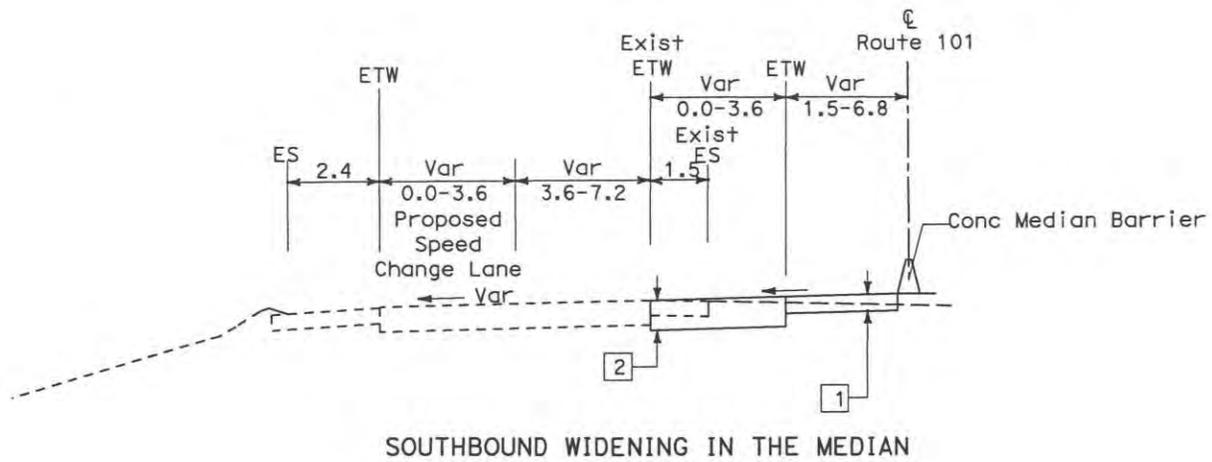
Anticipated Date of Right of Way Certification 2014  
 (Date to which values are escalated)

This alternative is acquiring two full parcels. Should further explanations be desired, please contact the following:  
 John W. Maddux (R/W Field Office Chief) Phone # (805) 549-3352

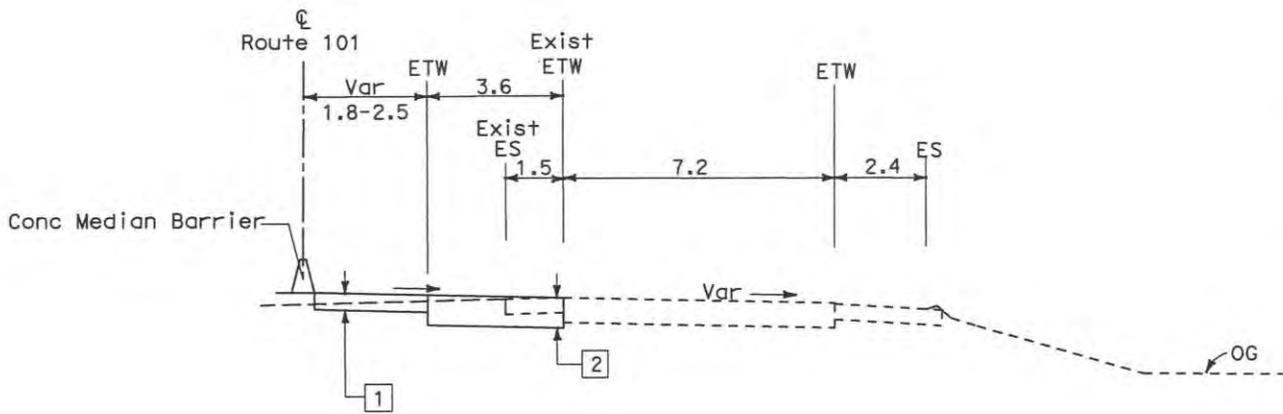


LOCATION 1  
 EL CAMPO IMPROVEMENT  
 KP 18.6/19.6  
 (PM 11.6/12.2)  
 ALTERNATIVE 3

ATTACHMENT B-7



SOUTHBOUND WIDENING IN THE MEDIAN



NORTHBOUND SPEED CHANGE LANE IN THE MEDIAN

TYPICAL STRUCTURAL SECTIONS

- 1 90 mm AC Type A  
270 mm AB Class 2
- 2 150 mm AC Type A  
450 mm AB Class 2

NO SCALE

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

TYPICAL CROSS SECTIONS

LOCATION 1  
EL CAMPO IMPROVEMENT  
KP 18.6/19.6  
(PM 11.6/12.2)  
ALTERNATIVE 3



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101  
KP(PM) KP 18.6/48.8  
(PM 11.6/30.3)  
EA 0H370K  
Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 at El Campo Road KP 18.6/19.6 (PM 11.6/12.2)  
Proposed Improvement (Scope) Lengthen NB acceleration/deceleration lane,  
Construct a SB acceleration/deceleration lane by widening to the inside w/ concrete median barrier  
Alternate Location 1 (Alternative #3)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ <u>1,980,000 (average)</u>
TOTAL STRUCTURE ITEMS	\$ <u>0</u>
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ <u>200,000</u>
SUBTOTAL CONSTRUCTION COSTS	\$ <u>2,180,000 (average)</u>
TOTAL RIGHT OF WAY ITEMS	\$ <u>0</u>
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ <u>2,000,000 to 2,400,000</u>

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$1,800,000</u>	<u>1.1</u>	<u>\$1,980,000</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	<u>0</u>	<u>0</u>	<u>0</u>
Total Cost for Structure	<u>0</u>	<u>0</u>	<u>0</u>

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$200,000</u>	<u>\$200,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$180,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$200,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$
B. Utility Relocation (State share)	\$
C. RAP	\$
D. Clearance/Demo	\$
E. Title and Escrow	\$
F. Expert Witness	\$

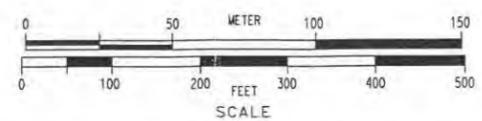
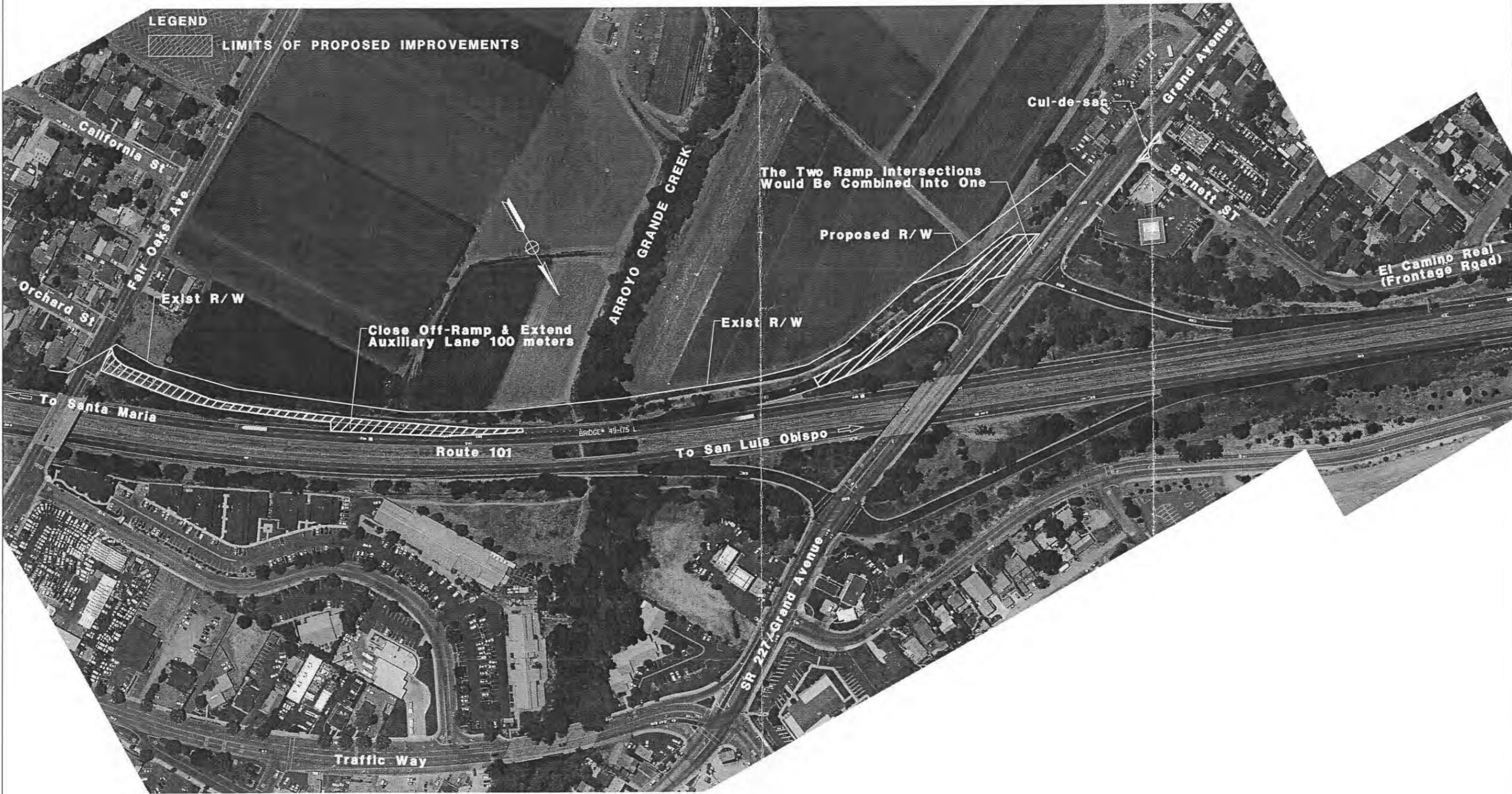
TOTAL RIGHT OF WAY ITEMS \$ 0  
 (Escalated Value)

Anticipated Date of Right of Way Certification 2014  
 (Date to which values are escalated)

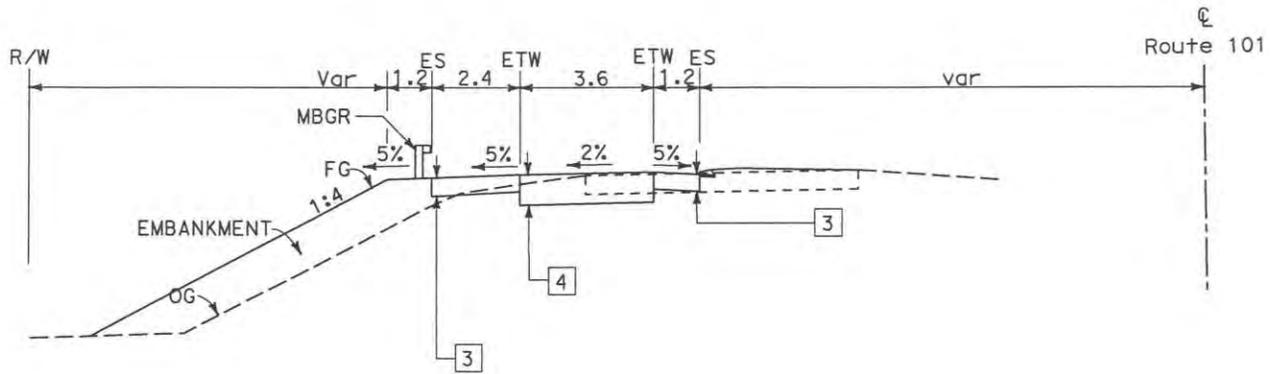
This alternative is not acquiring parcels. Should further explanations be desired, please contact the following:  
 John W. Maddux (R/W Field Office Chief) Phone # (805) 549-3352

**LEGEND**

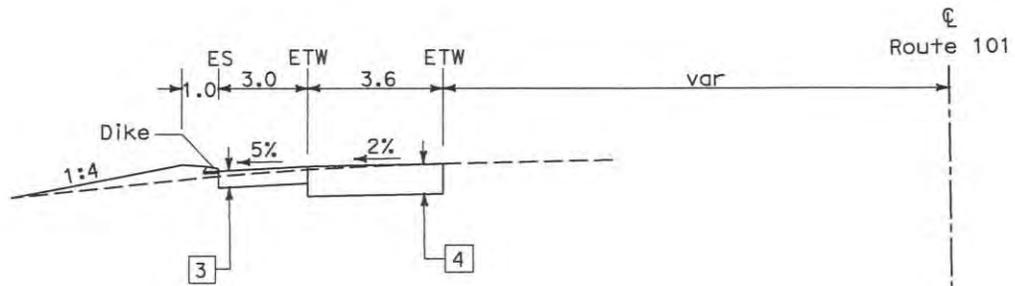
 **LIMITS OF PROPOSED IMPROVEMENTS**



**LOCATION 2  
FAIR OAKS IMPROVEMENT  
KP 20.6/21.2  
(PM 12.8/13.2)  
ALTERNATIVE 1  
ATTACHMENT C-1**



SR 227/GRAND AVENUE SOUTHBOUND ON-RAMP



Auxiliary Lane

**TYPICAL STRUCTURAL SECTIONS**

- 3 90 mm AC Type A
- 105 mm AB Class 2
- 270 mm AS Class 4
- 4 150 mm AC Type A
- 165 mm AB Class 2
- 465 mm AS Class 4

NO SCALE

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

**TYPICAL CROSS SECTIONS**

**LOCATION 2  
FAIR OAKS IMPROVEMENT  
KP 20.6/21.2  
(PM 12.8/13.2)  
ALTERNATIVE 1**

**ATTACHMENT C-2**



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101

KP(PM) KP 18.6/48.8

(PM 11.6/30.3)

EA 0H370K

Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 between Grand Ave & Fair Oaks KP 20.6/21.2 (PM 12.8/13.2)

Proposed Improvement (Scope) Close the SB off-ramp to Fair Oaks Avenue and extend the auxiliary lane.  
Modifications to the southbound US Route 101 ramp intersections with SR 227/Grand Avenue.

Alternate Location 2 (Alternative #1)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ <u>413,000 (average)</u>
TOTAL STRUCTURE ITEMS	\$ <u>0</u>
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ <u>90,000</u>
 SUBTOTAL CONSTRUCTION COSTS	 \$ <u>503,000 (average)</u>
 TOTAL RIGHT OF WAY ITEMS	 \$ <u>757,000</u>
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ <u>1,000,000 to 1,500,000</u>

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$700,000</u>	<u>0.59</u>	<u>\$413,000</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	<u>0</u>	<u>0</u>	<u>0</u>
Total Cost for Structure	<u>0</u>	<u>0</u>	<u>0</u>

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$90,000</u>	<u>\$90,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$70,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$90,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

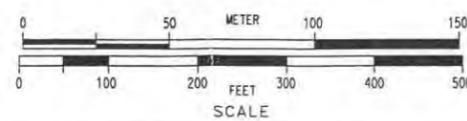
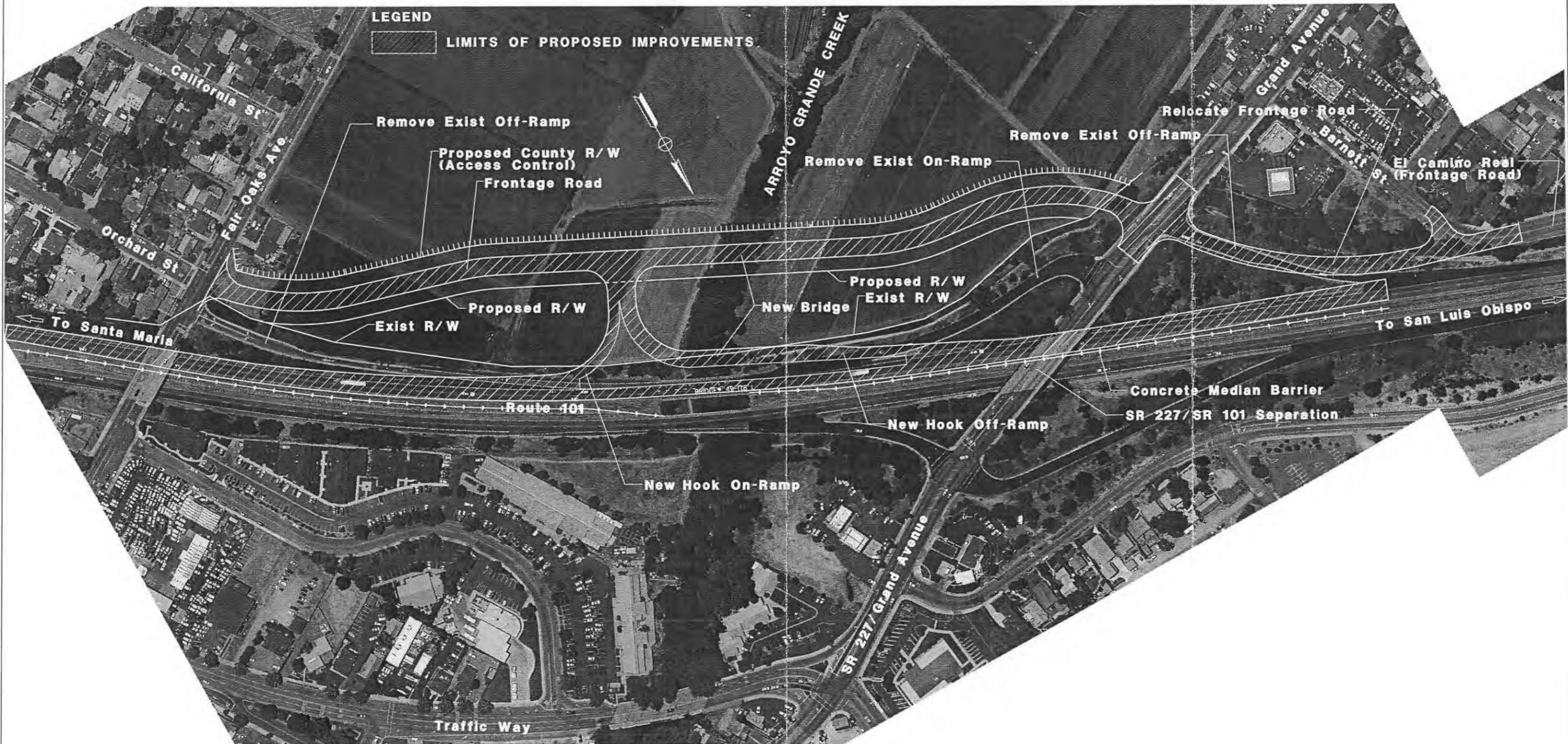
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ <u>596,000</u>
B. Utilities (State share)	\$ <u>126,000</u>
C. Title and Escrow	\$ <u>30,000</u>
D. Expert Witness	\$ <u>5,000</u>

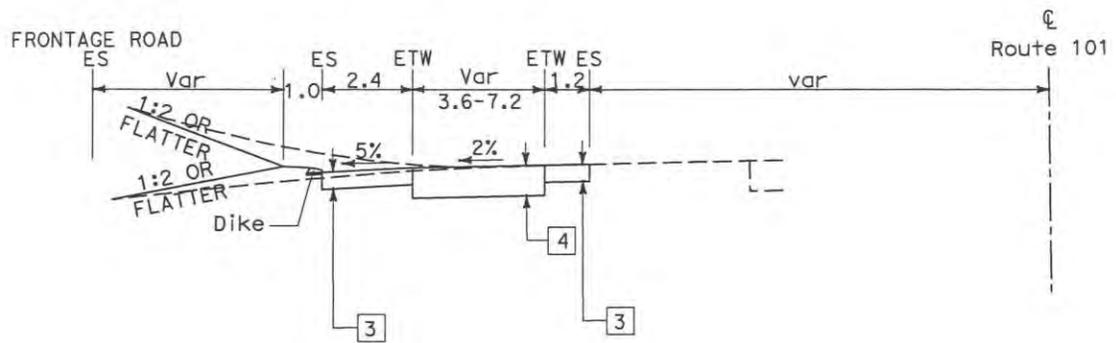
TOTAL RIGHT OF WAY ITEMS \$ 757,000  
 (Escalated Value)

Anticipated Date of Right of Way Certification 2014  
 (Date to which values are escalated)

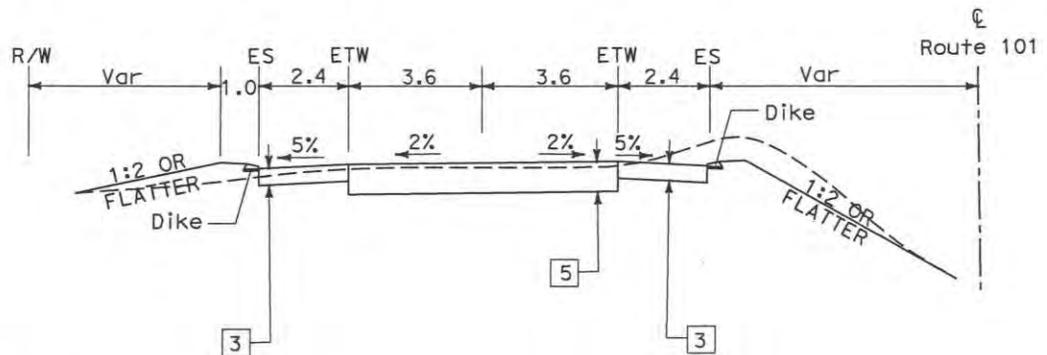
Minor right of way acquisition would be required. Should further explanations be desired, please contact the following:

John W. Maddux (R/W Field Office Chief) Phone # (805) 549-3352





HOOK ON & OFF-RAMPS



FRONTAGE ROAD

NO SCALE

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

TYPICAL STRUCTURAL SECTIONS

- 3 — 90 mm AC Type A  
105 mm AB Class 2  
270 mm AS Class 4
- 4 — 150 mm AC Type A  
165 mm AB Class 2  
465 mm AS Class 4
- 5 — 120 mm AC Type A  
135 mm AB Class 2  
390 mm AS Class 4

TYPICAL CROSS SECTIONS

LOCATION 2  
FAIR OAKS IMPROVEMENT  
KP 20.6/21.2  
(PM 12.8/13.2)  
ALTERNATIVE 2



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101  
KP(PM) KP 18.6/48.8  
(PM 11.6/30.3)  
EA 0H370K  
Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 between Grand Ave & Fair Oaks KP 20.6/21.2 (PM 12.8/13.2)

Proposed Improvement (Scope) Construct a frontage road between SR 227/Grand Avenue and Fair Oaks Avenue with new hook on and off-ramps.

Alternate Location 2 (Alternative #2)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ <u>2,800,000 (average)</u>
TOTAL STRUCTURE ITEMS	\$ <u>2,100,000</u>
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ <u>295,000</u>
SUBTOTAL CONSTRUCTION COSTS	\$ <u>5,195,000 (average)</u>
TOTAL RIGHT OF WAY ITEMS	\$ <u>4,317,000</u>
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ <u>9,000,000 to 10,000,000</u>

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$2,000,000</u>	<u>1.4</u>	<u>\$2,800,000</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ Retaining wall, MBGR, water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	Frontage Rd AGCB_	<u>Ramp AGCB</u>	<u>0</u>
Total Cost for Structure	<u>\$1,100,000</u>	<u>\$1,000,000</u>	<u>0</u>

TOTAL STRUCTURES ITEMS \$ 2,100,000  
 (Sum of Total Cost for Structures)

A Structure PSR (PDS) Cost Estimate was prepared by Structure Design August 1, 2005. For further information contact Michael Downs (Technical Liaison Engineer)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$295,000</u>	<u>\$295,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Aesthetics treatment for retaining wall could require an additional \$50,000. Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$225,000  
 Structural Aesthetics = \$50,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$295,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	<u>\$ 3,766,000</u>
B. Utility Relocation (State share)	<u>\$ 137,000</u>
C. Title and Escrow	<u>\$ 189,000</u>
D. Expert Witness	<u>\$ 31,000</u>
E. Relocation Assistance Program	<u>\$ 194,000</u>

TOTAL RIGHT OF WAY ITEMS \$ 4,317,000  
 (Escalated Value)

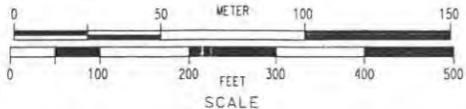
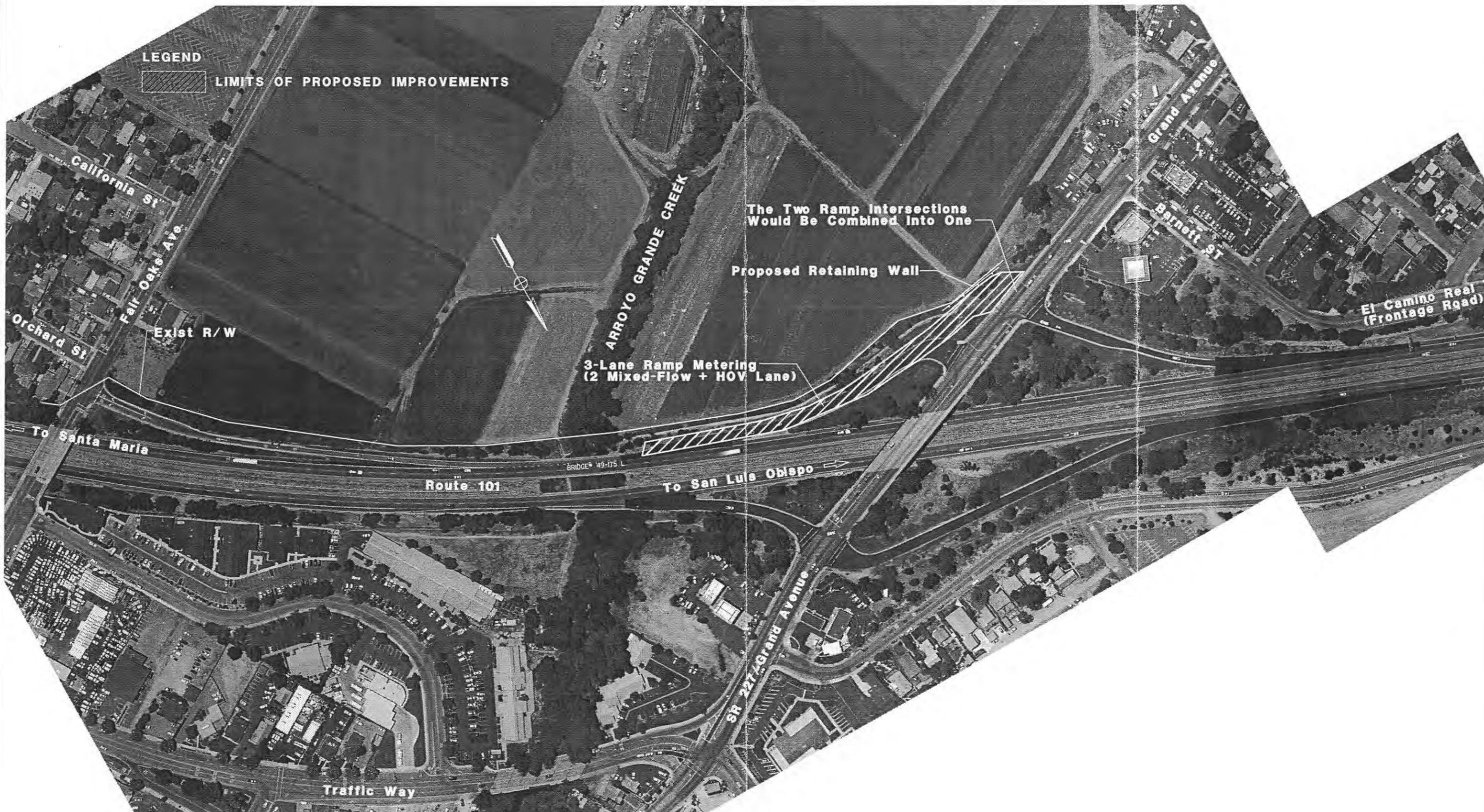
Anticipated Date of Right of Way Certification 2014  
 (Date to which values are escalated)

Should further explanations be desired, please contact the following:

John W. Maddux (R/W Field Office Chief) Phone # (805) 549-3352

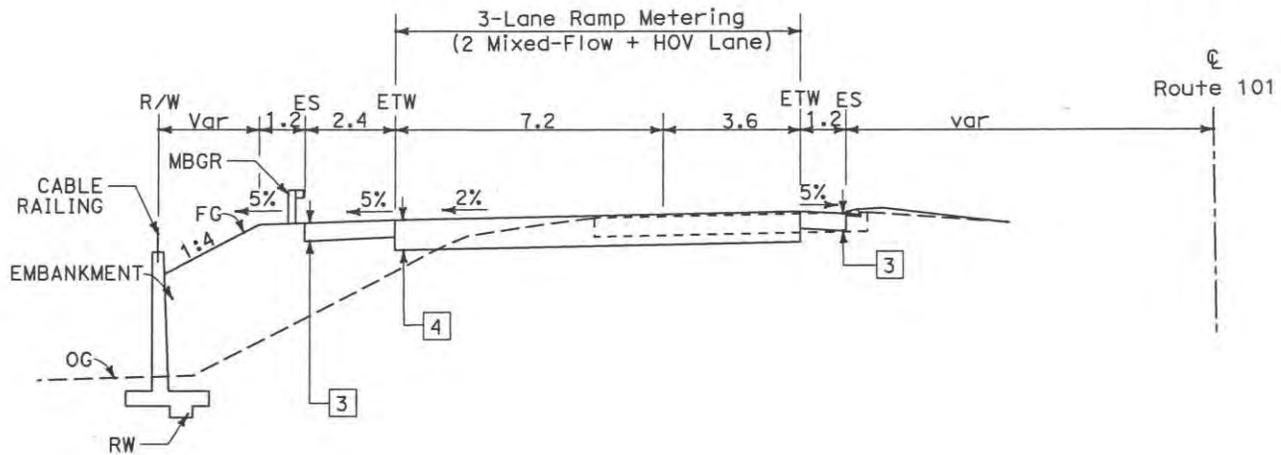
LEGEND

 LIMITS OF PROPOSED IMPROVEMENTS



LOCATION 2  
FAIR OAKS IMPROVEMENT  
KP 20.6/21.2  
(PM 12.8/13.2)  
ALTERNATIVE 3

ATTACHMENT C-7



SR 227/GRAND AVENUE SOUTHBOUND ON-RAMP

TYPICAL STRUCTURAL SECTIONS

- 3 90 mm AC Type A
- 105 mm AB Class 2
- 270 mm AS Class 4
- 4 150 mm AC Type A
- 165 mm AB Class 2
- 465 mm AS Class 4

NO SCALE

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

TYPICAL CROSS SECTIONS

LOCATION 2  
 FAIR OAKS IMPROVEMENT  
 KP 20.6/21.2  
 (PM 12.8/13.2)  
 ALTERNATIVE 3



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101

KP(PM) KP 18.6/48.8

(PM 11.6/30.3)

EA 0H370K

Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 between Grand Ave & Fair Oaks KP 20.6/21.2 (PM 12.8/13.2)

Proposed Improvement (Scope) Install ramp metering on the SB on-ramp from SR 227/ Grand Avenue with ramp modifications.

Alternate Location 2 (Alternative #3)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS \$ 600,000 (average)

TOTAL STRUCTURE ITEMS \$ 0

TOTAL ENVIRONMENTAL MITIGATION ITEMS \$ 115,000

SUBTOTAL CONSTRUCTION COSTS \$ 715,000

TOTAL RIGHT OF WAY ITEMS \$ 757,000

TOTAL PROJECT CAPITAL OUTLAY COSTS \$ 1,200,000 to 1,600,000

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	\$2,000,000	0.3	\$600,000

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ Retaining wall, MBGR, water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>	<u>Structure (3)</u>
Bridge Name	0	0	0
Total Cost for Structure	0	0	0

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$115,000</u>	<u>\$115,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Aesthetics treatment for retaining wall could require an additional \$25,000. Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$70,000  
 Structural Aesthetics = \$25,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$115,000

Should further explanations be desired, please contact the following:

Paula Huddleston (Environmental Planner Generalist) Phone # (805) 549-3063  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

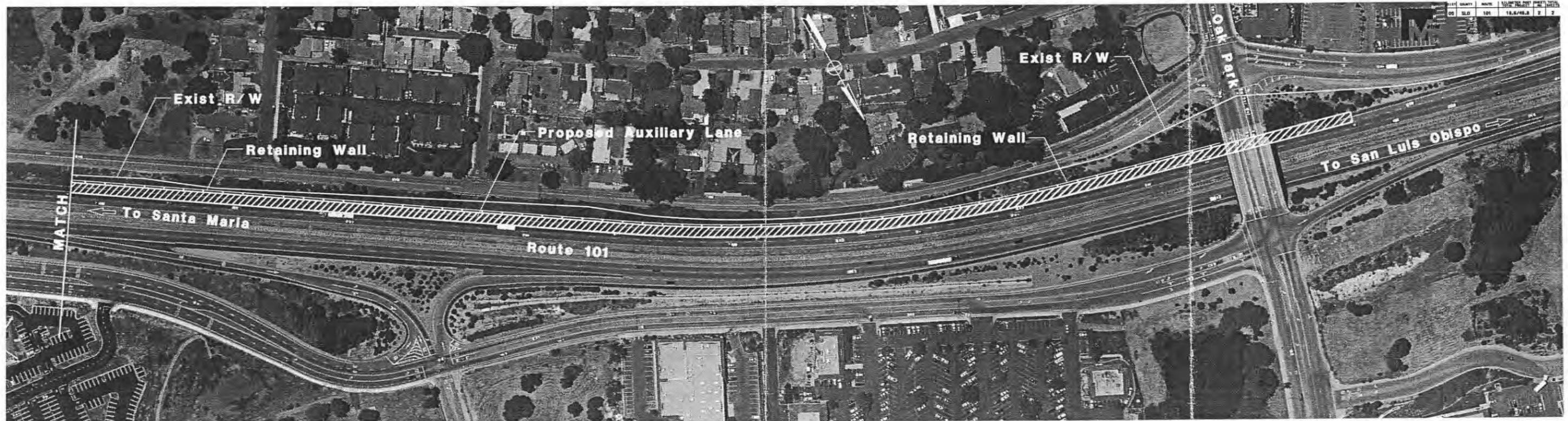
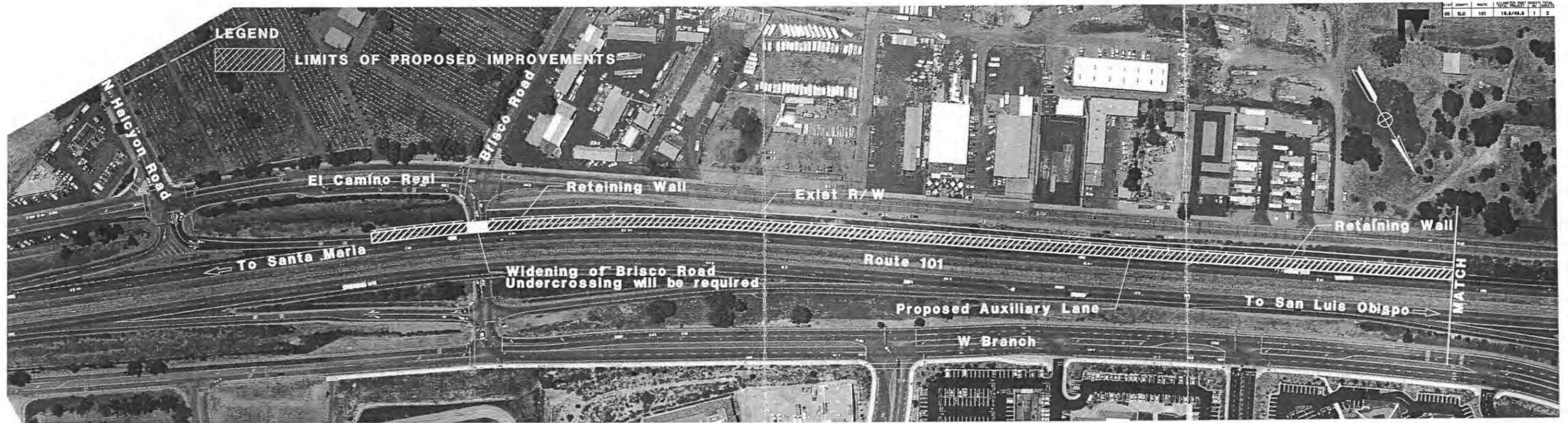
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ <u>596,000</u>
B. Utilities (State share)	\$ <u>126,000</u>
C. Title and Escrow	\$ <u>30,000</u>
D. Expert Witness	\$ <u>5,000</u>

TOTAL RIGHT OF WAY ITEMS \$ 757,000  
 (Escalated Value)

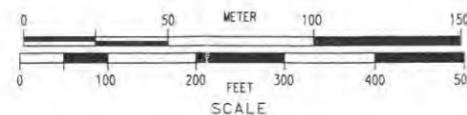
Anticipated Date of Right of Way Certification 2014  
 (Date to which values are escalated)

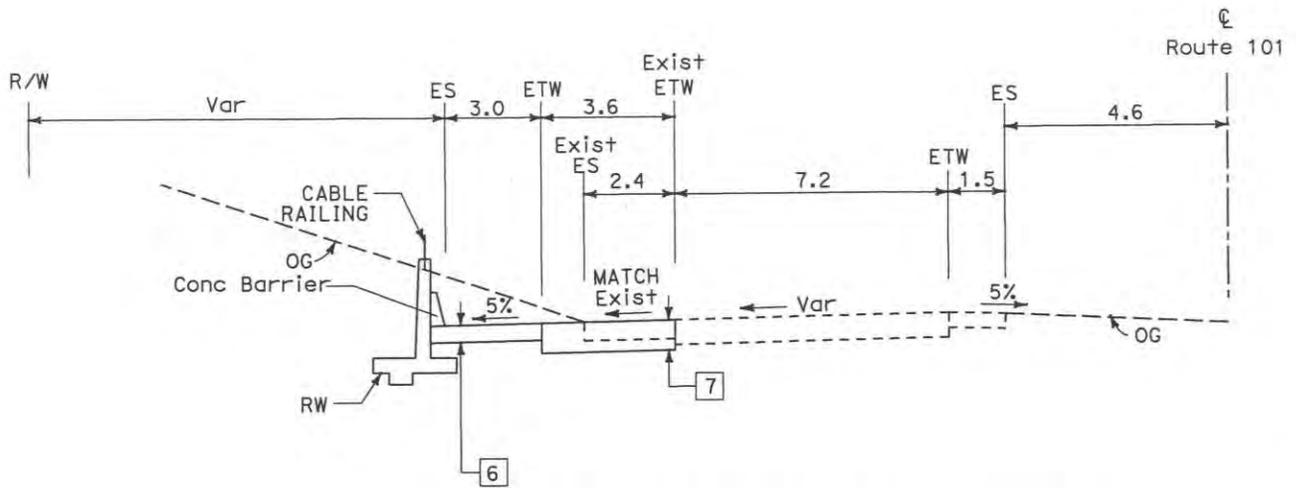
Minor right of way acquisition would be required. Should further explanations be desired, please contact the following:

John W. Maddux (R/W Field Office Chief) Phone # (805) 549-3352

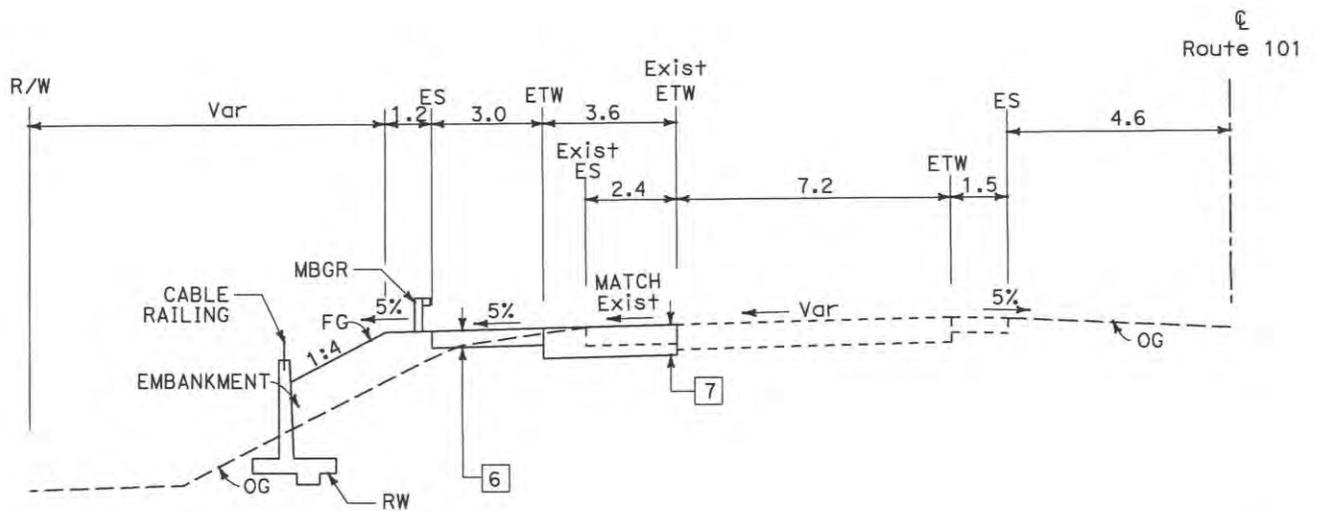


LOCATION 3  
 OAK PARK-HALCYON IMPROVEMENT  
 KP 21.5/23.7  
 (PM 13.4/14.7)  
 ALTERNATIVE 1





SOUTHBOUND AUXILIARY LANE (@ cut sections)



SOUTHBOUND AUXILIARY LANE (@ fill sections)

TYPICAL STRUCTURAL SECTIONS

6 135 mm AC Type A  
390 mm AB Class 2

7 210 mm AC Type A  
660 mm AB Class 2

NO SCALE

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

TYPICAL CROSS SECTIONS

LOCATION 3  
OAK PARK-HALCYON IMPROVEMENT  
KP 21.5/23.7  
(PM 13.4/14.7)  
ALTERNATIVE 1

ATTACHMENT D-2



I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$2,800,000</u>	<u>1.7</u>	<u>\$4,800,000</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ Retaining wall, MBGR, water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)
Bridge Name	<u>Brisco Road UC</u>
Total Cost for Structure	<u>\$450,000</u>

TOTAL STRUCTURES ITEMS \$ 450,000  
 (Sum of Total Cost for Structures)

A Structure PSR (PDS) Cost Estimate was prepared for the widening of the structure above.

Should further explanations be desired, please contact:

Michael Downs (Technical Liaison Engineer, Structure Design) Phone # (916) 227-9365

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$290,000</u>	<u>\$290,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Aesthetics treatment for retaining wall could require an additional \$75,000. Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$195,000  
 Structural Aesthetics = \$75,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$290,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

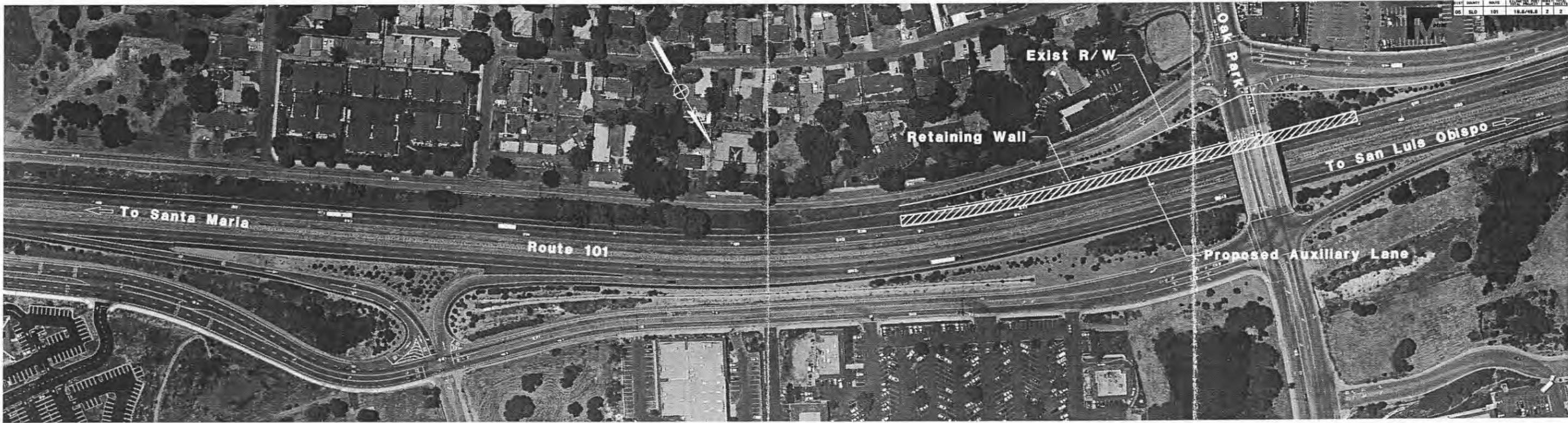
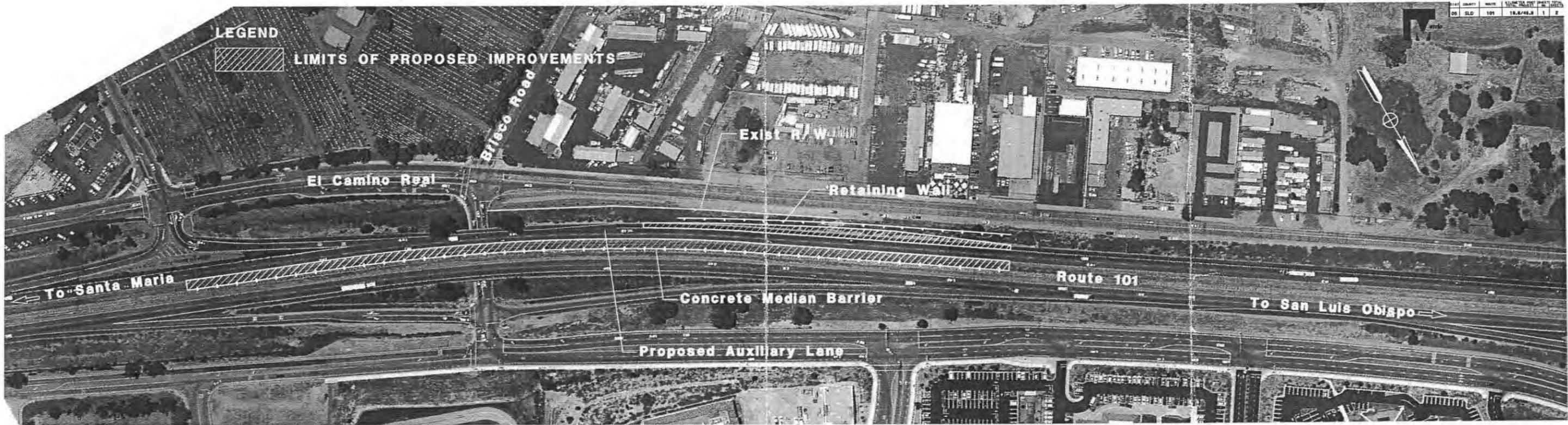
IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

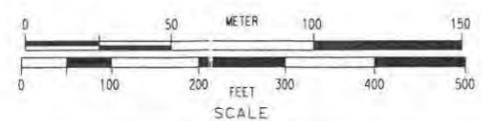
- A. Acquisition, including excess lands, damages to remainder(s) and Goodwill \$ \_\_\_\_\_
  
- B. Utility Relocation (State share) \$ \_\_\_\_\_

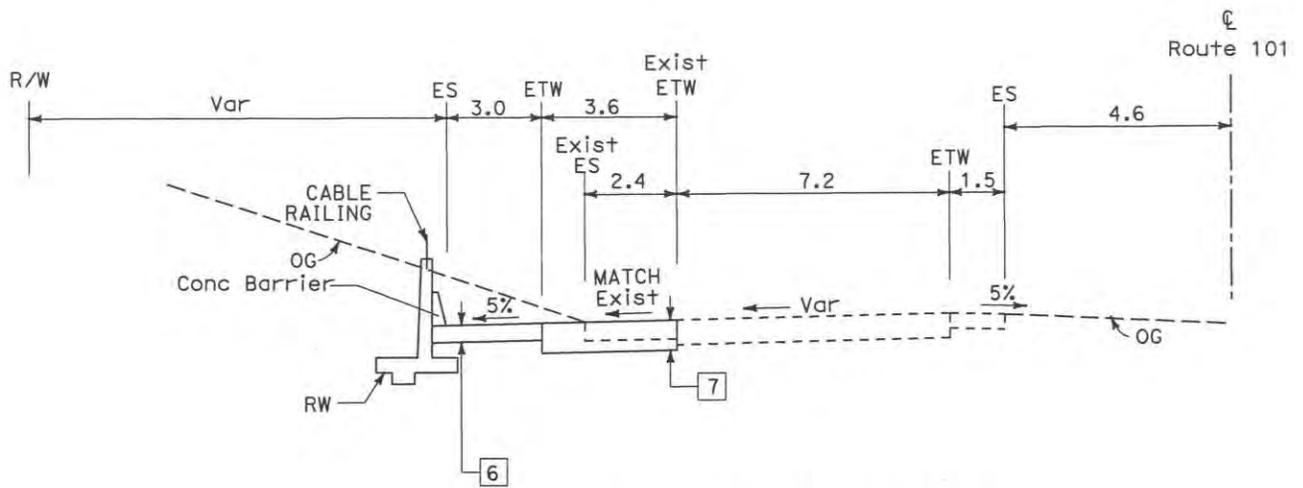
TOTAL RIGHT OF WAY ITEMS \$ \_\_\_\_\_  
 (Escalated Value)

Anticipated Date of Right of Way Certification \_\_\_\_\_  
 (Date to which values are escalated)

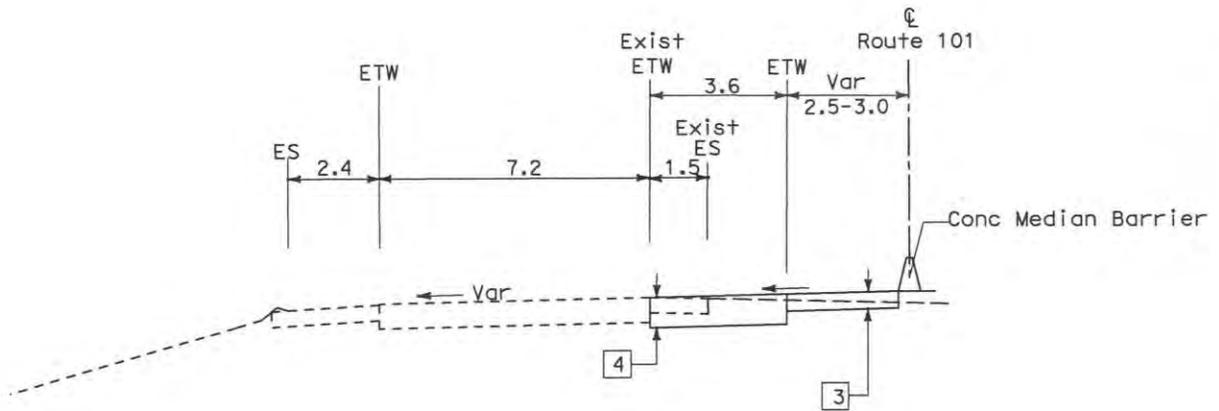


**LOCATION 3**  
**OAK PARK-HALCYON IMPROVEMENT**  
 KP 21.5/23.7  
 (PM 13.4/14.7)  
**ALTERNATIVE 2**





SOUTHBOUND AUXILIARY LANE AT  
SOUTHBOUND ON-RAMP FROM EL CAMINO REAL



SOUTHBOUND AUXILIARY LANE AT  
SOUTHBOUND OFF-RAMP TO BRISCO ROAD (HALCYON)

**TYPICAL STRUCTURAL SECTIONS**

- 3 - 90 mm AC Type A  
105 mm AB Class 2  
270 mm AS Class 4
- 4 - 150 mm AC Type A  
165 mm AB Class 2  
465 mm AS Class 4
- 6 - 135 mm AC Type A  
390 mm AB Class 2
- 7 - 210 mm AC Type A  
660 mm AB Class 2

NO SCALE

ALL DIMENSIONS ARE IN  
METERS UNLESS OTHERWISE SHOWN

**TYPICAL CROSS SECTIONS**

**LOCATION 3  
OAK PARK-HALCYON IMPROVEMENT  
KP 21.5/23.7  
(PM 13.4/14.7)  
ALTERNATIVE 2**



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101  
KP(PM) KP 18.6/48.8  
(PM 11.6/30.3)  
EA 0H370K  
Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on SB Route 101 between Oak Park & Halcyon KP 21.5/23.7 (PM 13.4/14.7)

Proposed Improvement (Scope) Construct a 300-meter auxiliary lane after the on-ramp from El Camino Real and a 300-meter auxiliary lane prior to the off-ramp to Halcyon Road. Retaining wall will be constructed to facilitate the wider roadway.

Alternate Location 3 (Alternative #2)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ <u>2,300,000 (average)</u>
TOTAL STRUCTURE ITEMS	\$ _____
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ <u>195,000</u>
 SUBTOTAL CONSTRUCTION COSTS	 \$ <u>2,495,000 (average)</u>
 TOTAL RIGHT OF WAY ITEMS	 \$ _____
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ <u>2,200,000 to 2,900,000</u>

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$3,800,000</u>	<u>0.6</u>	<u>\$2,300,000</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ Retaining wall, MBGR, water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	<u>0</u>	<u>0</u>	<u>0</u>
Total Cost for Structure	<u>0</u>	<u>0</u>	<u>0</u>

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$195,000</u>	<u>\$195,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Aesthetics treatment for retaining wall could require an additional \$75,000. Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$100,000  
 Structural Aesthetics = \$75,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$195,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

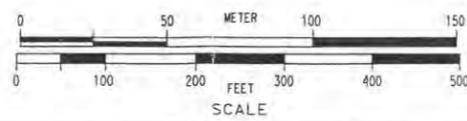
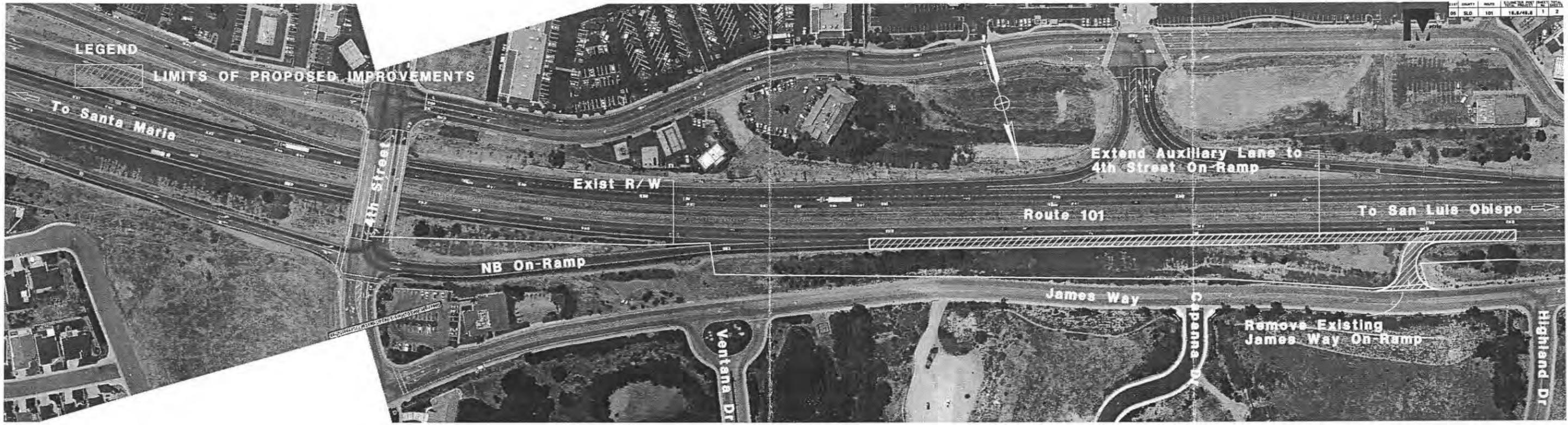
IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

- A. Acquisition, including excess lands, damages to remainder(s) and Goodwill \$ \_\_\_\_\_
  
- B. Utility Relocation (State share) \$ \_\_\_\_\_

TOTAL RIGHT OF WAY ITEMS \$ \_\_\_\_\_  
 (Escalated Value)

Anticipated Date of Right of Way Certification \_\_\_\_\_  
 (Date to which values are escalated)



ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN  
**LOCATION 4**  
**4TH-PRICE IMPROVEMENT**  
 KP 25.1/25.9  
 (PM 15.6/16.1)  
**ALTERNATIVE 1**  
**ATTACHMENT E-1**



I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$1,700,000</u>	<u>0.52</u>	<u>\$900,000</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	<u>0</u>	<u>0</u>	<u>0</u>
Total Cost for Structure	<u>0</u>	<u>0</u>	<u>0</u>

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$185,000</u>	<u>\$185,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$165,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$185,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

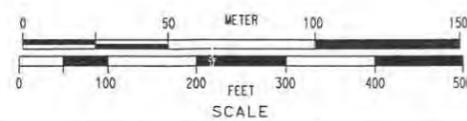
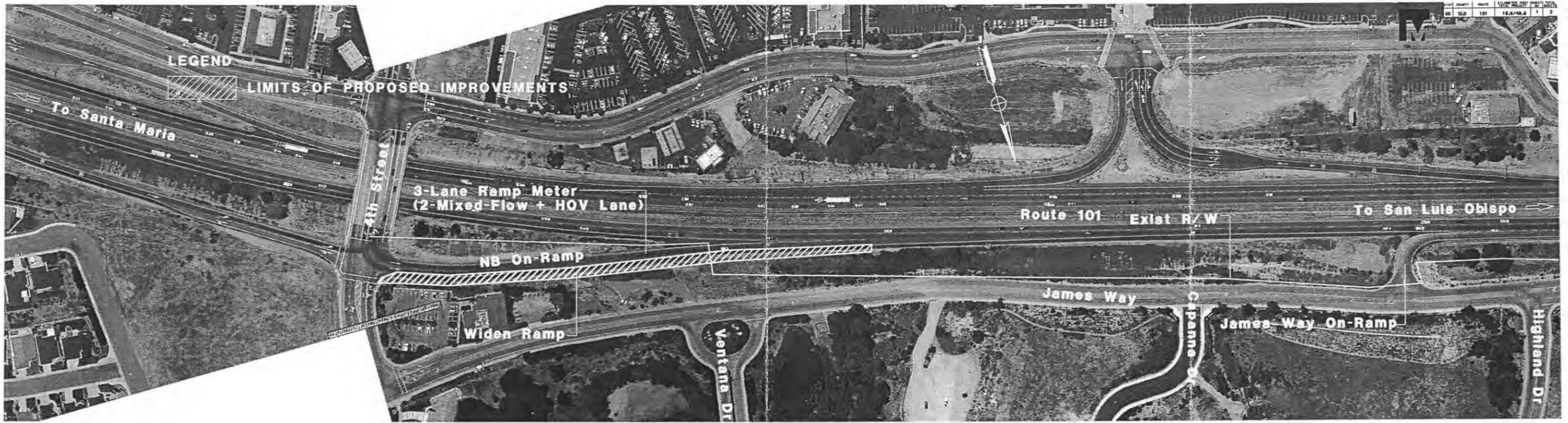
ESCALATED VALUE

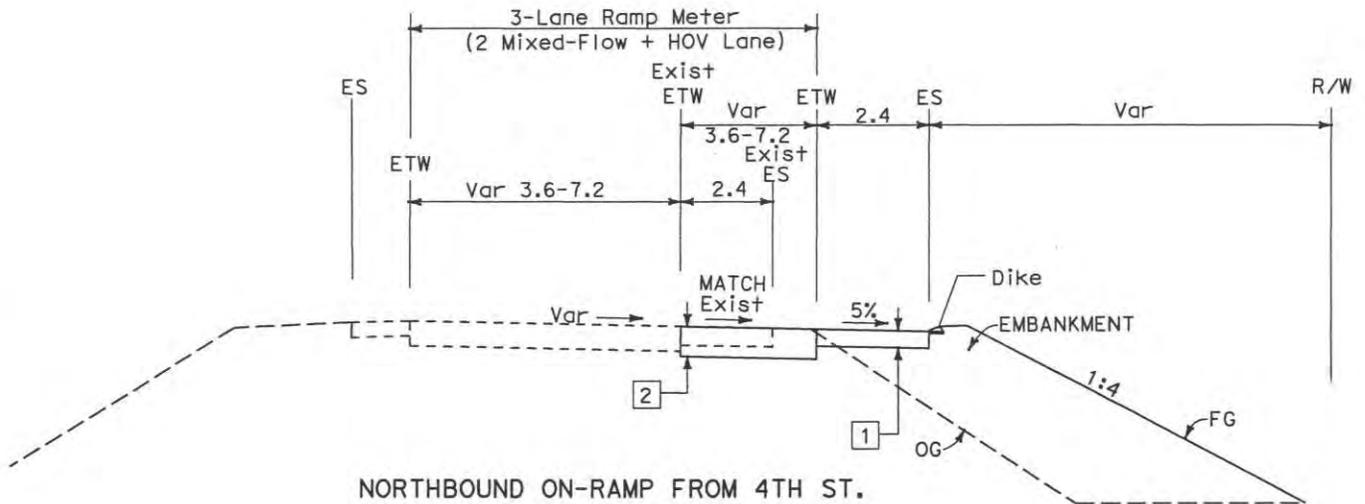
A. Acquisition, including excess lands,  
 damages to remainder(s) and Goodwill \$ 0

B. Utility Relocation (State share) \$ 0

TOTAL RIGHT OF WAY ITEMS \$ \_\_\_\_\_  
 (Escalated Value)

Anticipated Date of Right of Way Certification \_\_\_\_\_  
 (Date to which values are escalated)





TYPICAL STRUCTURAL SECTIONS

1 90 mm AC Type A  
270 mm AB Class 2

2 150 mm AC Type A  
450 mm AB Class 2

NO SCALE

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

**TYPICAL CROSS SECTIONS**

**LOCATION 4  
4TH-PRICE IMPROVEMENT  
KP 25.1/ 25.9  
(PM 15.6/ 16.1)  
ALTERNATIVE 2**

ATTACHMENT E-5



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101  
KP(PM) KP 18.6/48.8  
(PM 11.6/30.3)  
EA 0H370K  
Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 between the NB on-ramp from 4<sup>th</sup> St. & NB off-ramp to Price St. KP 25.1/25.9 (PM 15.6/16.1)

Proposed Improvement (Scope) Install ramp meters on the on-ramp from 4<sup>th</sup> St. in conjunction with widening the ramp.

Alternate Location 4 (Alternative #2)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ <u>450,000 (average)</u>
TOTAL STRUCTURE ITEMS	\$ <u>0</u>
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ <u>185,000</u>
 SUBTOTAL CONSTRUCTION COSTS	 \$ <u>632,000 (average)</u>
 TOTAL RIGHT OF WAY ITEMS	 \$ <u></u>
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ <u>500,000 to 800,000</u>

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$2,200,000</u>	<u>0.2</u>	<u>\$450,000</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	<u>0</u>	<u>0</u>	<u>0</u>
Total Cost for Structure	<u>0</u>	<u>0</u>	<u>0</u>

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$185,000</u>	<u>\$185,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$165,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$185,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

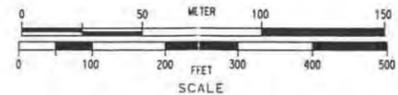
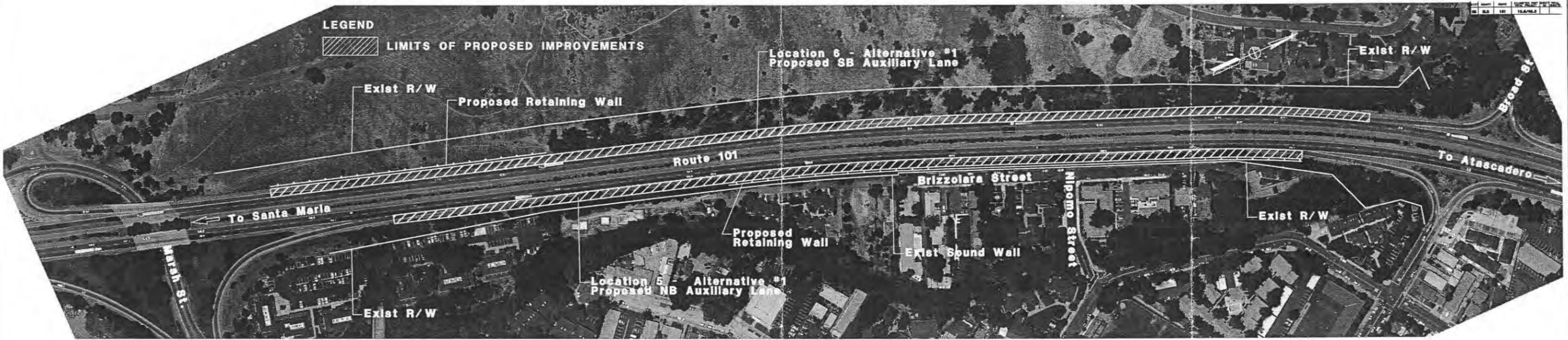
IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

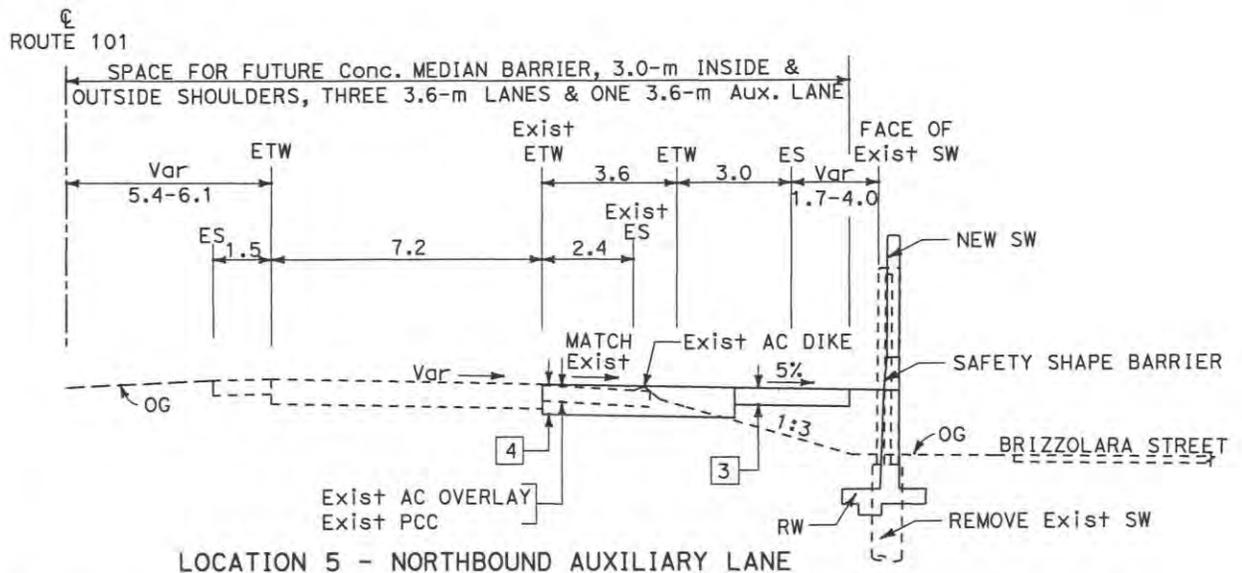
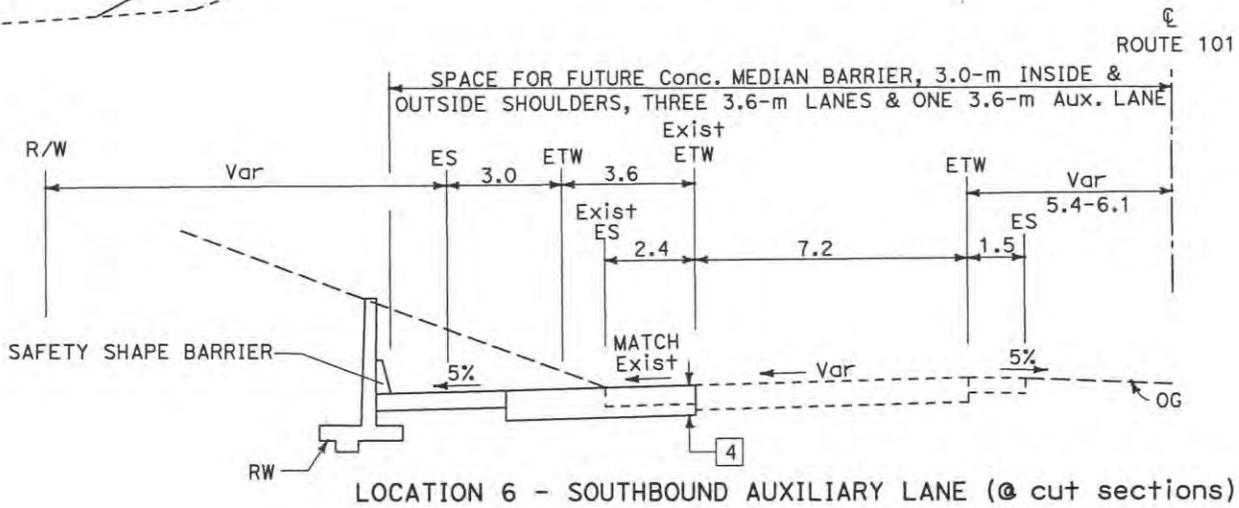
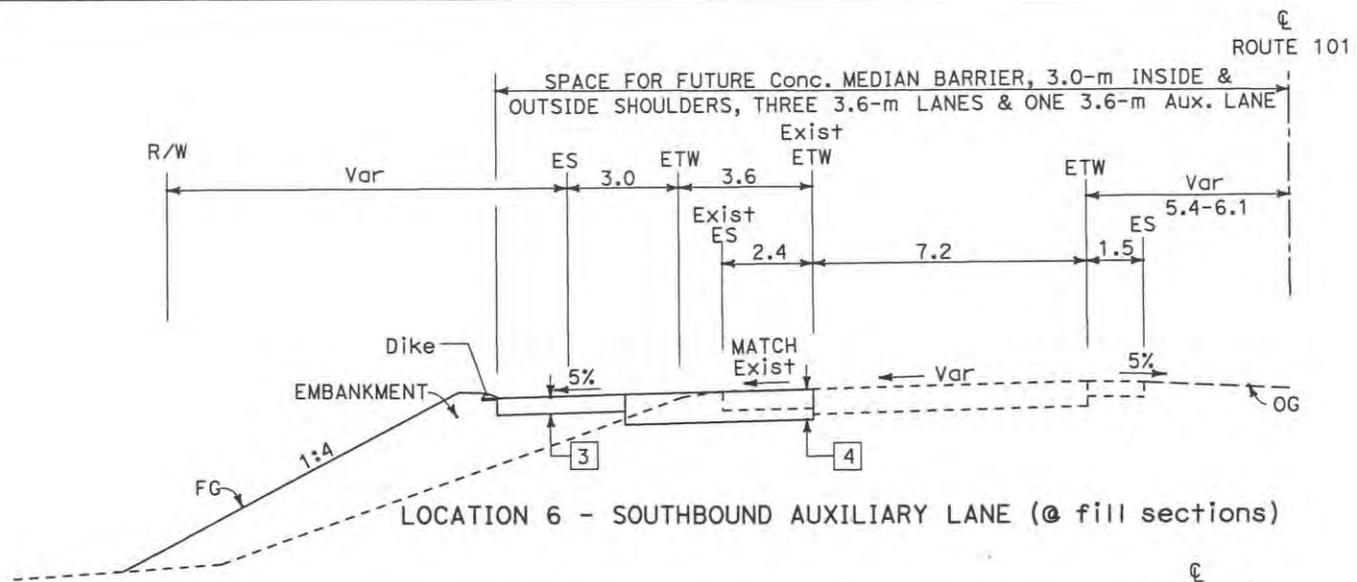
- A. Acquisition, including excess lands, damages to remainder(s) and Goodwill \$ 0
- B. Utility Relocation (State share) \$ 0

TOTAL RIGHT OF WAY ITEMS \$ \_\_\_\_\_  
 (Escalated Value)

Anticipated Date of Right of Way Certification \_\_\_\_\_  
 (Date to which values are escalated)



ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN  
**LOCATION 5 & 6**  
**MARSH-BROAD IMPROVEMENT**  
**(PM 28.0/28.8)**  
**ALTERNATIVE 1**  
**ATTACHMENT F-1**



TYPICAL STRUCTURAL SECTIONS

- 3 90 mm AC Type A
- 105 mm AB Class 2
- 270 mm AS Class 4
- 4 150 mm AC Type A
- 165 mm AB Class 2
- 465 mm AS Class 4

NO SCALE

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

TYPICAL CROSS SECTIONS

LOCATION 5 & 6  
MARSH-BROAD IMPROVEMENT  
KP 45.0/46.4  
(PM 28.0/28.8)  
ALTERNATIVE 1



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101

KP(PM) KP 18.6/48.8

(PM 11.6/30.3)

EA 0H370K

Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 between Marsh St. & Broad St. KP 45.0/46.4 (PM 28.0.8/28.8)

Proposed Improvement (Scope) Connect the on-ramp from Marsh St. to the off-ramp to Broad St. with a 760 meter auxiliary lane. Retaining walls will facilitate the wider embankment.

Alternate Location 5 (Alternative #1)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ <u>3,700,000 (average)</u>
TOTAL STRUCTURE ITEMS	\$ <u>0</u>
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ <u>370,000</u>
SUBTOTAL CONSTRUCTION COSTS	\$ <u>4,070,000 (average)</u>
TOTAL RIGHT OF WAY ITEMS	\$ _____
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ <u>3,600,000 to 4,500,000</u>

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	\$4,800,000	0.76	\$3,700,000

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ Retaining wall, MBGR, water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	<u>Structure</u>	<u>Structure</u>	<u>Structure</u>
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>
Bridge Name	0	0	0
Total Cost for Structure	0	0	0

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$370,000</u>	<u>\$370,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Aesthetics treatment for retaining wall could require an additional \$175,000. Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$175,000  
 Structural Aesthetics = \$175,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$370,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

- A. Acquisition, including excess lands, damages to remainder(s) and Goodwill \$ 0
  
- B. Utility Relocation (State share) \$ 0

TOTAL RIGHT OF WAY ITEMS \$ 0  
 (Escalated Value)

Anticipated Date of Right of Way Certification \_\_\_\_\_  
 (Date to which values are escalated)



III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$295,000</u>	<u>\$295,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Aesthetics treatment for retaining wall could require an additional \$175,000. Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$100,000  
 Structural Aesthetics = \$175,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$295,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

- A. Acquisition, including excess lands, damages to remainder(s) and Goodwill \$ 0
- B. Utility Relocation (State share) \$ 0

TOTAL RIGHT OF WAY ITEMS \$ 0  
 (Escalated Value)

Anticipated Date of Right of Way Certification \_\_\_\_\_

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$1,900,000</u>	<u>0.76</u>	<u>\$1,450,000</u>

The following are the items included in the Average Cost per Lane KM:

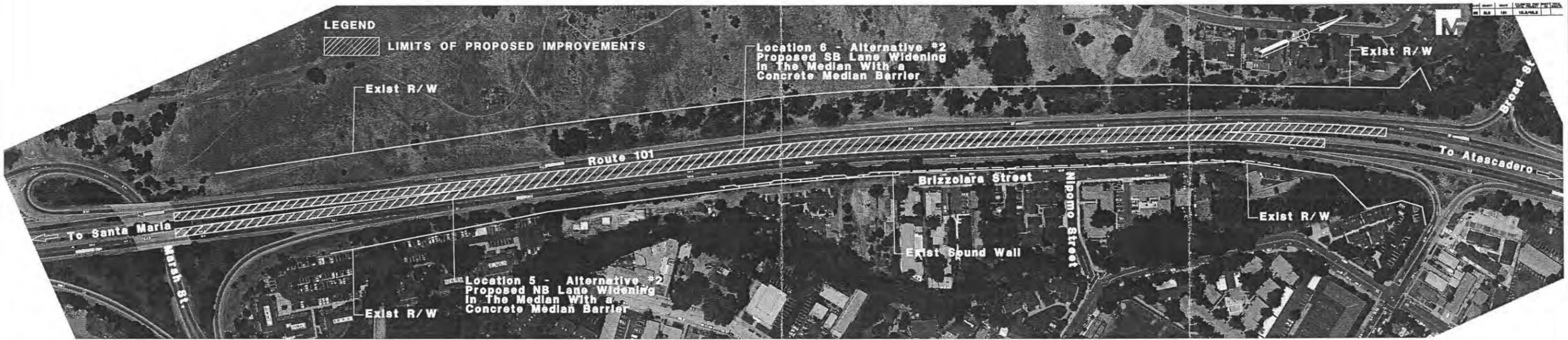
Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ Retaining wall, MBGR, water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	<u>0</u>	<u>0</u>	<u>0</u>
Total Cost for Structure	<u>0</u>	<u>0</u>	<u>0</u>

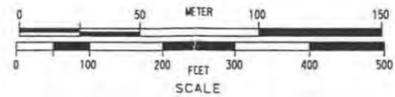
TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)



**LEGEND**  
 [Hatched Box] LIMITS OF PROPOSED IMPROVEMENTS

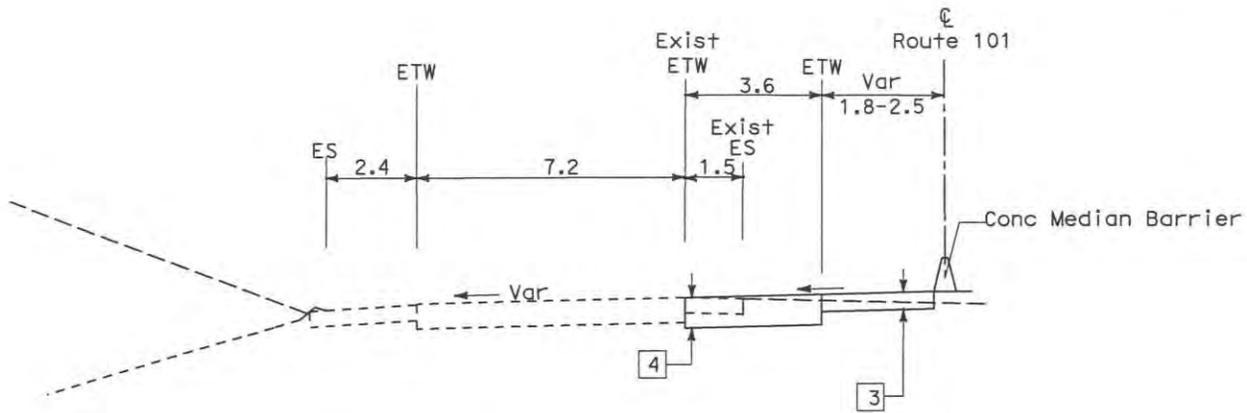
Location 6 - Alternative #2  
 Proposed SB Lane Widening  
 in The Median With a  
 Concrete Median Barrier

Location 5 - Alternative #2  
 Proposed NB Lane Widening  
 in The Median With a  
 Concrete Median Barrier

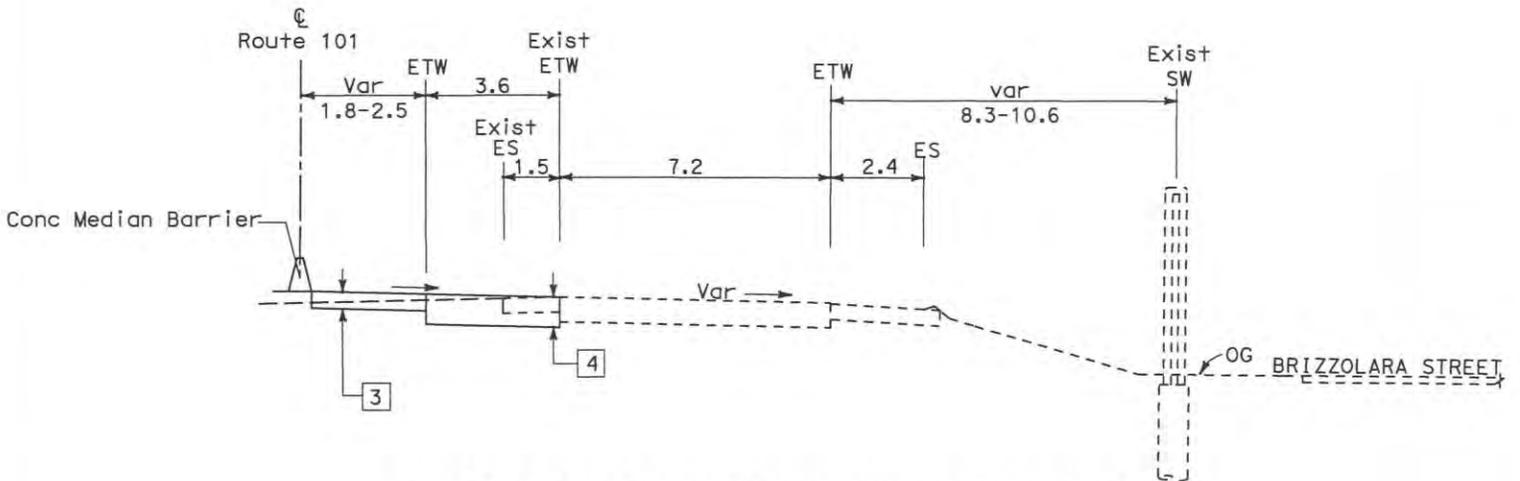


ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN  
**LOCATION 5 & 6**  
**MARSH-BROAD IMPROVEMENT**  
 (PM 28.0/28.8)  
**ALTERNATIVE 2**

ATTACHMENT F-5



LOCATION 6 - SOUTHBOUND WIDENING IN THE MEDIAN



LOCATION 5 - NORTHBOUND WIDENING IN THE MEDIAN

TYPICAL STRUCTURAL SECTIONS

- 3 90 mm AC Type A
- 105 mm AB Class 2
- 270 mm AS Class 4
  
- 4 150 mm AC Type A
- 165 mm AB Class 2
- 465 mm AS Class 4

NO SCALE

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

**TYPICAL CROSS SECTIONS**

**LOCATION 5 & 6  
MARSH-BROAD IMPROVEMENT  
KP 45.0/46.4  
(PM 28.0/28.8)  
ALTERNATIVE 2**



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101  
KP(PM) KP 18.6/48.8  
(PM 11.6/30.3)  
EA 0H370K  
Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 between Marsh St. & Broad St. KP 45.0/46.4 (PM 28.0.8/28.8)

Proposed Improvement (Scope) Construct an additional lane in the median with a median barrier.

Alternate Location 5 (Alternative #2)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ <u>1,450,000 (average)</u>
TOTAL STRUCTURE ITEMS	\$ <u>0</u>
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ <u>105,000</u>
 SUBTOTAL CONSTRUCTION COSTS	 \$ <u>1,555,000 (average)</u>
 TOTAL RIGHT OF WAY ITEMS	 \$ <u></u>
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ <u>1,400,000 to 1,800,000</u>

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	\$1,900,000	0.76	\$1,450,000

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ concrete median barrier, water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>	<u>Structure (3)</u>
Bridge Name	0	0	0
Total Cost for Structure	0	0	0

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$105,000</u>	<u>\$105,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$85,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$105,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

- A. Acquisition, including excess lands, damages to remainder(s) and Goodwill \$ 0
- B. Utility Relocation (State share) \$ 1,000

TOTAL RIGHT OF WAY ITEMS \$ 1,000  
 (Escalated Value)

Anticipated Date of Right of Way Certification 2008  
 (Date to which values are escalated)

State share of utilities includes potholing (\$1,000). Should further explanations be desired, please contact the following:

John W. Maddux (R/W Field Office Chief) Phone # (805) 549-3352



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101

KP(PM) KP 18.6/48.8

(PM 11.6/30.3)

EA 0H370K

Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 between Marsh St. & Broad St. KP 45.0/46.4 (PM 28.0.8/28.8)

Proposed Improvement (Scope) Construct an additional lane in the median with a median barrier.

Alternate Location 6 (Alternative #2)

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS \$ 1,300,000 (average)

TOTAL STRUCTURE ITEMS \$ 0

TOTAL ENVIRONMENTAL MITIGATION ITEMS \$ 90,000

SUBTOTAL CONSTRUCTION COSTS \$ 1,390,000 (average)

TOTAL RIGHT OF WAY ITEMS \$ \_\_\_\_\_

TOTAL PROJECT CAPITAL OUTLAY COSTS \$ 1,200,000 to 1,700,000

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$1,700,000</u>	<u>0.76</u>	<u>\$1,300,000</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ concrete median barrier, water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	<u>0</u>	<u>0</u>	<u>0</u>
Total Cost for Structure	<u>0</u>	<u>0</u>	<u>0</u>

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$90,000</u>	<u>\$90,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + additional landscape replacement = \$70,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$90,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

A. Acquisition, including excess lands,  
 damages to remainder(s) and Goodwill \$ 0

B. Utility Relocation (State share) \$       

TOTAL RIGHT OF WAY ITEMS \$         
 (Escalated Value)

Anticipated Date of Right of Way Certification         
 (Date to which values are escalated)

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 LIMITS OF PROPOSED IMPROVEMENTS

Avila Beach Dr

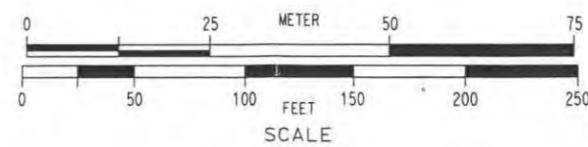
1 Acre  
0.4 Hectare

Proposed Location of Park & Ride Lot

To San Luis Obispo  
Route 101

SB On-Ramp  
Shell Beach Rd

To Santa Maria



LOCATION 7  
AVILA BEACH DRIVE  
PARK & RIDE  
(PM 21.1)

ATTACHMENT G-1



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-101

KP(PM) KP 18.6/48.8

(PM 11.6/30.3)

EA 0H370K

Program Code 075.600

### PROJECT DESCRIPTION:

Limits San Luis Obispo County on Route 101 on the corner of Avila Beach Dr. & Shell Beach Dr. KP 34.1 (PM 21.1)

Proposed Improvement (Scope) Construct a park & ride lot on the corner of Avila Beach Dr. and Shell Beach Dr.

Alternate Location 7

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ <u>800,000</u>
TOTAL STRUCTURE ITEMS	\$ <u>0</u>
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ <u>90,000</u>
 SUBTOTAL CONSTRUCTION COSTS	 \$ <u>890,000</u>
 TOTAL RIGHT OF WAY ITEMS	 \$ <u>376,000</u>
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ <u>1,100,000 to 1,400,000</u>

I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

The following are the items included in the Average Cost per Lane KM:

Roadway Items

- ◆ Earthwork
  - ◆ roadway excavation, imported borrow, clearing & grubbing
- ◆ Structural Section
  - ◆ asphalt concrete (type A), aggregate base class 2
- ◆ Drainage Items
- ◆ Specialty Items
  - ◆ parking bumpers, water pollution control and erosion control items, RE office
- ◆ Traffic Items
  - ◆ public awareness campaign, construction area signs, pavement delineation/signing, traffic handling, maintain traffic, ITS, cozeep, traffic management plan
- ◆ Minor Items (10% of Roadway Items)
- ◆ Roadway Mobilization (10% of Roadway Items + Minor Items)
- ◆ Roadway Additions
  - ◆ Supplemental Work (10% of Roadway Items + Minor Items)
  - ◆ Contingencies (25% of Roadway Items + Minor Items)

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	<u>0</u>	<u>0</u>	<u>0</u>
Total Cost for Structure	<u>0</u>	<u>0</u>	<u>0</u>

TOTAL STRUCTURES ITEMS \$ 0  
 (Sum of Total Cost for Structures)

III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$90,000</u>	<u>\$90,000</u>

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon (\$100,000 for total project). Visual resources mitigation would include replacement planting of natural vegetation tree replacement and irrigation system replacement (\$450,000 for total project). An updated estimate from Landscape Architecture increased the original Visual Resources Mitigation for this location. Hazardous waste remediation would include an airily deposited lead analysis (\$40,000 for total project). Below is a preliminary cost summary for this location:

Biological Mitigation = \$100,000 / 7 locations = \$14,286  
 Visual Resources Mitigation = (\$450,000 / 7 locations) + \$41,230 additional landscape replacement = \$70,000  
 Hazardous Waste Remediation = \$40,000 / 7 locations = \$5,715  
 TOTAL = \$90,000

Should further explanations be desired, please contact the following:

Larry Newland (Senior Environmental Planner) Phone # (805) 542-4603  
 Patrick Bolger (Landscape Architecture) Phone # (805) 549-3001

IV. RIGHT OF WAY ITEMS

ESCALATED VALUE

A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ <u>338,000</u>
B. Utility Relocation (State share)	\$ <u>18,000</u>
C. Title	\$ <u>17,000</u>
D. Expert Witness	\$ <u>3,000</u>

TOTAL RIGHT OF WAY ITEMS \$ 376,000  
 (Escalated Value)

Anticipated Date of Right of Way Certification 2014  
 (Date to which values are escalated)

Should further explanations be desired, please contact the following:

John W. Maddux (R/W Field Office Chief) Phone # (805) 549-3352



## Preliminary Environmental Analysis Report

### Project Information

District 05 County SLO Route 101 Kilometer Post 18.6/48.8 Post Mile 11.6/30.3 EA 05-0H370K

Project Title: SLO Operational Improvements, Phase II

Project Manager Amy Donatello Phone # (805) 549-3398

Project Engineer Chris Gardner Phone # (805) 244-2859

Environmental (Manager) Larry Newland Phone # (805) 542-4603

Environmental Planner Generalist Don Morehouse Phone # (805) 549-3046

### Project Description

The San Luis Obispo Council of Governments (SLOCOG) and the California Department of Transportation (Caltrans) propose improvements along US Route 101 (US 101) between post mile (PM) 11.6 and 30.3 in San Luis Obispo County, California. The proposed US Route 101 Operational Improvements Project, Phase 2, entails construction of deceleration lanes, acceleration lanes, frontage roads, climbing lanes, on ramps, two park and ride lots, auxiliary lanes, soundwalls, and/or median barriers at seven locations. New right-of-way must be acquired at two locations. The proposed project will use funds administered by the Federal Highway Administration (FHWA).

This State Transportation Improvement Program (STIP) candidate project proposes to improve the traffic operational characteristics of United States (US) Route 101 in San Luis Obispo County at the following seven locations:

- Location 1: KP 18.6/19.6(PM 11.6/12.2) At the intersection of El Campo Road near Arroyo Grande.
- Location 2: KP 20.6/21.2(PM 12.8/13.2) Southbound US Route 101 between SR 227/Grand Avenue and Fair Oaks Avenue in the City of Arroyo Grande.
- Location 3: KP 21.5/23.7 (PM 13.4/14.7) Southbound US Route 101 between Oak Park Boulevard in the City of Pismo Beach and Halcyon Road in the City of Arroyo Grande.
- Location 4: KP 25.1/25.9 (PM 15.6/16.1) Northbound US Route 101 between 4<sup>th</sup> Street and the northbound off-ramp to Price Street in the City of Pismo Beach.
- Location 5: KP 45.0/46.4 (PM 28.0/28.8) Northbound US Route 101 between Marsh Street and Broad Street in the City of San Luis Obispo.
- Location 6: KP 45.0/46.4 (PM 28.0/28.8) Southbound US Route 101 between Broad Street and Marsh Street in the City of San Luis Obispo.

Location 7: KP 34.1 (PM 21.2) At the interchange of Avila Beach Drive near Shell Beach.

**Anticipated Environmental Approval**

- | <u>CEQA</u>                         |                                   | <u>NEPA</u>                         |                                  |
|-------------------------------------|-----------------------------------|-------------------------------------|----------------------------------|
| <input type="checkbox"/>            | Categorical/Statutory Exemption   | <input type="checkbox"/>            | Categorical Exclusion            |
| <input checked="" type="checkbox"/> | Negative Declaration / Focused ND | <input checked="" type="checkbox"/> | Finding of No Significant Impact |
| <input type="checkbox"/>            | Environmental Impact Report       | <input type="checkbox"/>            | Environmental Impact Statement   |

The expected environmental document for the proposed project is an Initial Study with a **Negative Declaration/Findings of No Significant Impact (ND/FONSI)**.

The Federal Highway Administration and Caltrans would act as lead agencies in the preparation of a joint California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) environmental document.

**PSR Summary Statement**

Habitat for 21 plant species and seven animal species have the potential to exist within the project limits. Listed species would include the California red-legged frog, steelhead trout, and Chorro Creek bog thistle. Surveys for listed species would be required prior to circulation of the draft environmental document. Consultation under Section 7 would also be required if listed species were identified in the area of potential impact. Existing swallow nests would be removed or exclusionary devices, such as netting, would be used to prevent nesting during construction. Roosting sites for bats would also be blocked in a similar manner.

**Special Considerations**

The project intersects Meadow Creek (Oak Park to Halcyon improvement), San Luis Obispo Creek (Marsh Street to Broad Street improvement), and an unnamed drainage (Grand Avenue to Fair Oaks Avenue improvement). According to the 1601 Agreement under the Fish and Game Code, Caltrans is required to notify the Department of Fish and Game when work would divert, obstruct or change the natural flow, bed, channel or bank of any river, stream or lake. 404 and 401 permits would also be necessary for work in stream channels and canals.

**Anticipated Project Mitigation**

Biological mitigation may be necessary for the California red-legged frog and the steelhead salmon. Visual resources mitigation would include replacement planting of natural vegetation, tree replacement and irrigation system replacement. Hazardous waste remediation would include an aerially deposited lead analysis.

<b>Biological Mitigation Estimate</b>	<b>\$100,000</b>
<b>Visual Resources Mitigation Estimate</b>	<b>\$450,000</b>
<b>Hazardous Waste Mitigation Estimate</b>	<b>\$40,000</b>

**Total estimated mitigation cost is up to \$590,000.**

Central Region environmental specialists completed preliminary technical studies. These studies included windshield surveys, literature searches, computer database searches and field surveys. Any changes in the scope of the project would require additional studies.

**Disclaimer**

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

**Reviewed by:**

  
 \_\_\_\_\_  
 Amy Donatello, Project Manager

  
 \_\_\_\_\_  
 Larry Newland, Environmental Branch Chief

Date: 12/29/05

Date: 12/29/05

**Environmental Technical Reports or Studies Required**

	Study	Document	N/A
<b>Community Impact Study</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Farmland</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Section 4(f) Evaluation</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Visual Resources</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Water Quality</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Floodplain Evaluation</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Noise Study</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Air Quality Study</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Paleontology</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Wild and Scenic River Consistency</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Cumulative Impacts</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Cultural</b>			
ASR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
HPSR	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
HRER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section 106 / SHPO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Native American Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other			
Finding of Effect_____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Data Recovery Plan_____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Hazardous Waste</b>			
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 checked="" type="checkbox"/>
_____			
<b>Biological</b>			
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, State)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Invasive Species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Natural Environment Study	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NEPA 404 Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
_____			
<b>Permits</b>			
401 Permit Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
404 Permit Coordination (Nationwide)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1602 Permit Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

City/County Coastal Permit Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Coastal Permit Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

**Discussion of Technical Review**

Socio-economic and Community Effects. Several operational improvements require right-of-way acquisition and construction in populated areas. Construction of a new frontage road joining Fair Oaks and Grand Avenue would require temporary road closure and limit access to traffic(Fair Oaks improvement). Removing the existing State Route 101 onramp from James Way (Price improvement) would block access to the highway. A community impact assessment would be required.

Farmlands. There are no farmland issues associated with the project.

4(f) Impacts. No 4(f) impacts would be anticipated.

Visual Effects. The broad scope of the project with the addition of lanes, construction of retaining walls, removal of existing trees and landscaping and excavation would potentially result in a change of the scenic character along Highway 101. The portion of the project within the coastal zone would require a visual analysis as part of the Coastal Development permit. Mitigation for the numerous improvements would range between \$40,000 and \$150,000. Also, \$300,000 would be expected for aesthetic treatments to retaining structures and barriers. A visual impact assessment would take 4 to 6 months to complete.

Water Quality and Erosion. Bodies of water intersecting the project area include San Luis Obispo Creek and Meadow Creek. These water bodies could be affected by project activities. Potential impacts to water quality would include construction site run-off, erosion, and accidental spills of hazardous materials and disruption of natural drainage patterns. A Water Quality Assessment and a National Pollutant Discharge Elimination System (NPDES) permit would be required..

Floodplain. San Luis Obispo Creek and Meadow Creek are within the 100-year floodplain. A hydraulic study would be required for this project.

Air and Noise. According to the Transportation Conformity Rule (40 CFR Section 93.126), the proposed project would not be exempt from air quality analysis. A PM-10 qualitative hot-spot analysis is required because the air basin has non-attainment status in the state.

According to Caltrans Traffic Noise Analysis Protocol and NEPA, this project would be classified as a Type 1 project. Type 1 projects have the potential to increase noise levels at adjacent receivers. These projects are characterized by the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of lanes.

Wild and Scenic River. There would be no wild or scenic river associated with the project.

Paleontology Resources. The El Camp Road improvement, located near the intersection of Highway 101 and El Campo Road, would involve excavation of soils known for high paleontological sensitivity. All other improvements are located in areas of moderate paleontological sensitivity. Potential fossil resources in these areas would not be affected by construction unless excavation is involved. A paleontology study and mitigation would be required.

Cultural Resources. SLOCOG has expressed strong interest in reducing the 59-month timeline originally provided for NEPA compliance. To address this concern, an internal PDT meeting was held on November 13, 2003, attended by Steve Wyatt, Amy Donatello, Ken Romero, and Chris Ryan to discuss whether any of the original eight project elements could be eliminated for the sake of reducing the timeline for cultural studies. During the meeting the participants concluded that the PDT would put forward a project schedule wherein the cultural resources investigation did not include a Phase-2 archaeological study. Upon receiving the request to begin environmental studies, the Phase 1 survey would be conducted. If that study revealed that a Phase 2 study would be required at a particular project element area and there would be no way to avoid the subject cultural resource and a Phase-2 study of that resource meant that cultural resources would then become the critical path study and bump the project schedule off course, then that project element would be dropped from the overall project for the sake of adhering to the project schedule and funding strategy. The meeting participants also agreed that to speculate where cultural resources might occur along the project corridor for the purpose of identifying project elements with the potential for elimination was an exercise without merit.

Native American Coordination. Caltrans would coordinate with the Salinan, Chumash, Esselen and Ohlone ethnographic groups as project plans are refined.

Hazardous Waste/Materials. An asbestos survey would be completed on all bridges within the project limits. Asbestos abatement costs are estimated at \$10,000. An Aerially Deposited Lead study would also be required. Contaminated soil over regulated thresholds must be disposed of in a certified landfill. Costs for disposal are estimated at \$300 per cubic meter.

Biological Resources. According to the 1602 Agreement under the Fish and Game Code, Caltrans is required to notify the Department of Fish and Game when work would divert, obstruct or change the natural flow, bed, channel or bank of any river, stream or lake. 404 and 401 permits are also necessary for work in stream channels and canals.

The project would have potential to affect habitat for several listed plant and animal species. Habitat for California red-legged frog may be found within and adjacent to the project area. Consultation under Section 7 would be required for impacts to sensitive biological resources. Several creeks intersect the project area. Surveys for steelhead trout would be conducted from January 1 through May 30. Any loss of riparian vegetation would require mitigation costs for replacement (see Visual Effects above).

Special-status species with potential to occur within or adjacent to the project area					
Common Name	Scientific Name	Status			Survey Period
		State	Federal	Other	
<b>PLANTS</b>					
Indian Knob Mountainbalm	<i>Eriodictyon Altissium</i>	SE	FE		
Blochman's Dudleya	<i>Dudleya Blochmaniae ssp Blochmaniae</i>			SC	
Chorro Creek Bog Thistle	<i>Cirsium Fontinale Var Obispoense</i>	SE	FE		February 1 - July 30
Santa Margarita Manzanita	<i>Arctostaphylos Pilosula</i>			SC	
Pecho Manzanita	<i>Arctostaphylos Pilosula</i>			SC	
Morro Manzanita	<i>Arctostaphylos Morroensis</i>		FE		
Black Flowered Figwort	<i>Scrophularia Atrata</i>			SC	
Congdon's Tarplant	<i>Centromadia Parryi ssp congonii</i>				June 1- November 30
Surf Thistle	<i>Cirsium Rhothophilum</i>	ST		SC	
Sand Mesa Manzanita	<i>Arctostaphylos Rubis</i>			SC	
San Luis Obispo Monardella	<i>Monardella Frutescens</i>			SC	
Pismo Clarkia	<i>Clarkia Speciosa ssp Immaculata</i>	SE			
Nipomo Mesa Lupine	<i>Lupinus Nipomensis</i>	SE	FE		
Marsh Sandwort	<i>Arenaria Paludicola</i>	SE	FE		
La Graciosa Thistle	<i>Cirsium Loncholepis</i>	SE	FT		
Kellogg's Horkelia	<i>Horkelia Cuneata ssp Sericea</i>			SC	
Gambel's Water Cress	<i>Rorippa Gambellii</i>	SE	FT		
Dune Larkspur	<i>Delphinium Parryi ssp Blochmaniae</i>			SC	
Crisp Monardella	<i>Monardella Crispa</i>			SC	
Beach Spectaclepod	<i>Dithryea Maritima</i>			SC	
Jones's Layia	<i>Layia Jonesii</i>				March 1 - September 30
<b>ANIMALS</b>					
		State	Federal		
California Red-Legged Frog	<i>Rana Aurora Draytonii</i>		FE		May 1 - Nov. 1
California Least Tern	<i>Sterna Antillarum Browni</i>	SE	FE		
Western Snowy Plover	<i>Charadrius Alexandrinus Nivosus</i>		FT		
Tidewater Goby	<i>Eucyclogobius Newberryi</i>		FE		
Southwestern Pond Turtle	<i>Clemmys Marmorata Pallida</i>		SC		No protocol
Steelhead Trout	<i>Oncorhynchus Mykiss</i>		FT		January 1 - May 31
Western Yellow-Billed Cuckoo	<i>Coccyzus Americanus Occidentalis</i>	SE			No protocol

**Key to Status**

- FE = Federal Endangered
- SE = State Endangered
- 1B = CNPS Rare or Endangered in California and elsewhere
- FT = Federal Threatened
- FSC = Federal Species of Concern
- ST = State Threatened
- SC = State Species of Concern

Wetlands. Wetlands have the potential to exist where stream and creeks intersect with Highway 101. A wetland survey would be required during the study phase.

Invasive Pest Plant Species. Executive Order 13112 requires that any federal action may not cause or promote the spread or introduction of invasive species. Reseeding disturbed areas with native vegetation would be required. Costs for replacement are included in the \$450,000 estimate for Visual Effects (see above).

Right-of-Way Relocation or Staging Area. New right-of-way would be required for this project. Staging areas would not be positioned in environmentally sensitive areas.

Mitigation . Mitigation for California red-legged frog and steelhead salmon would be required for this project. Mitigation for biological resources is estimated at \$100,000. Mitigation for visual resources is estimated at \$450,000 for replacement of trees, landscaping, and sound walls.

Permits. Permits from the State Department of Fish and Game (1601), U.S. Army Corps of Engineers (404), and the Regional Water Quality Control Board (401) would be required. Additional permits for the material site and disposal site may be required.

Coastal Zone. This proposed project lies within state coastal zone jurisdiction. A Coastal Development permit would be required for the project.

**List of Original Preparers**

Hazardous Waste Review by <b>Gerald White</b>	Date 1/9/03
Biological Review by <b>Lisa Schicker</b>	Date 2/6/03
Cultural Review by <b>Chris Ryan</b>	Date 3/3/03
Community Impact Review by <b>David Lanner</b>	Date 1/17/03
Visual Review by <b>Bob Carr</b>	Date 1/17/03
Paleontology Review by <b>Peter Hansen</b>	Date 2/10/03
Air, Noise and Water Quality Review by <b>Chris Bassar</b>	Date 12/18/02
Floodplain Review by <b>David Lanner</b>	Date 2/1/03
PEAR prepared by <b>David Lanner and Steven Croteau</b>	Date 3/03

Central Region Environmental Division  
Mitigation Cost Compliance Estimate Form<sup>[\*1]</sup>

PEAR     Draft ED     Final ED

***DRAFT***

Dist.-Co.-Rte.-PM: 05 - SLO - US 101 - 18.6/48.8 PM (11.6/30.3)

EA: 05-0H370K

Project Name: SLO Operational Improvements II

Project Description:

The San Luis Obispo Council of Governments (SLOCOG) and the California Department of Transportation (Caltrans) propose improvements along US Route 101 (US 101) between post mile (PM) 11.6 and 30.3 in San Luis Obispo County, California. The proposed US Route 101 Operational Improvements Project, Phase 2, entails construction of deceleration lanes, acceleration lanes, frontage roads, climbing lanes, on ramps, two park and ride lots, auxiliary lanes, soundwalls, and/or median barriers at seven locations. New right-of-way must be acquired at two locations. The proposed project will use funds administered by the Federal Highway Administration (FHWA).

This State Transportation Improvement Program (STIP) candidate project proposes to improve the traffic operational characteristics of United States (US) Route 101 in San Luis Obispo County at the following seven locations:

- Location 1:    KP 18.6/19.6(PM 11.6/12.2) At the intersection of El Campo Road near Arroyo Grande.
- Location 2:    KP 20.6/21.2(PM 12.8/13.2) Southbound US Route 101 between SR 227/Grand Avenue and Fair Oaks Avenue in the City of Arroyo Grande.
- Location 3:    KP 21.5/23.7 (PM 13.4/14.7) Southbound US Route 101 between Oak Park Boulevard in the City of Pismo Beach and Halcyon Road in the City of Arroyo Grande.
- Location 4:    KP 25.1/25.9 (PM 15.6/16.1) Northbound US Route 101 between 4<sup>th</sup> Street and the northbound off-ramp to Price Street in the City of Pismo Beach.
- Location 5:    KP 45.0/46.4 (PM 28.0/28.8) Northbound US Route 101 between Marsh Street and Broad Street in the City of San Luis Obispo.
- Location 6:    KP 45.0/46.4 (PM 28.0/28.8) Southbound US Route 101 between Broad Street and Marsh Street in the City of San Luis Obispo.
- Location 7:    KP 34.1 (PM 21.2) At the interchange of Avila Beach Drive near Shell Beach.

Environmental Manager: Larry Newland    Phone Number: 805-542-4603

Project Manager: Amy Donatello    Phone Number: 805-549-3398

Date: 12-21-05

Numbers are in thousands

	<b>Right of Way (Prior to Construction) (050)</b>	<b>During and Post Construction (042)</b>
Archaeological	Not Anticipated	Not Anticipated
Biological	Not Anticipated	100
Historical	Not Anticipated	Not Anticipated
Paleontology	Not Anticipated	Not Anticipated
Hazardous Waste Remediation	Not Anticipated	40
Landscape	Not Anticipated	450
Noise	Not Anticipated	Not Anticipated
Total Permit Cost*	8	Not Anticipated
DFG Document Review Fee	Not Anticipated	Not Anticipated
Other	12	Not Anticipated
<b>Total</b>	<b>20</b>	<b>590</b>

\* Includes 1602 and 401 permit fees

- This form is completed as part of the PEAR for all candidate projects, at completion of the Draft Environmental Document, and at the completion of the Final Environmental Document
- This form is to be completed for all SHOPP & STIP projects (even those w/o Mitigation)
- This form is to be completed for all Minor A & B projects with mitigation requirements
- Costs are to include all costs to complete the commitment including: capitol outlay (non-staffing support costs); cost of right-of-way or easements; long-term monitoring and reporting, and; any follow-up maintenance
- **Attach detailed descriptions of line items included in estimates**

Attach completed ROW data sheets when forwarded to ROW.

<b>PA &amp; ED Date</b>	<b>RTL Date</b>	<b>Months Between</b>	<b>Months Required</b>
TBD	TBD	TBD	TBD

### Right of Way Data Sheet Input Information

3.	Environmental mitigation parcels:	REQUIRED <input type="checkbox"/>	NOT REQUIRED <input checked="" type="checkbox"/>
	_____ Acres	\$ _____ Additional funding	\$ _____ Permit Fees
	(Mitigation required)		
** This information is to be obtained from the Environmental Branch prior to submittal to the Right of Way Field Office Chief			

Activity Name	Start Date	Finish Date	Duration	2006	2007	2008	2009	2010
Begin MIS 165	10/1/06			◆				
Secure Right of Entry								
Complete NOP	10/1/06	10/31/06	1.00	▲				
Env. Tech. Studies	11/1/06							
Cultural Studies *	11/1/06	5/2/08	18.03	▲				
Phase I (Field Survey)	11/1/06	5/2/08	18.00	▲				
ASR Prod./Rev.	11/1/06	5/2/08	18.03	▲				
HP&R (Review)	3/2/07	4/2/08	13.07	▲				
SHPO Concurrence	4/2/07	5/2/08	13.02					
Biology Studies	11/1/06	5/1/08	18.00	▲				
Field Surveys	11/1/06	5/1/08	18.00	▲				
Prepare NES	11/1/06	5/1/08	18.00	▲				
Prepare BA	11/1/06	5/1/08	18.00	▲				
Biological Op.	8/2/07	5/1/08	9.00					
Water Quality	11/1/06	12/31/06	2.00	▲				
Haz. Waste ISA	11/1/06	5/2/07	6.00	▲				
Visual Impacts	11/1/06	12/1/06	1.00	▲				
Air, Noise, P&E...	11/1/06	12/1/06	1.00	▲				
Prepare DED	11/1/06	5/1/08	18.00	▲				
Write DED	8/2/08	8/2/09	12.00					
Peer Review/Modify	8/3/09	9/17/09	1.50					
district QA/QC; modify	9/18/09	11/2/09	1.50					
FHWA review	11/3/09	1/2/10	2.00					
Coordinate w/FHWA	1/3/10	2/3/10	1.00					
Approve DED	2/4/10	3/6/10	1.00					
Publish	3/7/10	4/6/10	1.00					
Public Circulation	4/7/10	5/7/10	1.00					
Respond to Comments	5/8/10	6/7/10	1.00					
Revision	6/8/10	7/9/10	1.03					
Prepare ND	7/9/10							
Mail final IS/EA	7/9/10							

Legend

- ◆ Milestone
- ▲ Environmental Planning
- CT Other Departments
- Outside Agency Coordination
- ▼ Public Meeting Dates (Tentative)

Memorandum

To: AMY DONATELLO  
ATOLL

Date: 9/2/2005

File: EA 0H370K ALT REV3

Attn: CHRIS GARDNER  
FRESNO

DESCRIPTION:  
OPERATIONAL IMPROVEMENTS AT 7 LOCATIONS

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

Subject: RIGHT OF WAY DATA SHEET

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

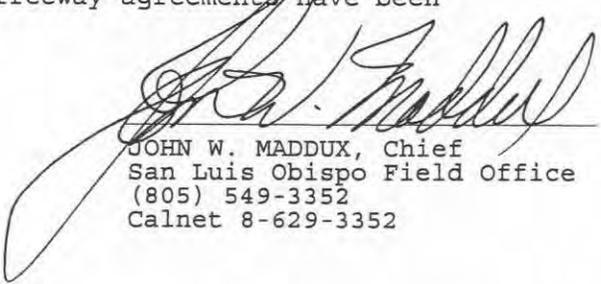
8/16/2005

The following assumptions and limiting conditions were identified:

Additional information includes the following:

This estimate is for Loc 1, Loc 2- Alt 2, & Loc 7. Highway 101 is a freeway/expressway and thus the Master Contracts apply. Location 1 has a possible electric pole and telephone pole relocation; Loc 2 Alt 2 has possible gas pipeline and electric pole relocation as well as extensive potholing; Loc 7 has extensive potholing and some money needed to construct a protective barrier around the Lopez Water Pipeline testing station. More accurate utility information will be provided once utilities are verified and Design has had an opportunity to review their locations.

Right of Way Lead Time will require a minimum of 18 months after we receive certified Appraisal Maps, the necessary environmental clearance has been obtained, and freeway agreements have been approved.



JOHN W. MADDUX, Chief  
San Luis Obispo Field Office  
(805) 549-3352  
Calnet 8-629-3352

REQUEST DATE 8/16/2005

EA 0H370K ALT REV3

REVISED DATE

CO/RTE/KP-KP[route 1 route 2] SLO/101/18.668-48.762 & /0/-0.000

<b>RIGHT OF WAY COST ESTIMATE</b>	<b>CURRENT YR 2005</b>	<b>CONTINGENCY RATE</b>	<b>RIGHT OF WAY ESCALATION RATE</b>	<b>ESCALATED YEAR (Rounded) 2014</b>
ACQUISITION	\$6,057,903	25.00%	5.00%	\$9,398,000
MITIGATION	\$25,000.00	25.00%	5.00%	\$39,000
STATE SHARE OF UTILITIES	\$117,750	25.00%	5.00%	\$183,000
RAP	\$250,000	25.00%	5.00%	\$388,000
CLEARANCE/DEMO	\$37,500	25.00%	5.00%	\$58,000
TITLE AND ESCROW	\$303,520	25.00%	5.00%	\$471,000
EXPERT WITNESS	\$50,000	25.00%	5.00%	\$78,000
SUPPORT HOURS				
<b>TOTAL CURRENT VALUE *</b>				<b>\$10,615,000</b>

ESTIMATED CONSTRUCTION CONTRACT WORK

\$9,000

R/W LEAD TIME/MONTH

18

<b>PARCEL DATA</b>			
# OF PCL TYPE X	0	# OF DUAL APPR X	0
# OF PCL TYPE A	0	# OF DUAL APPR A	0
# OF PCL TYPE B	5	# OF DUAL APPR B	0
# OF PCL TYPE C	7	# OF DUAL APPR C	0
# OF PCL TYPE D	0	# OF DUAL APPR D	0
# OF MITIGATION	0		
<b>TOTALS</b>	<b>12</b>	<b>TOTALS</b>	<b>0</b>
<b># OF EXCESS PARCEL</b>		<b>0</b>	

<b>UTILITIES</b>	
U4-1	0
U4-2	0
U4-3	0
U4-4	0
U5-7	3
U5-8	0
U5-9	6

<b>RR INVOLVEMENT</b>	
ARE RAILROAD FACILITIES OR RIGHTS OF WAY	NO
CONST/MAINT AGREEMENT	NO
SERVICE CONTRACT	NO
RIGHT OF ENTRY	NO
CLAUSES	NO

<b>MISC R/W WORK</b>	
# OF RAP DISPLACEMENT	0
# OF CLEARANCE/DEMO	0
# OF CONST PERMITS	3
# OF CONDEMNATION	4

\* IF R/W COST ESTIMATE FIELDS ARE BLANK, TOTAL CURRENT VALUE = \$0

ARE UTILITIES OR OTHER RIGHTS OF WAY AFFECTED

RAILROAD LEADTIME REQUIRED

**PARCEL AREA**      **UNIT: ACRE**

TOTAL R/W TAKE	16.96
TOTAL EXCESS AREA	0
TOTAL MITIGATION AREA	0

TOTAL R/W FEE	\$4,781,822
TOTAL EXCESS COST	\$0

PROVIDE GENERAL DESCRIPTION OF R/W AND EXCESS LANDS REQUIRED (ZONING, USE, MAJOR IMPROVEMENTS, CRITICAL OR SENSITIVE PARCELS, ETC.):

Eight agricultural/open space and four highway commercial parcels impacted. One single family residence impacted and possible second consequential relocation of residence. Agricultural parcels impacted have possible commercial use in near future and are valued accordingly. Permit cost of \$20,000 included under mitigation pursuant to MCCR Form. No mitigation required.

IS THERE A SIGNIFICANT EFFECT ON ASSESSED VALUATION?

WERE ANY PREVIOUSLY UNIDENTIFIED SITES WITH HAZARDOUS WASTE OR MATERIAL FOUN

ARE RAP DISPLACEMENTS REQUIRE

# 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?

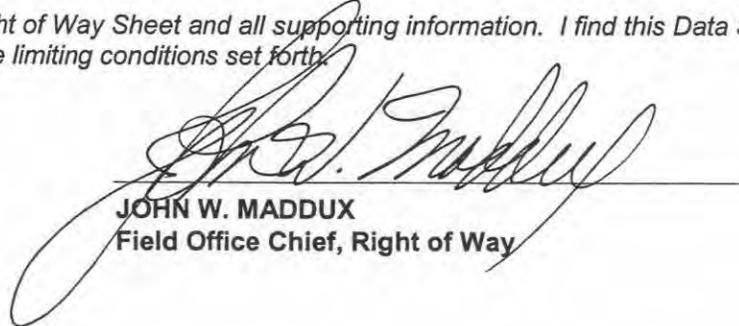
ARE THERE ANY EXISTING OR POTENTIAL AIRSPACE SITES

ARE ENVIRONMENTAL MITIGATION PARCELS REQUIRED

**DATA FOR EVALUATION PROVIDED BY**

ESTIMATOR	<b>REQUIRED</b>	PHIL ACOSTA	8/19/2005
RAILROAD LIAISON AGENT		SALLY A. HOPKINS	9/1/2005
UTILITY RELOCATION COORDINATOR		LARK P. GRANGER;	8/23/2005

*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.*



**JOHN W. MADDUX**  
Field Office Chief, Right of Way

DATE ENTERED PMC      9/2/2005  
BY    JOHN B BURKE

COST 05 OH370K RW1 M SLO 101 11.6 1 D P=F11 N=F12 \*CAPITAL PLAN\*  
 EA \*OH370K STIP \*3700 LSTPGM TOT PGM APV COST  
 PGM \*HB4N FP CODE \* 05 PGM STATE 05 \_\_\_,'\_\_\_ 06 \_\_\_,'\_\_\_  
 ELEM \*IRS LOCKOUT FED 05 \_\_\_,'\_\_\_ 06 \_\_\_,'\_\_\_  
 PRI 9 R/W CONTB CONTB 05 06  
 RW EA OH3709 EST DTE 09/02/05 CAT G APPR COMP TO DO  
 PCLS DOLLARS TITLE ACQ UTIL RELOC DEMO&CLR PY'S  
 TOTAL 7 2,717 108 2,210 125 211 63 \* .00  
 PRIOR \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \* .00  
 04-05 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \* .00  
 05-06 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \* .00  
 06-07 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \* .00  
 07-08 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \* .00  
 08-09 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \* .00  
 09-10 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \* .00  
 10-11 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \* .00  
 11-12 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \* .00  
 12-13 7 2,717 108 2,210 125 211 63 \* .00  
 PA&ED ENV CLR RW MAPS REG RW DT PS&E RW CERT RDY LIST CNST FY  
 \*06/ /13 \*09/ /13

COST REMARKS ACQ INCL \$63K FOR EXP WITNES - DS REQ CALLED FOR 2014 YEAR 7/2  
 5/05 JBB.  
 THERE IS 1 COST-RW SCREEN FOR THIS PROJECT

BEFORE

COST 05 OH370K RW1		M SLO 101	11.6	1	D	P=F11	N=F12	*CAPITAL PLAN*	
EA *OH370K	STIP *3700	LSTPGM	TOT PGM	APV COST					
PGM *HB4N	FP CODE *	05 PGM	STATE 05	06					
ELEM *IRS	LOCKOUT	FED 05	06						
PRI 9	R/W CONTB	CONTB 05	06						
RW EA OH3709	EST DTE 09/02/05	CAT G	APPR COMP	TO DO					
PCLS	DOLLARS	TITLE	ACQ	UTIL	RELOC	DEMO&CLR	PY'S		
TOTAL	12	10,615	471	9,515	183	388	58	* .00	
PRIOR	_____	_____	_____	_____	_____	_____	_____	* .00	
04-05	_____	_____	_____	_____	_____	_____	_____	* .00	
05-06	_____	_____	_____	_____	_____	_____	_____	* .00	
06-07	_____	_____	_____	_____	_____	_____	_____	* .00	
07-08	_____	_____	_____	_____	_____	_____	_____	* .00	
08-09	_____	_____	_____	_____	_____	_____	_____	* .00	
09-10	_____	_____	_____	_____	_____	_____	_____	* .00	
10-11	_____	_____	_____	_____	_____	_____	_____	* .00	
11-12	_____	_____	_____	_____	_____	_____	_____	* .00	
12-13	12	10,615	471	9,515	183	388	58	* .00	
PA&ED	ENV CLR	RW MAPS	REG RW	DT PS&E	RW CERT	RDY LIST	CNST FY		
				*06/ /13	*09/ /13				

COST REMARKS ACQ INCL \$78K FOR EXP WITNES & \$39K FOR MIT - SHCD FOR 2014 YR  
PER DS REQ 8/16/05 JBB.  
PROJECT DATA HAS BEEN UPDATED

AFTER



# PDS Traffic Forecasting, Analysis and Operations Scoping Checklist

## Project Information

District 05 County SLO Route 101 Kilometer Post (Post Mile) 18.6/48.8 (11.6/30.3) EA 0H370K

## Project Description:

To improve the operations along Route 101 by analyzing the existing merge/diverge, weaving, safety at at-grade intersection and propose/design auxiliary lanes, acceleration/deceleration lanes and utilizing freeway demand management facility like Park and Ride Lot.

Project Manager Amy Donatello  
Phone # (805) 549-3398

Project Engineer Chris Gardner  
Phone # (559) 244-2859

Traffic Forecasting Functional Manager Andrew Richarson (interim)  
Phone # (805) 549-3571

Traffic Operations Functional Manager Paul McClintic  
Phone # (805) 549-3473

## Traffic Forecasting, Traffic Analysis Scoping

Operational improvements along San Luis Obispo County State Route 101. Seven (7) improvement locations were proposed, namely El Campo acceleration/deceleration lane, Fair Oaks improvement (reconstruct on-off ramp plus collector road), Oak Park-Halcyon(Aux. Lane), 4th-Price(Aux. Lane), Marsh-Broad(Aux. Lane), Broad-Marsh(Aux. Lane), Avila Park & Ride. The project also includes Vehicle Monitoring Station (loops) and CCTV cameras (with associated service Connections) at selected locations. For detail description of each improvement please see page 6 of 6.

Existing estimated year 2003 **Peak Month AADT** and Truck traffic census data for each improvement locations were listed as follows:

Location 1 (El Campo)–PM 11.6/12.2 ~ 56,000 AADT, Truck % = 8.3%(est).

Location 2 (Fair Oaks Ave)–PM 12.8/13.2 ~ 58,000 AADT, Truck % = 8.8%(est.)

Location 3 (Oak Park–Halcyon)–PM 13.4/14.7 ~ 72,000 AADT, Truck % = 8.8%(est.)

Location 4 (4<sup>th</sup>–Price)–PM: 15.6/16.1 ~ 80,000 AADT, Truck % = 8.8%(est.)

Location 5 & 6 (Marsh–Broad)–PM 28.0/R28.8 ~ 88,000 AADT, Truck % =8.2%-8.7%(est.)

Location7 (Park & Ride)–PM 21.1: future demand using the facilities will be needed to determine the facility capacity. These estimated volumes needs to be substantiated with a SLOCOG regional TransCAD model when it becomes available.

## Traffic Operations Scoping

All analysis must be based on updated traffic volume. Traffic volume/data collection effort will be needed.

### Project Screening

1. Project Features: New R/W?  X  Excavation or fill?  X  \_

2. Project Setting

Level, rolling to short grade climb

Rural or

Urban  Urban

Current land uses

Light industry, commercial, agricultural, residential

Adjacent land uses

Light industry, commercial, agricultural, residential

### Existing Traffic Operational Conditions and Warrants Supporting the Need for the Improvement

A full Traffic volume/data collection effort will be needed, estimated time to perform data collection and analysis for the following analysis will be 12 months.

#### Mainline highway:

Location 1 – 6 will be analyzed.

#### Ramp intersection:

Location 2: Fair Oaks off-ramp queuing into the auxiliary lane needs to be addressed. Though a collector/distributor road is being proposed, the on and off ramp traffic at this location needs to be addressed. Any standard signal warrant must be met before any analysis can be performed.

#### Merge / diverge (Existing):

Location 3 – 6 will need to be analyzed

#### Street intersection:

Location 1: Traffic safety analysis is needed for this at-grade intersection to justify the addition and lengthening of the acceleration/deceleration lanes. For safety analysis request, please contact District 5 Traffic Safety Engineer Nevin Sams (805 549-3017). Any accel/decel lanes shall be designed in accordance to Caltrans Highway Design Manual.

**Weaving / merging (spacing):**

Location 2: Further discussion is needed for this location due to the extremely short weaving distance.

Weaving LOS for all auxiliary lane needs to be analyzed

**Other:**

Park and Ride Lot: ingress/egress and turn around needs for transit buses should be analyzed. Traffic impact on local streets and intersection must be analyzed. Trips generated by the lot needs to be determined. Bicycles routes and bicycles parking racks needs to be addressed. Capacity versus demand for the P&R lot needs to be determined.

**Traffic Modeling Assumptions**

- o Use Local Model
  - o Update New Model
  - (X) New Model
- (X) Existing Traffic Counts
  - (X) New Traffic Counts
  - o Historical Growth
- o General Plan (GP) Buildout
  - o Pro-Rate GP Growth
- (X) Existing Year
  - o Design Year ( )
  - o Interim Year ( )

**Other:**

None available at this time when this list was prepared, SLOCOG TransCAD model is still under development. Need to follow up on the time line when the model will be ready.

**Traffic Analysis**

- (X) Mainline LOS
  - (X) Merge/Diverge LOS
  - (X) Ramp Int. LOS
- (X) Adjacent IC LOS
  - o Ramp Metering (open)
  - (X) Ramp Metering (later)
- (X) Left/Right Turn Storage
  - (X) Accident / Safety Analysis
  - (X) Intersection Queues
- (X) Construction Staging
  - (X) Project Staging

Other:

For any lane closure and stage construction/traffic handling analysis during any construction or project staging, please contact Shayne Sandeman in District 5 Traffic Management (805 594-6196).

Any ramp modification or upgrade needs to include future implementation of metering on interchange on-ramps by constructing fill for the ramps per Caltrans ramp meter design manual. These ramps should be designed to accommodate a future single mixed flow lane and HOV bypass lane (that can be striped at a later date when ramp meters are installed). In the interim, the on-ramps can be paved and striped for single mixed flow lane. Detector loops should be installed on the ramps that can be used for future metering.

### **Traffic Management Systems**

o Ramp Meters

o HOV Ramp Bypass

o Mainline HOV Lanes

(X) Detector Loops

(X) Communication Networks (fiber optic, telephone, etc.)

(X) Closed Circuit Television

o Changeable Message Sign

o Highway Advisory Radio

Other:

A number of ITS elements (CCTV and Traffic monitoring systems) are being included as part of this project between post mile 11.8 and 30.3. The project sponsor (SLOCOG) has recommended that the CCTV and traffic monitoring station elements that were originally identified in the SLO 101 TMS Project (EA: OH530K) be included and funded as part of SLO OPS I (EA: 485600) & II. Therefore, the EA: OH530K ITS elements that are not included in SLO OPS I need to be included as part of this project. The design team should work with District 5 Traffic and Electrical Operations when selecting and siting these elements. For more information please contact Scott Eades in District 5 Traffic Operations (805 549-3612).

For the following items, please coordinate with SLO OPS I design team and District 5 Electrical (Sherwyn Gilliland, 805 594-6193).

Location 3: CCTV and Mainline TMS loops installation is planned (EA 485601) at the NB Oak Park off and on ramps. SB loops may need to be replaced if damaged. Please coordinate with the respective responsible functional unit.

Location 4: TMS loops installation is planned (EA 485601) at the James Way NB onramp. Loops and controller cabinet may need to be move. Damaged loops may needs to be replaced. Please coordinate with the respective responsible functional unit.

Location 6: CCTV (EA 05-0H8901) installation is planned next to Broad SB onramp. Please coordinate with the respective responsible functional unit. Please See Page 7 of 7 for ITS and TMS work location details. Works scope for SLO OPS II are in magenta text.

Local agency and public support to implement HOV lanes and ramp metering:

N/A

**Preliminary Traffic Forecasting Evaluation provided by:**

Traffic Forecasting Jeff Berkman Date 3/24/2005

**Preliminary Traffic Operations Evaluation provided by:**

Traffic Operation Engineer Samuel Toh Date 3/24/2005

Traffic Electrical Engineer Sherwyn Gilliland Date 3/25/2005

**Project Location List (Provided by Project Development – Design II – Branch V)**

**Location 1 (El Campo Improvement) -PM: 11.6/12.2**

Scope of Work:

1. Lengthen the NB acceleration lane from El Campo Road.
2. Widen Route 101 to construct a SB acceleration lane from El Campo Road.
3. Lengthen the NB deceleration lane to El Campo Road.
4. Widen Route 101 to construct a SB deceleration lane to El Campo Road.

**Location 2 (Fair Oaks Improvement) -PM: 12.8/13.2**

Scope of Work:

1. Alternative 1 -close the SB off -ramp to Fair Oaks.
2. Alternative 2 -remove existing SB on-ramp from SR 227/Grand Ave and SB off -ramp to Fair Oaks and construct a frontage road between Grand and Fair Oaks with new reconfigured on and off ramps.
3. Alternative 3- remove existing SB on-ramp from SR 227/Grand Ave and SB off-ramp to Fair Oaks and construct a collector/distributor road joining Grand Ave to Fair Oaks Ave with new reconfigured ramps.

**Location 3 (Oak Park-Halcyon Improvement) -PM: 13.4/14.7**

Scope of Work (include TMS projects, Page 7 of 7):

1. Widen SB Route 101 to construct an auxiliary lane beginning SB on-ramp from El Camino Real to SB off -ramp to Halcyon Rd. Widening of Brisco Road under crossing will be required (bridge # 49-0154).

**Location 4 (4th-price Improvement) -PM: 15.6/16.1**

Scope of Work (include TMS projects, Page 7 of 7):

- I. Alternative 1- remove the existing NB on-ramp from James Way and extend the existing auxiliary lane back to the NB on-ramp from 4th Street.
2. Alternative 2 -extend the existing auxiliary lane back to the NB on-ramp from 4th Street and reconfigure the existing NB on-ramp from James Way.
3. Other alternatives include widen the NB on-ramp from 4th St, add ramp metering and extend the NB on-ramp from 4th St weaving length.

**Location 5 (Marsh-Broad Improvement) -PM: 28.0/28.8**

Scope of Work (include TMS Projects, Page 7 of 7):

- I. Construct an auxiliary lane beginning NB on-ramp from Marsh St to NB off -ramp to Broad St.
2. Alternative I -widen outside towards an existing sound wall.
3. Alternative 2- widen into the median and construct a concrete median barrier.

**Location 6 (Broad-Marsh Improvement) -PM: 28.0/R28.8**

Scope of Work (include TMS Projects, Page 7 of 7):

- I. Construct an auxiliary lane beginning SB on-ramp from Broad St to SB off-ramp to Marsh St.
2. Alternative I -widen outside.
3. Alternative 2- widen into the median and construct a concrete median barrier.

**Location 7 (Avila Park & Ride Improvement) -PM: 21.1**

Scope of Work:

- I. Construct a park and ride lot on the corner of Avila Beach Dr. and Shell Beach Dr.

SLO 101 TMS - Location of Work

General Location		Northbound Lanes				Southbound Lanes				Details** ***									
Black Is SLO Ops 1	Magenta Is SLO Ops 2	Ramp Name / Location	PostMile*	Ramp On	Off	Mainline Detectors	A	B	C	D	Ramp Name / Location	PostMile*	Ramp On	Off	Mainline Detectors	A	B	C	D
El Campo Rd Intersection		El Campo Rd (at grade)	11.80								El Campo Rd (at grade)	11.83							
Traffic Way / Valley Rd		Traffic Way Off	12.43		X				X		Bridge St On	12.42	X		X				
Grand Ave		Grand Ave Off	13.06		X				X		Valley Rd Off	12.93		X					
		Grand Ave On	13.31	X					X		Grand On	13.10	X		X				
Brisco Rd		Brisco Rd Off	13.64		X				X		Grand Ave Off	13.32	X		X				
		Brisco Rd On	13.75	X					X		Brisco Rd On	13.56	X		X				
Oak Park Dr / El Camino Real		W. Branch/Oak Park Off	13.92		X				X		Brisco Rd Off	13.68		X					
		W. Branch/Oak Park On	14.18	X					X										
4th St		W. Branch/Oak Park On	14.20	X					X		El Camino Real On	14.77	X		X				
		Oak Park On	14.73	X					X		El Camino Real Off	15.04	X		X				
Five Cities Dr		Pismo Oaks Off	15.37		X				X		Pismo Oaks On (4th St)	15.36	X		X				
		4th St On (Pismo Oaks)	15.58	X					X		Pismo Oaks Off (4th St)	15.86	X		X				
Price St /		Pismo OH On (Five Cities)	16.02	X					X		Five Cities On	16.05	X		X				
		Villa Crk Off (S. Price St)	16.32		X				X		Five Cities Off (Pismo OH)	16.11	X		X				
Wadsworth / Jet Rte 1		Wadsworth Off	16.79		X				X		S. Price St On (Villa Crk)	16.33	X		X				
North Pismo / Shell Beach Dr		Rte 1 S Jct. On	17.16	X					X		Hinds/Price Off	16.72		X					
Shell Beach Dr		N. Pismo Off	17.62	X					X		Rte 1 So Jct. Off	17.24	X		X				
Spyglass Dr		Pismo Sep On	17.88	X					X		N Pismo Off	17.66	X		X				
		Shell Beach N Off	19.67		X				X		S. Shell Bch On	18.28	X		X				
Avila Beach Dr		Shell Beach N On	19.85	X					X		Shell / Spyglass On	19.66	X		X				
		Avila Rd Off	20.86		X				X		Shell / Spyglass Off	19.79		X					
San Luis Bay Drive		Avila Rd On	21.09	X					X		Avila Rd On	20.85	X		X				
(SLO Ops 2 begins at bridge)		San Luis Bay Drive Off	21.36	X					X		Avila Rd Off	21.28		X					
		Higuera On	22.15	X					X		San Luis Bay Drive On	22.90	X		X				
Los Osos Valley Road		Los Osos Off	22.43		X				X		San Luis Bay Drive Off	22.34		X					
Prado Rd		Prado Rd Off	24.17	X					X		So Higuera On	22.46	X		X				
		Prado Rd On	24.84	X					X		So Higuera Off	23.97	X		X				
Madonna Rd		Madonna Rd Off	25.63		X				X		LOVR On	24.21		X					
Marsh St		Madonna Rd On	25.83	X					X		LOVR Off	24.30	X		X				
Broad St		Marsh St On	26.73		X				X		LOVR Off	25.86	X		X				
		Broad St Off	26.90	X					X			26.07		X					
Osos St		Broad St On	27.40	X					X		Madonna On	27.18	X		X				
Jet Rte 1		Osos St Off	27.65	X					X		Madonna Off	27.43		X					
		Toro St On	28.00	X					X		Marsh On (101/227)	27.96	X		X				
California Blvd		California Blvd Off	28.18	X					X		Marsh Off (101/227)	28.05	X		X				
Grand Ave		Grand Ave Off	28.69	X					X		Broad St On	28.71	X		X				
		Monterey St Off	28.76	X					X		Broad St Off	28.79	X		X				
Monterey St / Buena Vista		Monterey St On	28.93	X					X		Osos/Olive St On	28.94	X		X				
		Buena Vista	29.15	X					X		Osos/Olive St Off	29.01	X		X				
			29.25	X					X		Lemon St On	29.12	X		X				
			29.44	X					X		Montalban / NB 1 Off	29.34	X		X				
			29.51	X					X		California Blvd On	29.43	X		X				
			29.66	X					X		California Blvd Off	29.50	X		X				
			29.77	X					X		Grand Ave On	29.65	X		X				
			30.00	X					X		Buena Vista Off	30.09	X		X				

\* For ramps, postmile indicates actual ramp postmiles stated in the TASAS Postmile Log; location of detectors on ramp, and adjacent mainline segment, may vary.  
 \*\* A = On-Ramp Detector (with Mainline Detectors), B = Off-Ramp Detector, C = CCTV, D = HAR \*\*\* Green X indicates CCTV installed on District 5 Electrical Ops Minor B projects  
 last updated 3/25/05

# DISTRICT 5

## TRAFFIC MANAGEMENT PLAN CHECK LIST

District / EA: 05/0H370K  
 Project Engineer: Boris Ayaviri  
 Date Prepared: 2/15/05

Co.-Rte-KP: SLO-101-18.6/48.8  
 Description: Operational Improvements - Phase 2  
 Working Days: +/- 94 days

Check each box and reference your attachments to the item(s) number(s) shown on the list.

**1.0 Public Information**

- 1.1 Public Awareness Campaign
- 1.2 Other Strategies

Required	Not required	Not Applicable	COMMENTS
x			Include \$50,000 - Contact Marta Bortner w/qs

**2.0 Motorist Information Strategies**

- 2.1 Changeable Message Signs
- 2.2 Construction Area Signs
- 2.3 Highway Advisory Radio (fixed and mobile)
- 2.4 Planned Lane Closure Web Site
- 2.5 Caltrans Highway Information Network (CHIN)

Required	Not required	Not Applicable	COMMENTS
x			Two CMS units per lane closure, est. \$200/day each
x			
		x	
x			Construction to provide information to TMC
		x	Construction to provide information to TMC

**3.0 Incident Management**

- 3.1 COZEEP/MAZEEP
- 3.2 Freeway Service Patrol

Required	Not required	Not Applicable	COMMENTS
x			Estimate \$110/hour nights, \$55/hours days
		x	

**4.0 Traffic Management Strategies**

- 4.1 Lane/Ramp Closures Charts
- 4.2 Total Facility Closure
- 4.3 Coordination with adjacent construction
- 4.4 Contingency Plan
  - 4.4.1 Material/Equipment Standby
  - 4.4.2 Emergency Detour Plan
  - 4.4.3 Emergency Notification Plan
- 4.5 SSP 12-220 and Others
- 4.6 Other Strategies:

\_\_\_\_\_  
 Include Table Z for holiday closures  
 \_\_\_\_\_  
 (Include \$300/day for Maintain Traffic.)  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Required	Not required	Not Applicable	COMMENTS
x			To be provided at PS&E
		x	
	x		
x			Standard SSP
x			Construction/Contractor to provide
x			Construction/Contractor to provide
x			Construction/Contractor to provide
x			
x			Special Days TBD
x			

**5.0 Anticipated Delays**

- 5.1 Lane Closure Review Committee (for anticipated delays over 30 minutes)
- 5.2 Planned freeway closures

Required	Not required	Not Applicable	COMMENTS
		x	
		x	

- 5.3 Minimal delay anticipated - no further action required

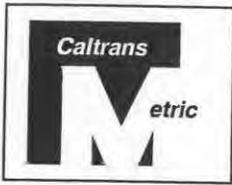
yes     no    If no, explain additional measures on attached sheet.

**6.0 Placement of CMS**

Required	Not required	Not Applicable	COMMENTS
x			At direction of RE.

Shayne Sandeman  
 Prepared by: \_\_\_\_\_

Date: \_\_\_\_\_



Dist-County-Route 05-SLO-101
Kilometer Post (Post Mile) Limits KP 18.6/R33.9
Project Type
EA: 05-0H370K
RU: 06-254
Program Identification: STIP
Phase: [X] PID (PSR-PDS) [ ] PA/ED [ ] PS&E

Regional Water Quality Control Board(s): Central Coast RWQCB

Is the Project exempt from incorporating Treatment BMPs? Yes [ ] No [X]
If yes, attach the Exemption Documentation Form

Are new Treatment BMPs incorporated into the Project? Yes [ ] No [X]

Estimated Construction Start Date: Fall 2014

Notification of Construction (NOC) Date to be Submitted: Fall 2014

Notification of ADL reuse (if yes, provide date) Yes [ ] Date \_\_\_\_\_ No [ ] N/A [ ]

Separate Dewatering Permit (if yes, permit no.) Yes [ ] Permit # \_\_\_\_\_ No [ ] N/A [ ]

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.

Chris Gardner

CHRIS GARDNER, Registered Project Engineer

6/6/05
Date

I have reviewed the storm water quality design issues contained in the Storm Water Data Report and Attachments attached hereto, and find the data to be complete, current, and accurate:

Amy Donatello

AMY DONATELLO, Project Manager

6/8/05
Date

Jon Wood

JON WOOD, Designated Maintenance Representative

Date

Dennis Reeves

DENNIS REEVES, Designated Landscape Architect Representative

6/8/05
Date

Rebecca Franco-Munoz

REBECCA FRANCO-MUNOZ, Regional Storm Water Designee

6/20/05
Date

## STORM WATER DATA INFORMATION

### 1. Project Description

- Briefly describe the type of project and major engineering features, including description of soil disturbance area and cut/fill slopes.

Caltrans proposes to construct several improvements on State Route 101 in San Luis Obispo County (PM 11.6/28.8). These improvements would include the construction of auxiliary lanes, acceleration/deceleration lanes, retaining walls, sound wall, under-crossing widening, new bridge construction, and the construction of a new park and ride. Work would include work off the paved roadway, trenching and grading, drainage work and alterations, tree removal, temporary construction easements, work in drainage channels, utility relocation, equipment staging, demolition and disposal, right-of-way acquisition, and road cuts. Fill slopes will be 1:2 or flatter. The approximate total soil disturbance area will be 5.3 ha.

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

*(Project Engineer (PE) should also confer with NPDES Coordinator, Landscape Architecture, Maintenance, Hydraulics, and Environmental Unit to define design issues); Summarize pertinent information contained in the Preliminary Geotechnical Report (PGR) and other source documents identified on SW-1. Compilation of answers to question in SW-2 and SW-3 should be provided below. Not all information listed is required or available at each phase for all projects depending on conditions.)*

- Receiving water bodies/303(d) list/Pollutants of concern (SW-2, Questions 1-4)
  - Receiving water bodies: Meadow Creek, San Luis Obispo Creek, and Arroyo Grande Creek
  - 303(d) list/Pollutants of concern: San Luis Obispo Creek is on the 303(d) list. The constituents of concern include: nutrients, pathogens and priority organics
- RWQCB special requirements/concerns (SW-2, Question 5)
  - The RWQCB have not identified any special requirements or concerns for the receiving waters within the project area.
- Local agency requirements/concerns (SW-2, Questions 6 and 7)
  - Local agencies have not identified any special requirements or concerns for the receiving waters within the project area.
- Project design considerations (climate, soil, topography, geology, groundwater, right-of-way requirements, slope stabilization) (SW-2, Questions 8-16)
  - The local land use within the project area and adjacent areas is light industry, commercial, agricultural and residential.
  - The topography of the project site is coastal rolling/mountainous terrain.
  - The average rainfall is 18 inches. The soil, topography, and climate are adequate for sustaining vegetation and for minimizing erosion.
  - DFG generally limits construction activity within waterways from October 15th through April 15th. Normal erosion and sediment control design practices will insulate grading activities from waterways.
  - Soil classification, permeability, erodibility, and depth to groundwater needs to be determined. Materials functional unit has not been involved yet.
  - For side slopes, the preliminary plan is to use slopes of 1:2 or flatter with retaining walls both at cut and fill sections. Later, Materials branch will be consulted to confirm slope stability.
  - There is the potential of airily deposited lead within the project limits. A Preliminary Site Investigation (PSI) will be required to determine the presence or absence of it. Asbestos Containing



Material (ACM) is sometimes found in structures that require demolition or modification. A potential for encountering hydrocarbon-contaminated soil exist in the park and ride improvement (a petroleum pipeline exists at this location). Naturally Occurring Asbestos may be an issue on location 6. Serpentine rock, that may contain NOA, was observed in the cut slopes in this area.

- 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.) still needs to be determined.
- Additional right-of-way acquisition or easements and right-of-entry required for design, construction and maintenance of BMPs still needs to be determined.
- Right-of-way BMP costs and funding (SW-2, Questions 17 and 18)
  - To be determined
- Measures for avoiding or reducing potential storm water impacts (SW-3)
  - Methods to minimize erosion from slopes include: disturbing existing slopes only when necessary, minimizing cut and fill areas to reduce slope lengths, avoiding soils or formations that will be particularly difficult to re-stabilize, and retaining natural vegetation where feasible.

### **3. Regional Water Quality Control Board Agreements**

Briefly describe any key negotiated understandings or agreements with RWQCB pertaining to this project, including project exemptions or exclusion of permanent treatment BMPs. Include any specific meeting dates and contact names that design related recommendation or agreements were addressed.

There are no negotiated understandings or agreements with the Central Coast Regional Water Quality Control Board concerning this project at this time.

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

*(Summarize responses to Checklist DPP-1, Parts 1-5)*

#### Downstream Effects Related to Potentially Increased Flow, Parts 1 and 2

- Velocity or volume of downstream flow
- Existing
- Post Construction
- Channels condition and design
- Sediment loading potential
- Hydraulic changes (realignment, encroachment)

For the most part this project involves constructing more pavement to match the existing grade and profile of the mainline. The increase in paved area will cause a minor increase in runoff. However, the quality and velocity of the runoff will match the existing. There might be opportunities to place grass-lined swales or ditches. Some drainage inlets will be relocated or modified and these can, with normal procedures, be designed to minimize erosion and reduce sediment transport.

#### Slope/Surface Protection Systems, Parts 1 and 3

- Cut and fill requirements
- Existing slope conditions
- Total BMP area (before and after construction)
- Vegetated surfaces (plants, soils, mulch, blankets, establishment periods)
- Hard surfaces (rock blankets, paving)



All proposed slopes will be 1:2 or flatter with retaining walls both at cut and fill sections. Some locations involve widening the mainline adjacent to a large cut bank. A 1:2 slope is normally geotechnically stable and can support native vegetation. A flatter slope might support vegetation more easily but would also increase the disturbed area and would also require additional right-of-way.

Other locations involve grading and disturbing native vegetation but on flatter slopes. These areas can readily be re-vegetated and protected using normal design and construction methods.

#### Concentrated Flow Conveyance Systems, Parts 1 and 4

- See Drainage Quantity Sheet
- List locations and unit volume of protection/velocity dissipation devices BMPs. Reference the current Construction Cost Data Book or local source for applicable unit costs.

To be determined

#### Preservation of Existing Vegetation, Parts 1 and 5

- Areas of clearing and grubbing identified and defined in the contract plans
- Maximize preservation (floodplains, wetlands, problem soils, steep slopes)
- Documentation of preservation areas

All of the exposed areas will be replanted with native species as determined appropriate by the Landscape Architect.

ESA fencing will be used to isolate areas with sensitive habitat (such as those near a culvert) from construction activity. These will be precisely determined during the design phase and noted on the plans.

Some areas with ice plant will be replanted with native species as directed by the Landscape Architect.

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

*(Summarize responses to Checklist T-1, Parts 1-7)*

#### Biofiltration Swales/Strips, Parts 1 and 2

- Project Definition of New Construction or Major Construction
- Tributary Area
- Design Storm Flow Velocities
- Scour Velocity
- Natural or low cut sections

Wherever possible, grassy swales will be placed. The precise location and length will be determined during the design phase.

#### Dry Weather Diversion, Parts 1 and 3

- Persistence of dry weather flows
- Proximity to sanitary sewer
- Publicly Owned Treatment Works (POTW) and local health agencies acceptance
- Need for existing sanitary sewer pipeline upgrade.

The local sewer districts are very resistant to receiving storm flows into their system. Furthermore, removing or reducing dry weather flows is destructive to the local habitat. Therefore no permanent diversions are proposed.



Infiltration Basins, Parts 1 and 4

- Approximate tributary area of impervious surface per infiltration basin.
- Water Quality Volume (WQV) treated per treatment infiltration basin.
- Soil permeability
- Groundwater depth
- Threat to local groundwater quality
- Infiltration rate
- Slopes

The amount of area available for infiltration basins might be too small and the permeability of the native soil is not yet known. Therefore infiltration basins are questionable at this time.

Detention Basins, Parts 1 and 5

- Approximate tributary area of impervious surface per treatment detention basin.
- WQV treated per treatment detention basin.
- Geotechnical Integrity
- Groundwater depth
- Hydraulic head sufficiency

The amount of area available for detention basins might be too small and the permeability of the native soil is not yet known. Therefore detention basins are questionable at this time.

Gross Solids Removal Devices, Parts 1 and 6

- Receiving water on a 303(d) list for trash or Total Maximum Daily loads (TMDLs) and requires trash removal.
- Sufficient access for maintenance and large equipment.
- Peak design flow

303(d) list/Pollutants of concern: San Luis Obispo Creek is on the 303(d) list. The constituents of concern include: nutrients, pathogens and priority organics. TMDL priority is high.

Standard design for the proposed drainage structures on this project will allow for peak flows and ease of maintenance.

Traction Sand Traps, Parts 1 and 7

- Estimated volume of traction sand applied (S) ( $m^3/yr$ )
- Sand trap cleaning frequency and Maintenance operational needs.
- Estimate volume of traction sand: (V) ( $m^3$ )
- Estimated volume of traction sand trap:

Traction sand is not used near this project and therefore the need for treatment is not applicable to this project.



**6. Construction Cost Information**

Summarize construction costs included in the Preliminary Project Construction Cost Estimate Summary (PPCE) associated with storm water pollution prevention and treatment. Summary shall include the following:

The estimated cost for BMP's on this project is estimated to be equal to 4% of the total construction cost for projects over \$2,000,000. This is consistent with Table F-3 in the PPDG for freeway widening projects in urban areas over \$2,000,000. Considering the upper end project cost for all seven locations is \$22,600,000:

Construction Site BMPs cost is .....\$904,000

Preliminary costs for Water Pollution Control and Erosion Control recommended by the Landscape Department for all seven locations are the following:

Water Pollution Control .....	\$100,000
Prepare SWPPP .....	\$10,000
WPC Maintenance Sharing .....	\$75,000
Additional Water Pollution Control .....	\$20,000
Storm Water Sampling and Analysis .....	\$5,000
Erosion Control .....	\$100,000
Fiber Rolls .....	\$15,000
Duff Collection .....	\$35,000
Erosion Control Blanket .....	\$15,000

**TOTAL STORM WATER TREATMENT & PREVENTION: \$1,300,000**

**TOTAL RIGHT-OF -WAY FOR TREATMENT BASINS: To Be Determined**

**7. Maintenance BMPs (Drain Inlet Stenciling)**

Briefly describe locations where drain inlet stenciling is required, such as within cities, towns, and communities with populations of 10,000 or more, or within designated MS4 areas. Include any specific stencil types and names of contacts that recommended stencil types or locations.

To be determined.

**ATTACHMENTS:**

- ⇒ Vicinity Map
- ⇒ Checklist SW-1, Site Data Sources
- ⇒ Checklists SW-2, Storm Water Quality Issues Summary
- ⇒ Checklist SW-3, Measures for Avoiding or Reducing Potential Storm Water BMPs
- ⇒ Checklist DPP-1, Parts 1–5 (Design Pollution Prevention BMPs)
- ⇒ Checklist T-1, Parts 1–7 (Treatment BMPs)



**PROJECT RISK MANAGEMENT PLAN**

Dist - E.A 05-0H370k

Project Name SLO OPS II

Co-Rte-PM SLO-101-11.6/28.8

Date 5/26/05

Project Mngr Amy Donatello

Telephone Number 805-549-3398

PROJECT RISK MANAGEMENT PLAN																	
Priority	Identification						Qualitative Analysis				OPTIONAL Quantitative Analysis			Risk Response Plan		Monitoring and Control	
	Status	ID #	Date Identified Project Phase	Functional Assignment	Threat/Opportunity Event	Risk Trigger	Type	Probability	Impact	Risk Matrix	Probability (%)	Impact (\$ or days)	Effect (\$ or days)	Strategy	Response Actions including advantages and disadvantages	Responsibility (Risk Manager)	Last date changes made to risk and Comments
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14) = (12)x(13)	(15)	(16)	(17)	(18)
1	Active	1	5/26/05 PID	Landscape	Difficulty obtaining decision for type of retaining wall aesthetics at location 1, alternative 1 and/or location 3, alternative 1	Structures would not have type selection in time to prepare draft structures PS&E	Schedule	Moderate	High		50%			Avoidance	Coordinate with City of Arroyo Grande for any public input and city's concurrence early in project.	Dennis Reeves	
1	Active	2	5/26/05 PID	Landscape	Slopes are changed to 1:2 from standard 1:4 at location 1, alternative 2 and/or location 3, alternative 2	Design exception not approved.	cost	Moderate	High					Mitigation	More intensive Erosion control measure installed. New landscaping to replace vegetation loss.	Dennis Reeves	
1	Active	3	5/26/05 PID	Landscape	Difficulty obtaining decision for type of aesthetic treatment of structure over Arroyo Grande Creek at location 2, alternative 2	Structures would not have type selection in time to prepare draft structures PS&E	Schedule	Moderate	High					Avoidance	Coordinate with City of Arroyo Grande for any public input and city's concurrence early in project.	Dennis Reeves	
1	Active	4	5/26/05 PID	Design Right of Way Environmental	Environmental Document increases to EIR/EIS	Farmland conservation Impact Rating reveals acquisition of property is "Prime and Unique Farmland" with no mitigation possible.	Schedule	Very High	Very High					Acceptance	Determine as early as possible that risk has occurred and re-scope the location.	Boris Ayaviri Larry Newland	
1	Active	5	5/26/05 PID	Design	Hook NB onramp at James Way to remain open which could lead to lack of an alternative other than ramp metering of no build	Residents in Pismo Beach and/or the Fire Department want ramp left open.	Cost	Very High	Very High					Avoidance	Provide public information explaining the benefits of closing the ramp; and the alternative if it is left open. Option also available to remove alternative completely from project.	Amy Donatello Boris Ayaviri	
1	Active	6	5/26/05 PID	Design Right of Way	Unable to obtain right of way for park and ride lot at location 7 after design and environmental work had been completed	Owner of parcel rejects acquisition offers and power of eminent domain can not be exercised for a park and ride lot.	Schedule	Moderate	Moderate					Acceptance	Early communication with property owner to facilitate acceptance of acquisition offer.	Dennis Reeves	

PROJECT RISK MANAGEMENT PLAN

PROJECT RISK MANAGEMENT PLAN

Priority	PROJECT RISK MANAGEMENT PLAN																	
	Identification						Qualitative Analysis				OPTIONAL Quantitative Analysis			Risk Response Plan		Monitoring and Control		
	Status	ID #	Date Identified Project Phase	Functional Assignment	Threat/Opportunity Event	Risk Trigger	Type	Probability	Impact	Risk Matrix	Probability (%)	Impact (\$ or days)	Effect (\$ or days)	Strategy	Response Actions including advantages and disadvantages	Responsibility (Risk Manager)	Last date changes made to risk and Comments	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14) = (12)x(13)	(15)	(16)	(17)	(18)	
1	Active	7	5/26/05 PID	Environmental	Hazardous material not discovered during PA&ED	Aerial deposited lead or other hazardous material found during PS&E or construction	Schedule	Low	High					Avoidance	Perform all necessary studies to identify hazardous material	Larry Newland		
1	Active	8	5/26/05 PID	Landscape	Difficulty obtaining decision for type of wall aesthetics at location 5, alternative 1 and/or location 6, alternatives 1 or 2	Structures would not have type selection in time to prepare draft structures PS&E	Schedule	High	High					Avoidance	Coordinate with City of San Luis Obispo for any public input and city's concurrence early in project.	Dennis Reeves		
1	Active	9	5/26/05 PID	Landscape	Difficulty obtaining city's approval for concrete median barrier and oleander removal at location5, alternative 2	SLO city council rejects installation of concrete median barrier.	Schedule	Very High	High					Avoidance	Coordinate with City of San Luis Obispo for any public input and city's concurrence early in project.	Dennis Reeves		

