

**Draft Project Report
To
Authorize Public Release of the
Draft Environmental Document**

On Route 17

Between Southbound exit ramp to Route 1

And Entrance Ramp from Pasatiempo Drive

I have reviewed the right-of-way information contained in this report and the right-of-way data sheet attached hereto, and find the data to be complete, current and accurate:

for Suzie Holdridge

JAMIE LUPO, CENTRAL REGION DIVISION CHIEF, RIGHT OF WAY

APPROVAL RECOMMENDED:

[Signature]

LUIS DUAZO, PROJECT MANAGER

[Signature]

DEB LARSON, DISTRICT SAFETY COORDINATOR

APPROVED:

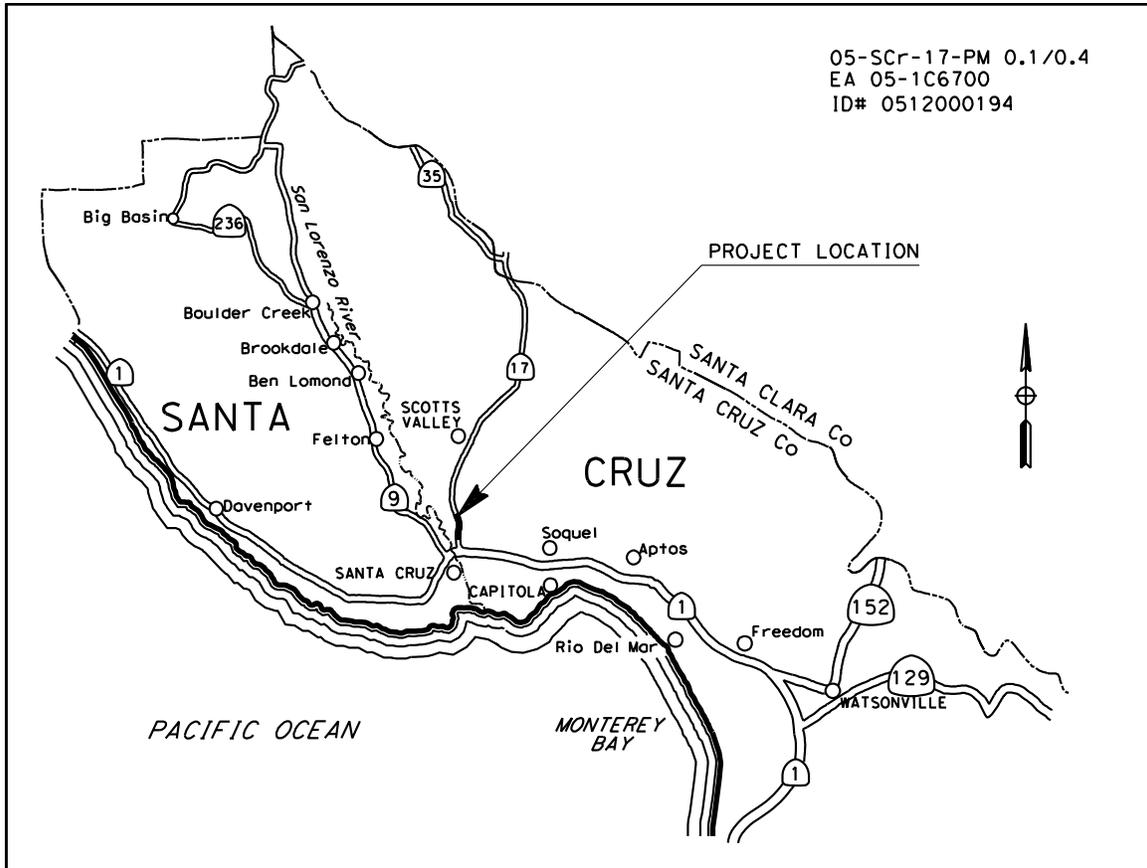
[Signature]

TIMOTHY M. GUBBINS, DISTRICT 5 DIRECTOR

2/18/16

DATE

Vicinity Map



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



REGISTERED CIVIL ENGINEER

2-5-16

DATE

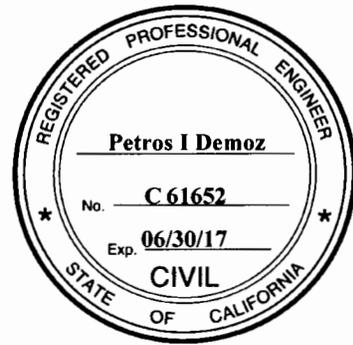


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1. INTRODUCTION

Project Description:

This Draft Project Report (DPR) proposes to improve the safety of southbound State Route 17 (SR-17) in Santa Cruz County from the southbound exit ramp to State Route 1 (PM 0.1) to the entrance ramp from Pasatiempo Drive (PM 0.4). Due to the higher than average collision rate, the project proposes to construct a retaining wall and widen outside shoulder to 10 feet in order to improve stopping sight distance. The range of construction cost estimates for the “Build” alternatives vary from \$5,017,000 to \$6,320,000 (February 2016). The range of right-of-way cost estimates vary from \$128,900 to \$156,400 (February 2016). This project is programmed in the 2014 SHOPP in the Safety Improvements Program (20.XX.201.010) of 2017/2018 fiscal year.

Project Limits	05-SCr-17-PM 0.1/0.4	
Number of Alternatives	2	
	Current Cost Estimate (x1,000):	Escalated Cost Estimate (x1,000):
Capital Outlay Support		\$4,163
Capital Outlay Construction	\$5,017 - \$6,320	\$5,439 - \$6,838
Capital Outlay Right-of-Way	\$129 - \$156	\$150 - \$181
Funding Source	20.XX.201.010 - SHOPP	
Funding Year	2017/2018	
Type of Facility	4-lane freeway	
Number of Structures	2	
SHOPP Project Output	100 collisions reduced over the life of the project	
Environmental Determination or Document	CEQA: Negative Declaration/Mitigated ND NEPA: Categorical Exclusion	
Legal Description	On Route 17 in Santa Cruz County, from southbound exit ramp to Route 1, to entrance ramp from Pasatiempo Drive	
Project Development Category	4B	

2. RECOMMENDATION

It is recommended that the DPR be approved to authorize public circulation of the Draft Environmental Document (DED).

3. BACKGROUND

The project is located at the northern end of the City of Santa Cruz, on southbound Route 17, between PM 0.1 and 0.4. This segment of southbound SR-17 consists of two through lanes and one 1300-ft long auxiliary lane from the Pasatiempo on-ramp to southbound State Route 1 (SR-1) off-ramp. The Pasatiempo on-ramp is not metered

and the southbound lanes on SR-17 are superelevated at 7% to 9% and curve to the left on a 1150-ft radius, providing stopping sight distance of 318-feet. Within the project limits, northbound and southbound lanes are separated by a concrete median barrier in a 10-ft wide median. Southbound lanes are bound on the west by vegetated cut slopes ranging from approximately 5 to 25 feet of relief. The posted speed limit is 55-mph.

The District Multifunctional Safety Improvement Team reviewed and discussed this project on November 16, 2011 and concurred with the proposed improvements. The HQ Chief for Caltrans Office of Traffic Safety Program gave conceptual approval on March 7, 2012.

A Project Study Report to request programming in the 2014 SHOPP for this project was approved on June 17, 2014.

4. PURPOSE AND NEED

Purpose:

The purpose of this project is to reduce the number and severity of collisions at this location.

Need:

There is a pattern where vehicles approach congestion too fast, take evasive action and then hit the cut slope or median barrier. This often occurs on wet pavement surface. There is a higher than Statewide average collision rate occurring due in part to the limited sight distance and narrow shoulder that result from the steep cut slope near the edge of the traveled way on the inside of curve.

A. Problem, Deficiencies, Justification

This section of SR-17 is experiencing a pattern of roadway departure collisions, often on a wet roadway surface. Existing southbound SR-17 has 1 to 4-ft outside shoulder and limited stopping sight distance due in part to the hillside cut slope between PM 0.1 and PM 0.4.

B. Regional and System Planning

SR-17 is an important corridor linking coastal and inland activity centers. It serves as the primary interregional commuter route between residences in the City of Santa Cruz and nearby communities and job centers in Santa Clara, Alameda, Contra Costa, and San Mateo Counties. SR-17 is also the route of choice between the Santa Clara Valley and popular recreational destinations in Santa Cruz. Recreational travel peaks on summer weekends.

Although SR-17 serves primarily for the movement of people, it is the principal and shortest route for delivering goods from Bay Area and Silicon Valley manufacturers and distributors to commercial centers in Santa Cruz County. Trucks account for only

about three percent of Average Annual Daily Traffic (AADT). Thirty percent of these trucks are large (5 axles or more).

According to the Route Concept Report, SR-17 in Santa Cruz County has been divided into two sub-segments (1A & 1B). This project lies within sub-segment 1A (PM 0.00/5.45). Sub-segment 1A extends from Ocean Street, just south of the SR 1/17 interchange to Granite Creek Road in the City of Scotts Valley. With the exception of a 0.40-mile stretch of expressway through the unincorporated community of Pasatiempo, sub-segment 1A is a four-lane freeway. The SR-1/SR-17 interchange features low speed connectors, known locally as the fishhook.

The greatest portion of traffic on sub-segment 1A is regional and interregional traffic moving between SR-1/SR-17 and destinations northeast of Santa Cruz County. High-tech employment opportunities in Scotts Valley also generate commuter trips on SR-17. The sub-segment accommodates local travel and regional trips linking residents of the City of Scotts Valley with employment, shopping and educational opportunities in Santa Cruz. Scotts Valley has expressed interest in developing an additional interchange with an adjacent park and ride facility between the existing interchanges at Mt. Harmon and Granite Creek Roads.

South of this project at the southbound SR-17 ramp connector to southbound SR-1, EA 05-1H060K was initiated on June 26, 2015 to realign curve, improve drainage and place open graded overlay. Realignment of the curve would require constructing a retaining wall.

EA 05-1A8704, scheduled to begin construction in December 2015, will widen southbound SR-1/SR-17 separation from 3 lanes to 4 lanes, eliminating the forced merge of vehicles of northbound #1 lane on SR-1 and southbound #2 lane on SR-17. The inside and the outside shoulders south of the SR-1/SR-17 separation will also be widened to 5 feet and 10 feet respectively. These two projects will improve safety and operations through this highway segment, but will not replace the low speed connectors or add capacity.

The proposed improvements of this project are compatible with the Route Concept Report and do not prevent or hinder any plans to improve the operation of the facility.

C. Traffic

1. Current and Forecasted Traffic:

The Design Hourly Volume (DHV) and the Annual Average Daily Traffic (AADT) values within the project limits pertinent to the southbound lanes are shown in Table 1 below.

Design Option 2 - Soldier Pile Wall

This design option proposes to construct a soldier pile retaining wall along the cut slope. Drainage work would include a gutter, risers and inlets at the back of the wall and replacement of existing drainage inlets and installing additional inlets in front of the wall, all connected to a 24" RCP trunk line that drains into an existing inlet in a gully at "RW1" Sta 2+15. Most of the work will be performed in the state right-of-way, but permanent easements will be required from "RW1" Sta 5+50 to Sta 9+90.

Construction and right of way costs are estimated at \$6,134,000 and \$128,900 (February 2016) respectively.

Design Option 3 - Type 1 Retaining Wall

This design option proposes to construct a Type 1 retaining wall along the cut slope. Drainage work would include a gutter, risers and inlets at the back of the wall and replacement of existing drainage inlets and installing additional inlets in front of the wall, all connected to a 24" RCP trunk line that drains into an existing inlet in a gully at "RW1" Sta 2+15. Most of the work will be performed in the state right-of-way, but right of way acquisition will be required from "RW1" Sta 5+50 to Sta 9+90.

Construction and right of way costs are estimated at \$6,320,000 and \$156,400 (February 2016) respectively.

Additional Build Features Common to the Three Design Options

The build alternatives propose to move the cut slope out of the drivers sight line by constructing a retaining wall with a concrete barrier Type 60D at the bottom. In the area where there is a gully between "RW1" Sta 2+00 to Sta 2+33.89, a Type 1 retaining wall with a concrete barrier Type 736 is proposed. The area between the edge of traveled way on the auxiliary lane and the wall will be paved, which includes a 10 foot shoulder. The area between the edge of shoulder and the face of the wall would be paved and is as wide as 15 feet. These build options would provide adequate stopping sight distance for a design speed of 55-mph. The design option for the wall type would be selected during the Plans, Specifications, and Estimate phase of the project, after the completion of Geotechnical Design Report.

The structural sections recommended for adoption are 0.35' Hot Mix Asphalt (HMA), 0.20' Rubberized Hot Mix Asphalt (RHMA), and 0.10' Open Grade Finished course. The quantity of HMA and Open grade required is 850 tons which is less than 1000 tons. No exception approval for HMA use is required. Also, no nonstandard features are proposed.

5B. No-Build Alternative

The No-build Alternative would not make any improvements to the existing facility except for routine maintenance, and would not address any elements of the project's purpose and need.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

Any potentially hazardous materials would be handled and disposed of in accordance with all appropriate laws and regulations. Soil sample will be taken and a contingency plan will be in place in the event that hazardous materials are present.

6B. Value Analysis

Value analysis will not be performed because the cost and scope of the project does not meet the requirements.

6C. Resource Conservation

Removed base and surface material will be salvaged where feasible and incorporated into the final design phase of the project. Reasonable measures will be taken to reduce wasteful, inefficient, and unnecessary consumption of energy and non-renewable resources during construction.

6D. Right-of-Way Issues

While permanent easement would be required for Design Options 1 and 2, acquisition of right of way would be required for Design Option 3. The outside shoulder would be widened and sight distance improved with a retaining wall at the cut slope thereby minimizing the need for new right of way.

For Design Options 1 and 2, the guy wires holding the joint electrical and communication utility poles will require relocation, while the utility poles need to be relocated if Design Option 3 is adopted.

6E. Environmental Issues

The anticipated environmental document for the proposed project is a Mitigated Negative Declaration/Categorical Exclusion (MND/CE). As part of the scoping and environmental analysis done for the project, the major categories considered were the Human Environment, Physical Environment, and Biological Environment.

Some of the possible measures that would be taken to reduce the project's potential visual and biological impacts as seen from SR-17 and the surrounding area are the following:

- The top of the retaining wall would generally follow the natural contours of the land, and would not be stepped to achieve elevation changes.
- The retaining wall would be battered to reduce its perceived scale as seen from adjacent viewpoints.

- Aesthetic treatment would be applied to the retaining wall, as well as to the safety-shape barrier.
- The maximum number of trees would be replanted in the disturbed area above the retaining wall at a density suitable for the species. Shrubs would be planted between the trees. The revegetation would include a temporary irrigation system to promote vegetative establishment and a minimum of 3-year plant establishment contract.
- Wire mesh drapery above the retaining wall would be colored to match the adjacent natural ground for Design Option 1.
- Additional measures appropriate to the preferred design option would be taken to reduce the visual impact, such as coloring the gutter behind the wall to match the adjacent natural ground and darkening the safety cable rail posts and cables on top of the wall for Design Options 2 and 3.

6F. Air Quality Report

The project would not violate any air-quality standard, would not have long-term effects on local air-quality, and the work would not contribute to any existing or projected air quality violation.

6G. Title VI Considerations

The proposed project would not impact existing Title VI considerations and would not preclude any future enhancement of Title VI considerations.

6H. Noise Technical Report

This is not a Type I project; soundwalls will not be required. During construction, the project would generate minor short-term noise emissions and groundborne vibration, and these will be abated using standard special provisions.

7. OTHER CONSIDERATIONS AS APPROPRIATE

Public Hearing Process

Following the approval of the DPR, the DED will be made available for review at Caltrans District Office at 50 Higuera Street, San Luis Obispo, California 93401 and can also be downloaded from a website to be provided. There will also be a public information meeting scheduled where the public will be provided an opportunity to submit comments in person or via email by a deadline date to be provided after DPR approval. After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project after preparation of a Final Environmental Document (FED), 2) do additional environmental studies, or 3) abandon the project.

Permits

A 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife will be required. The work would also require obtaining coverage from a

Nationwide permit for compliance with Section 404 of the Clean Water Act from the US Army Corps of Engineers, and a related Section 401 Water Quality Certification from the Regional Water Quality Control Board.

Cooperative Agreements

No cooperative or any other agreement is anticipated in this project.

Transportation Management Plan for Use During Construction

A Transportation Management Plan is required for the construction of this project. A public information campaign will be utilized to inform the public about the construction project so commuters may avoid congestion, particularly during peak hours. All construction activities that require lane closure will be performed only during nights. In addition, the design engineer, resident engineer and the District 5 Traffic Management Center (TMC) will be responsible for the implementation of portable changeable message signs (PCMS) and construction area signs. Lane Closure Charts will be determined in the Design phase.

Accommodation of Oversize Loads

Oversize loads will be accommodated after a California Transportation Permit has been secured upon application to Caltrans and by using signs posted on the front and rear of the vehicle or on the front of the lead vehicle and the back trailer with multi-vehicle combinations. Detailed information on the permit process and requirements can be obtained at <http://www.dot.ca.gov/hq/traffops/permits>.

Graffiti Control

An anti-graffiti coating compatible with a concrete surface aesthetic treatment would be applied on the retaining wall and the safety-shape barrier.

Human Environment

The proposed project is not within the coastal zone and is consistent with existing and future State, Regional, and Local land use plans and programs. The project would not promote growth, and supports the existing community character and cohesion.

No historic properties and cultural resources would be affected by this project. Emergency services would not be disrupted by this project, and there are no pedestrian or bicycle facilities within the project limits.

Biological Environment

The proposed project would incur a temporary loss of existing oak habitat, for which replacement plantings would be incorporated in the project. Special provisions in the construction contract would be used to avoid impacts to roosting bats and nesting birds.

The project will have no effect on plant and animal species identified in the Natural Environment Study and to habitat for federally designated critical plant and animal species. It will also have no effect on threatened and endangered species. Special provisions would be used in the construction contract to avoid invasive species impacts.

Water Quality and Storm Runoff

This project is not within the 100 year Floodplain. However, special provisions in the construction contract and under permits would be used to avoid adverse impacts to water quality and storm water runoff.

Paleontological Resources and Geologic Features

No known paleontological resources or unique geologic features are within the vicinity of the project.

8. FUNDING/PROGRAMMING

Funding

This project is programmed in the 2014 SHOPP with funding from the 20.xx.201.010 Safety Improvements Program in the 2017/18 fiscal year. The scope and cost of the build alternative produces a fundable Safety Index. The escalated Construction, Right-of-Way, and Support Costs are summarized in the table below, followed by the proposed project schedule.

It has been determined that this project is eligible for Federal-aid funding.

Programming

Current Capital and Support Cost Summary

Fund Source	Fiscal Year Estimate						
	Prior	13/14	14/15	15/16	16/17	17/18	Total
20.XX.201.010							
Component	In thousands of dollars (\$1,000)						
PA&ED Support			1,101				1,101
PS&E Support				1,451			1,451
Right-of-Way Support				198			198
Construction Support						1,413	1,413
Right-of-Way						181	181
Construction						6,838	6,846
Total			1,101	1,649		8,432	11,182

Note: All costs X \$1,000. Construction Capital and Right-of-Way Capital escalated at 5% per year. Support Cost ratio: 59.3% (All Support Costs divided by the sum of the escalated Construction Capital and escalated R/W Capital).

Estimate

Construction cost estimate entered in the above table is the highest of the three design options being considered.

9. SCHEDULE

Project Milestones		Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
PROGRAM PROJECT	M015	7/1/14	A
BEGIN ENVIRONMENTAL	M020	9/1/14	A
CIRCULATE DED EXTERNALLY	M120	3/1/16	T
PA & ED	M200	6/1/16	T
PS&E TO DOE	M377	11/15/17	T
DRAFT STRUCTURES PS&E	M378	10/15/17	T
RIGHT OF WAY CERTIFICATION	M410	4/1/18	T
READY TO LIST	M460	4/1/18	T
FUND ALLOCATION	M470	7/1/18	T
HEADQUARTERS ADVERTISE	M480	8/1/18	T
AWARD	M495	9/15/18	T
APPROVE CONTRACT	M500	10/1/18	T
CONTRACT ACCEPTANCE	M600	7/1/19	T
END PROJECT	M800	7/1/20	T

10. RISKS

A Risk Management Plan (RMP) has been prepared to assess, respond, and monitor identified project risks that may occur throughout the life of the project. Risks include potential public concern with the visual impacts of the retaining wall when the draft environmental document is released for public comment; and additional right-of-way requirements and utility relocations if it is determined that the preferred Design Option require beyond the anticipated right-of-way easement or acquisition. The detailed assessment can be found in Attachment J.

11. FHWA COORDINATION

This project is considered to be an Assigned Project in accordance with the current Federal Highway Administration (FHWA) and Department of Transportation (Caltrans) Joint Stewardship and Oversight Agreement.

Date of approval for exception to use HMA instead of RHMA.....

12. PROJECT REVIEWS

Scoping team field review Aziz Saberi & Jim Espinosa Date 5/22/2013
District Program Advisor Deb Larson Date 4/11/2012
Headquarters SHOPP Program Advisor Robert Peterson Date 4/11/2012
District Maintenance Tom Barnett Date 3/07/2012
Headquarters Project Delivery Coordinator Mike Janzen Date 4/11/2014
Project Manager Luis Duazo Date 2/22/2013

13. PROJECT PERSONNEL

The following individuals may be contacted for information pertaining to this Draft Project Report:

Luis Duazo	805-542-4678
Project Manager	
Matthew Palmer	559-445-6453
Environmental	
Steve McDonald	559-243-3537
Design Manager	
Petros Demoz	559-243-3540
Project Engineer	

14. ATTACHMENTS (105 pages)

- A. Location Map (1)
- B. Typical Cross Sections (2)
- C. Layout Plans (1)
- D. Drainage Plans (1)
- E. Draft Environmental Document (53)
- F. Cost Estimate (3 sets of 11) & Advance Planning Study (5)
- G. R/W Data Sheet (6)
- H. Storm Water Data Report-signed cover sheet (1)
- I. Traffic Management Plan Checklist (1)
- J. Risk Management Plan (1)

DISTRIBUTION LIST

HQ Division of Design/Design Report Routing
HQ Division of Engineering Services
HQ Environmental – Chris Flynn
HQ Office of Performance/HSOIP – Thomas Schriber
Project Manager – Luis Duazo
Design Manager – Steven McDonald (2)
Resident Engineer – (held by Design Manager)
District Maintenance – Lance Gorman
– Kelly McClain
District Traffic Management – Jacques Van Zeventer
District Traffic Operations – Paul McClintic
– Mark Ballentine
District Traffic Safety – Deb Larson
Region Traffic Design - Mohammed Qatami
Region Materials – Ted Mooradian (or Eric Karlson)
Region Environmental – Susan Schilder
Region Right of Way – Nick Dumas (or Marshall Garcia)
Region Traffic Design – Mohammed Qatami
Region Landscape – Dennis Reeves
District Planning – Claudia Espino
District Surveys – Jeremy Villegas
– Timothy Romano
HQ DES/OPPM/Project w/Structures – Andrew T S Tan
PPM – Linda Araujo (scanned electronic copy only)
District Records – Pat Duty (electronic copy only)

LOCATION MAP

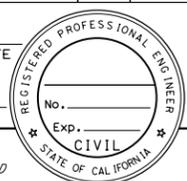
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EA: 5-1C6700
ID# 0512000194



PROJECT LOCATION



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	17	0.1/0.4		
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 SCANNED COPIES OF THIS PLAN SHEET.					



NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATIONS AS SHOWN OR AS DIRECTED BY THE ENGINEER.

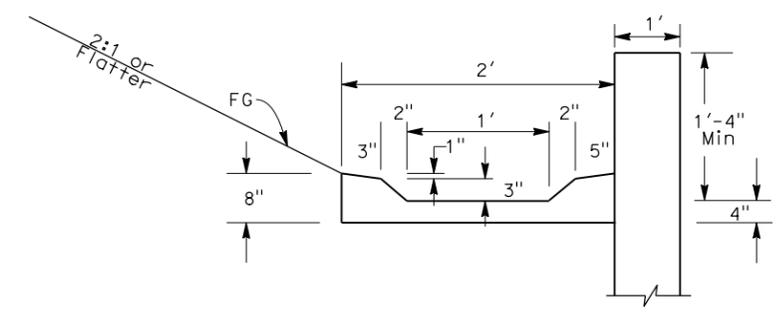
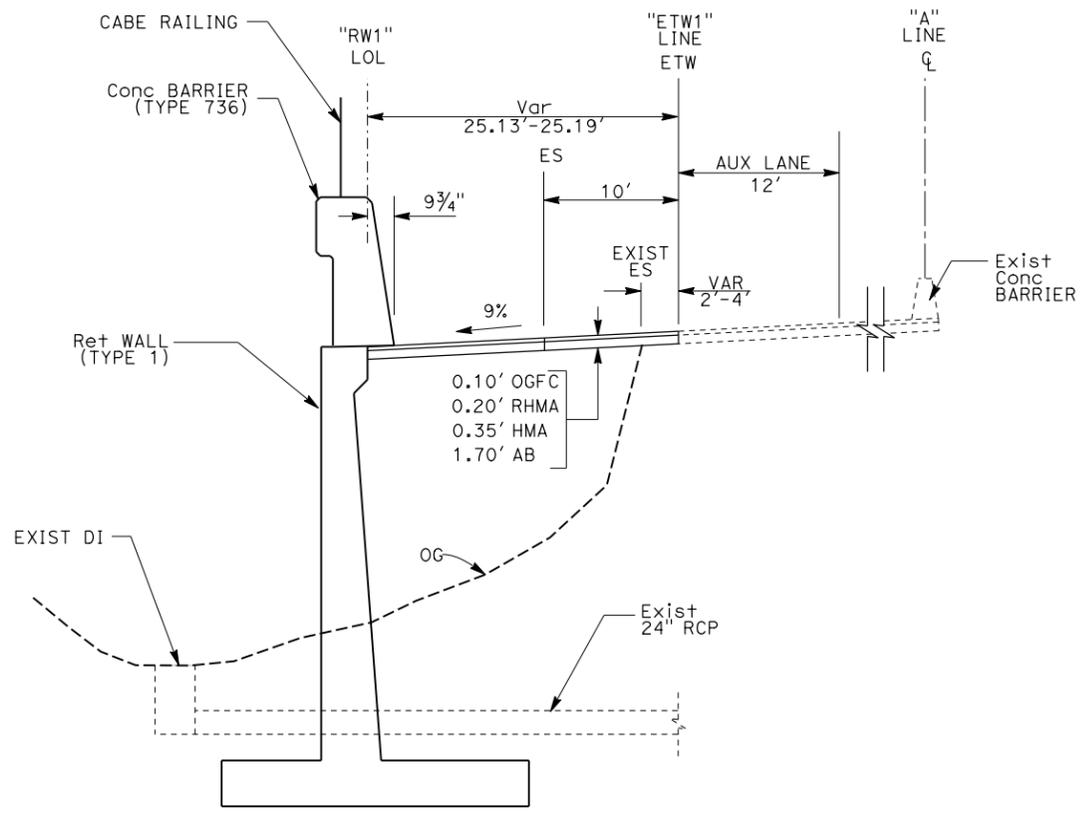
ABBREVIATION:

- MGS - MIDWEST GUARDRAIL SYSTEM
- OGFC - OPEN GRADE FINISH COURSE

DESIGN DESIGNATION

ADT 2012	31,500	DHV 2013	2,520	D	46.7%
ADT 2025	34,557	DHV 2025	2,824	T	2.7%
				V	55 mph

PAVEMENT CLIMATE REGION: CENTRAL COAST



DETAIL 'A'
(SOLDIER PILE & RETAINING WALL OPTIONS)

"RW1" STA 2+00.00 TO STA 2+33.89
(ALL THREE OPTIONS)

ATTACHMENT B

TYPICAL CROSS SECTIONS

NO SCALE

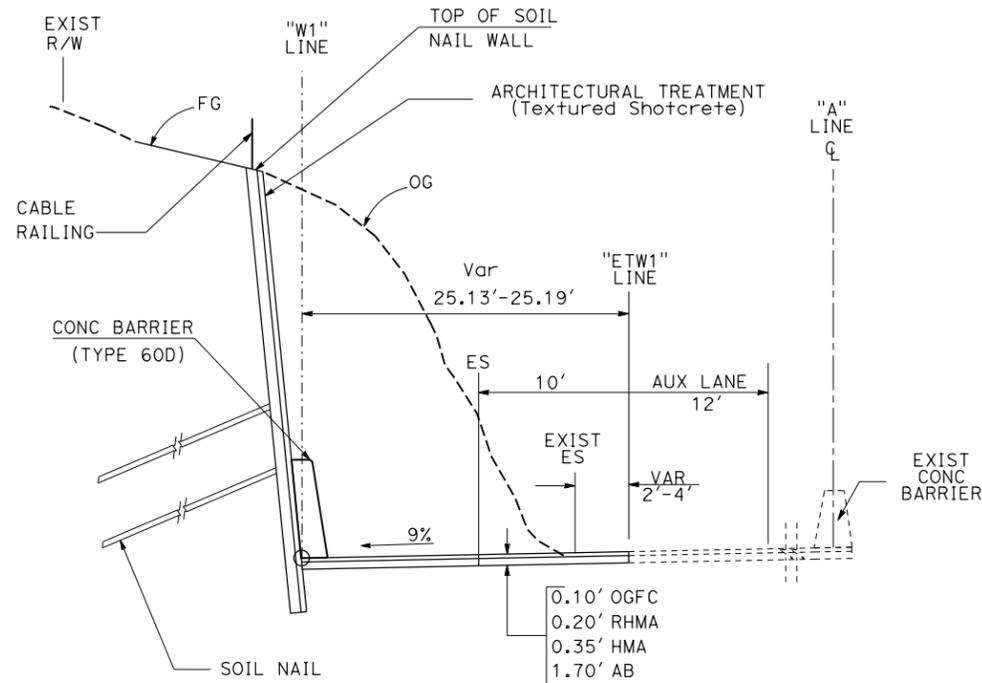
X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 06-DESIGN
 FUNCTIONAL SUPERVISOR: STEVEN J McDONALD
 CALCULATED-DRAWN BY: CHECKED BY:
 AZIZ SABERI PETROS DEMOZ
 REVISIONS: REVISION BY: DATE REVISION:

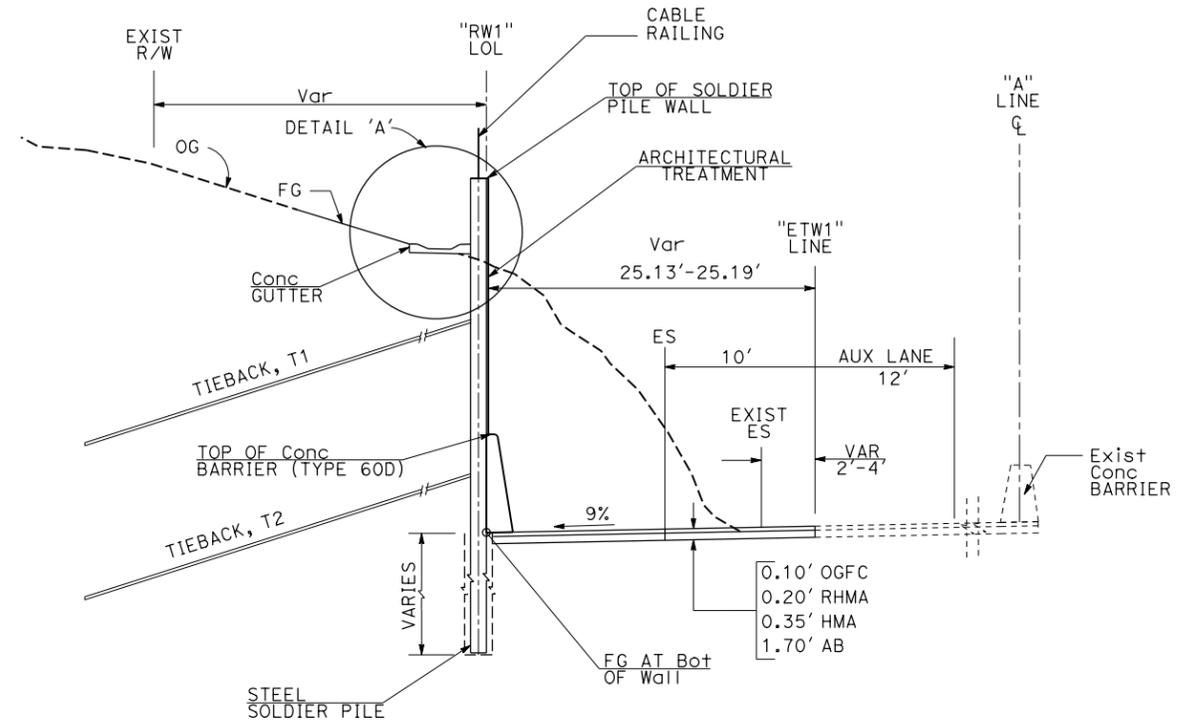
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	17	0.1/0.4		
REGISTERED CIVIL ENGINEER			DATE		
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NOTES:

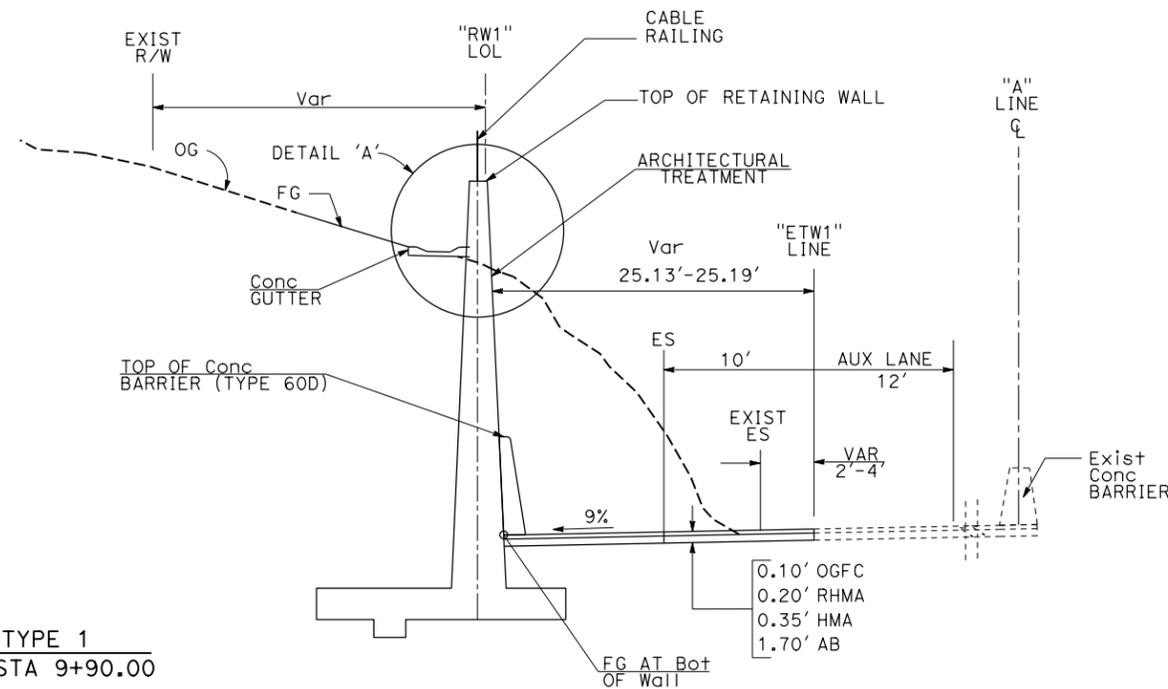
- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATIONS AS SHOWN OR AS DIRECTED BY THE ENGINEER.



SOIL NAIL WALL
"RW1" STA 2+33.89 TO STA 9+90.00



SOLDIER PILE WALL
"RW1" STA 2+33.89 TO STA 9+90.00



RETAINING WALL TYPE 1
"RW1" STA 2+33.89 TO STA 9+90.00

TYPICAL CROSS SECTIONS

NO SCALE

X-2

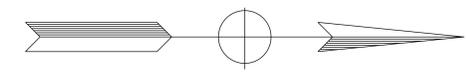
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - 06-DESIGN

REVISOR BY DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	17	0.1/0.4		

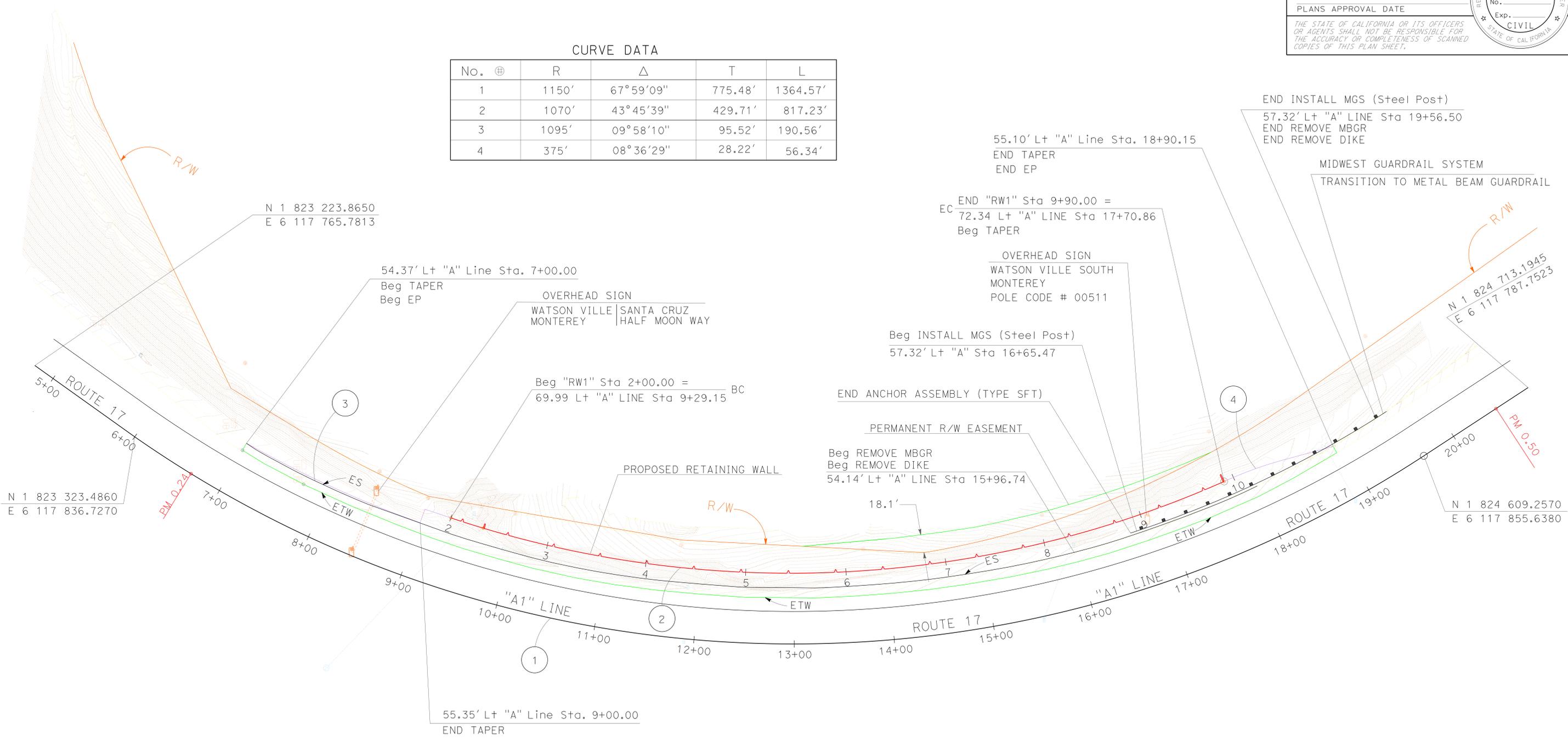
REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	

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CURVE DATA

No.	⊕	R	Δ	T	L
1		1150'	67°59'09"	775.48'	1364.57'
2		1070'	43°45'39"	429.71'	817.23'
3		1095'	09°58'10"	95.52'	190.56'
4		375'	08°36'29"	28.22'	56.34'



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 FUNCTIONAL SUPERVISOR: STEVEN J McDONALD
 CHECKED BY: PETROS DEMOZ
 AZIZ SABERI
 REVISOR: PETROS DEMOZ
 REVISIONS: (None listed)

ATTACHMENT C
LAYOUT PLAN
 SCALE 1"=50' **L-1**

LAST REVISION: DATE PLOTTED => 05-FEB-2016 TIME PLOTTED => 11:45

December 2015



Pasatiempo Shoulder Widening

Initial Study with Proposed Mitigated Negative Declaration



ATTACHMENT E

On State Route 17 between the southbound exit ramp to
State Route 1 and the entrance ramp from Pasatiempo Drive



05-SCR-17-0.1/0.4
EA 05-1C670



General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in Santa Cruz County in California. The document explains the reasons the project is being proposed, the alternatives being considered for the project, the existing environment that could be affected by the project, potential impacts of each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

Read the document. Additional copies of the document and the related technical studies are available for review at the Caltrans district office at 50 Higuera Street, San Luis Obispo, California 93401. Additional copies are available at the Santa Cruz Central Library at 224 Church Street, Santa Cruz, CA 95060. An electronic copy is available on the Caltrans website www.dot.ca.gov/dist05/projects under "Santa Cruz County" and the City's website www.cityofsantacruz.com under "Latest News".

- Attend the public information meeting on Wednesday April 6, 2016 at the Brancifore Middle School in Santa Cruz from 5:30 p.m. to 7:30 p.m.
- Tell us what you think. If you have any comments about the proposed project, please attend the public information meeting and/or send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to: Scott Smith, Senior Environmental Planner, Environmental Division, California Department of Transportation, 855 M Street, Suite 200, Fresno CA 93721.
- Submit comments via email to: scott.smith@dot.ca.gov.
- Submit comments by the deadline: **April 15, 2016**.

What happens next:

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and build all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Scott Smith, Senior Environmental Planner, 855 M Street, Suite 200, Fresno, CA 93721; (559) 445-6172 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY/Voice), or 711.

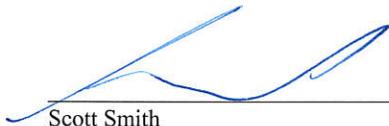
Construct a retaining wall and widen the outside shoulder of State Route 17 in Santa Cruz County between the southbound exit ramp to State Route 1 (post mile 0.1) to the entrance ramp from Pasatiempo Drive (post mile 0.4)

**INITIAL STUDY
with Proposed Mitigated Negative Declaration**

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

12/28/15
Date of Approval


Scott Smith
Senior Environmental Planner
California Department of Transportation

The following person(s) may be contacted for more information about this document:

Scott Smith, Senior Environmental Planner
Central Region Special Projects Analysis Branch
California Department of Transportation
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Fresno, CA 93721

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to improve the safety of southbound State Route 17 in Santa Cruz County from the southbound exit ramp to State Route 1 (post mile 0.1) to the entrance ramp from Pasatiempo Drive (post mile 0.4). Due to the higher-than-average collision rate, the project proposes to construct a retaining wall and widen the outside shoulder to 10 feet to improve drivers' stopping sight distance.

Determination

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision on the project is final. This Mitigated Negative Declaration is subject to change based on comments received from interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons.

The project would have no effect on: agriculture/forest resources, air quality, floodplain, geology, soils, hazards, hazardous materials, hydrology, water quality, land use planning, mineral resources, noise, population, housing, public services, recreation, transportation, traffic, utilities or service systems.

The proposed project would have no significant effect on biological resources because mitigation measures listed for visual resources would reduce potential effects to insignificance.

In addition, the proposed project would have no significantly adverse effect on visual resources because the following mitigation measures would reduce potential effects to insignificance:

- The top of the retaining wall would generally follow the natural contours of the land and would not be stepped to achieve elevation changes.
- The retaining wall would be battered to reduce its perceived scale as seen from adjacent viewpoints.
- Aesthetic treatment would be applied to above-roadway retaining walls and to the safety shape barrier.
- The local communities would be involved in determining retaining wall aesthetics. Wall aesthetics would be discussed with both the County of Santa Cruz and the City of Santa Cruz.
- Any required construction access roads, staging areas, or other disturbed areas would be re-graded if necessary to match their pre-construction contours.
- The maximum number of trees horticulturally possible, with emphasis on California live oaks, would be replanted in the disturbed area above the retaining wall and at a density suitable for the species.
- Shrubs would be planted between the new trees.
- The revegetation planting would include a temporary irrigation system to promote vegetative establishment.
- The revegetation planting would include a minimum three-year plant establishment contract.
- Wire mesh drapery above the retaining wall would be colored to match the adjacent natural ground (Design Option 1).
- Native shrub seed would be applied to the wire mesh area above the retaining wall (Design Option 1).
- If additional shotcrete is required on the slope above the retaining wall, it would be sculpted and colored to match the adjacent natural ground (Design Option 1).
- Where the concrete drainage gutter behind the retaining wall is visible, it would be colored to match the adjacent natural ground (Design Option 2 and Design Option 3).
- All personnel safety rail would follow the gradual contour of the wall top and would not be stepped to achieve elevation changes (Design Option 2 and Design Option 3).
- All safety cable rail posts and cables would be darkened (Design Option 2 and Design Option 3).

Scott Smith
Senior Environmental Planner
California Department of Transportation

Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to improve the safety of southbound State Route 17 in Santa Cruz County from the southbound exit ramp to State Route 1 (post mile 0.1) to the entrance ramp from Pasatiempo Drive (post mile 0.4). Due to the higher-than-average collision rate, the project proposes to construct a retaining wall and widen outside shoulder to 10 feet to improve stopping sight distance. Depending on the design option selected, the range of construction cost estimates for the “Build” alternative varies from \$5,024,000 to \$6,327,000 (December 2015). The right-of-way cost estimate is \$128,900 (December 2015). This project is proposed for funding in the 2014 State Highway Operation and Protection Program in the Safety Improvements Program (20.XX.201.010).

1.2 Purpose and Need

1.2.1 Purpose

This project is being proposed to improve the safety and operations of State Route 17 in Santa Cruz County from the southbound exit ramp to State Route 1 (post mile 0.1) to the entrance ramp from Pasatiempo Drive (post mile 0.4) by widening the outside shoulder to 10 feet to improve stopping sight distance. To accommodate this widened shoulder, the hill next to the southbound lanes would be excavated and a retaining wall would be constructed. The build options propose to move the cut slope out of drivers’ sight line by constructing a retaining wall with a concrete barrier at the bottom.

1.2.2 Need

This location of State Route 17 has a higher-than-average number and severity of traffic collisions. Sight distance is limited because of the steep cut slope near the edge of the traveled way on the inside of the curve, and there is a higher-than-expected collision rate due in-part to poor stopping sight distance. There is a pattern of vehicles coming upon congestion too fast and, after evasive action, hitting the existing cut slope or median barrier, often on a wet surface. In addition, rear-end collisions have occurred.

Twenty-seven collisions were reported from November 1, 2008 to July 31, 2010, with 10 of those being injury collisions at this location of State Route 17. There were no fatal collisions. Twenty-two of the 27 collisions were roadway departure, 3 were rear-end, and 2 were broadside. Sixteen of the 27 collisions were on wet surface. Table 1.1 shows collision rates for the project location and compares that to the average collision rate of similar state facilities.

Table 1.1 Collision Rate Per Million Vehicle Miles

Location	Actual			Average		
	Fatal	F+I	Total	Fatal	F+I	Total
State Route 17	0	0.48	1.30	0.008	0.12	0.37

1.3 Project Description

Caltrans proposes to improve the safety of southbound State Route 17 in Santa Cruz County from the southbound exit ramp to State Route 1 (post mile 0.1) to the entrance ramp from Pasatiempo Drive (post mile 0.4). Because of a higher-than-average collision rate there, the project proposes to construct a retaining wall and widen the outside shoulder to 10 feet to improve drivers' stopping sight distance.

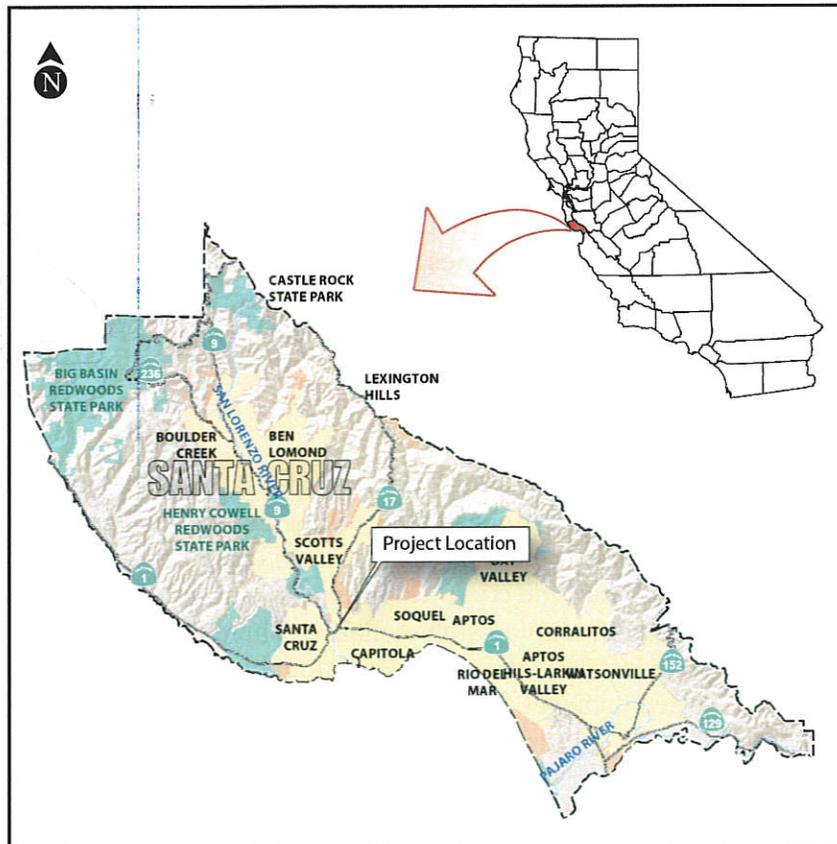


Figure 1-1 Project Vicinity Map

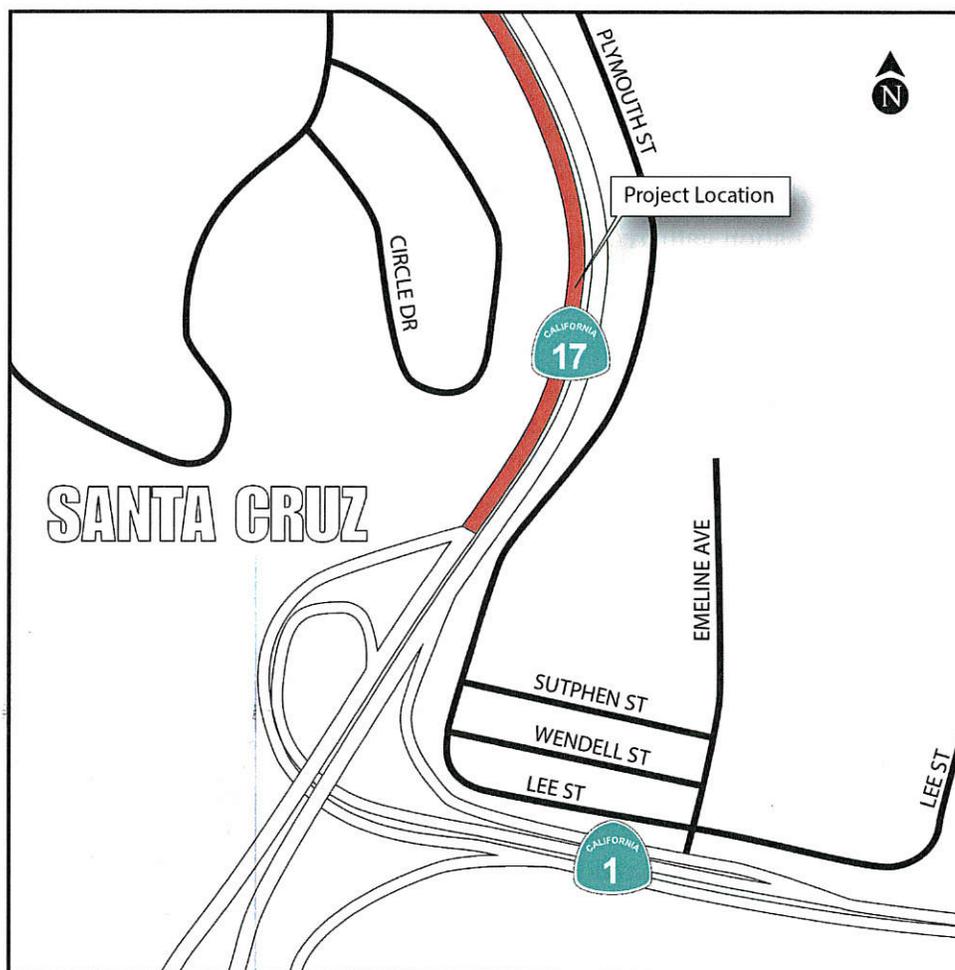


Figure 1-2 Project Location Map

1.4 Project Alternatives

1.4.1 Build Alternative

For this stretch of southbound State Route 17 in Santa Cruz County, Caltrans proposes to widen the outside shoulder to 10 feet to improve drivers' stopping sight distance. To accommodate this widened shoulder, the hill next to the southbound lanes would be excavated and a retaining wall would be constructed.

The build options propose to move the cut slope out of the sight line by constructing a retaining wall with a concrete barrier at the bottom. At the southern end of the project area, an existing gully would require an approximately 40-foot-long downslope

retaining wall with a concrete barrier. The area between the wall and the edge of the traveled way on the auxiliary lane would be paved, including a 10-foot shoulder. The paved area would be as wide as 25 feet.

Three retaining wall options are proposed. Each of the wall options would be approximately the same size, about 750 feet long and varying in height from about 5 to 20 feet. Aesthetic treatment such as texturing and/or coloring would be included with each of the wall options. The determination of wall type would be based in part on geotechnical information gathered during the design phase of the project. The retaining wall options are as follows:

Design Option 1—Soil Nail Wall

This design option proposes to construct a soil nail wall as the retaining wall for the cut slope area. Drainage work would include replacing existing drainage inlets and installing additional inlets in front of the wall connected to a concrete trunk line that drains into an existing inlet. Most of the work would be performed in the state right-of-way, but permanent easements would be required for the soil nails at certain locations.

Although both soil nail and soldier pile walls use top-down construction methods, soil nail wall construction does not require machinery/equipment on the top. Workers with some hand tools would be needed to grade or, as recommended, install an anchored wire mesh drapery above the wall to stabilize the shallow surface failures and slumps to prevent material from reaching the highway. The area of impact on the vegetation and trees from the face of the soil nail wall would be 5 feet to 7 feet. Drainage gutter and cable railing would not be required on top of the wall, but a shotcrete apron may be necessary. In front of the soil nail wall on the highway side, drainage inlets and a reinforced concrete pipe trunk line would be constructed to drain into an existing cross-drainage culvert.

Design Option 2—Soldier Pile Wall

This design option proposes to construct a soldier pile as a retaining wall for the cut slope area. Drainage work would include a gutter, risers and inlets at the back of the wall, plus replacing existing drainage inlets and installing additional inlets in front of the wall. Most of the work would be performed in the state right-of-way, but permanent easements would be required for the tie-backs at certain locations.

Soldier pile walls require a top-down construction method. The area of impact on vegetation and trees beyond the face of the soldier pile wall is assumed to be 25 feet to 30 feet because there would be drilling machinery and other equipment required for construction on the top of the cut slope. This disturbed area would be available for revegetation after construction. On top of the soldier pile wall, a parapet with cable railing as well as a gutter would be required.

Design Option 3—Poured-in-Place Concrete (Type 1) Wall

This design option proposes to construct a poured-in-place concrete retaining wall for the cut slope area. Caltrans standards refer to this type wall as a “Type 1” wall.

Drainage work would include a gutter, risers and inlets at the back of the wall, plus replacing existing drainage inlets and installing additional inlets in front of the wall.

This type of wall uses a bottom-up construction method. The area of impact on vegetation and trees would be at least 25 feet to 30 feet beyond the face of the wall because of the need for shoring up areas where excavation back slope would not be feasible. On top of the retaining wall, a parapet with cable railing as well as a gutter would be required. This design option will require right of way acquisitions.

1.4.2 No-Build (No-Action) Alternative

The No-Build Alternative would not make any improvements to the existing facility except for routine maintenance and would not address any elements of the project’s purpose and need.

1.5 Permits and Approvals Needed

A 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife would be required. The work would also require obtaining coverage from a Nationwide permit for compliance with Section 404 of the Clean Water Act from the U.S. Army Corps of Engineers, and a related Section 401 Water Quality Certification from the Regional Water Quality Control Board.

Agency	Permit/Approval	Status
California Department of Fish and Wildlife	1602 Streambed Alteration Agreement	Early coordination
U.S. Army Corps of Engineers	Nationwide 404 Permit	Early coordination
Regional Water Quality Control Board	401 Water Quality Certification	Early coordination

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. So, there is no further discussion of these issues in this document.

Human Environment

- Land Use – The proposed project is consistent with existing and future state, regional, and local land use plans and programs. This project is not within the coastal zone. No Wild and Scenic Rivers occur within the project limits. No public parks and/or recreational facilities would be affected by this project. (Draft Project Report – November 2015)
- Growth – This project would not promote growth.
- Farmlands/Timberlands – No agricultural or timberland resources would be affected by this project. (Draft Project Report – November 2015)
- Community Impacts – This project supports the existing community character and cohesion. Some minor property acquisitions will be required but would not result in any relocations. There are no environmental justice issues. (Draft Project Report – November 2015)
- Utilities/Emergency Services – Utilities and emergency services would not be disrupted by this project. (Draft Project Report – November 2015)
- Traffic and Transportation/Pedestrian and Bicycle Facilities – There are no pedestrian or bicycle facilities within the project limits. (Draft Project Report – November 2015)
- Cultural Resources – No historic properties or cultural resources would be affected by this project. (HPSR – October 2015, HRER – October 2015, Section 106 Close Out Memo – November 2015)

Physical Environment

- Hydrology and Floodplain – This project is not within the 100-year floodplain. (Draft Project Report – November 2015)
- Water Quality and Storm Water Runoff – Special provisions in the construction contract and under permits would be used to avoid adverse impacts to water quality and storm water runoff. (Draft Project Report – November 2015)

- Geology/Soils/Seismic/Topography – No known earthquake faults are in the project area. With no known faults or low-potential soil types in the project, liquefaction is not likely. (Geotechnical Report, 2015)
- Paleontology – No known paleontological resources or unique geologic features are within the vicinity of the project. (Paleontology Memo, 2015)
- Hazardous Waste/Materials – Any potentially hazardous materials would be handled and disposed of in accordance with all appropriate laws and regulations. (Initial Site Assessment Memorandum, April 2015)
- Air Quality – The project would not violate any air-quality standard because the work to install the culvert, headwall and outfall structures would have no long-term effects on local air quality. Also, work would not contribute to any existing or projected air quality violation. (Air Quality Report, October 2015)
- Noise – During construction, the project would generate minor short-term noise emissions and groundborne vibration. (Noise Technical Report, October 2015)

Biological Environment

- Natural Communities – The project would incur a temporary loss of existing oak habitat. Discussion of the replacement plantings of these trees is discussed in the Visual Section 2.1.1. Special provisions in the construction contract would be used to avoid impacts to roosting bats and nesting birds. (Natural Environment Study – August 2015)
- Wetlands and Other Waters – Special provisions in the construction contract and under permits would be used to avoid adverse impacts to a seasonal stream.
- Plant Species – The proposed project will have no effect on the following federally listed plant species identified in the Natural Environment Study – August 2015. Additionally, there will be no impacts to federally designated critical habitat for any of the federally listed plant species identified in the Natural Environment Study – August 2015.
- Animal Species – The proposed project will have no effect on the following federally listed plant species identified in the Natural Environment Study – August 2015. Also, there will be no impacts to federally designated critical habitat for any of the federally listed plant species identified in the Natural Environment Study – August 2015.
- Threatened and Endangered Species – This project would have no effect on threatened and endangered species. (Natural Environment Study – August 2015)
- Invasive Species – Special provisions in the construction contract would be used to avoid invasive species impacts. (Natural Environment Study – August 2015)

2.1 Human Environment

2.1.1 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA) establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings (42 U.S. Code 4331[b][2]). To further emphasize this point, the Federal Highway Administration in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of aesthetic, natural, scenic and historic environmental qualities” (California Public Resources Code Section 21001[b]).

Affected Environment

State Route 17 is designated as Eligible in the State Scenic Highway system. State Route 17 in Santa Cruz County serves local and interregional traffic made up mostly of recreationists, commuters, and commercial users.

Through the project area, State Route 17 is a four-lane freeway with 12-foot-wide lanes. The highway facility in the project area includes concrete median barrier and metal beam guardrail at various locations along the northbound and southbound road shoulders (see Figure 2-1).



Figure 2-1 Existing Condition

The view of the existing slope is considered to be of moderately high baseline visual quality. The well-vegetated character of the slope is somewhat moderated by occasional pockets of eroded soil and glimpses of overhead utilities.

Overall, the project site contributes to the vegetated character of the State Route 17 corridor valued in local planning policy. The vividness or memorability rating is moderate because views of well-vegetated slopes such as this are relatively common along State Route 17 and throughout the region. The visual intactness is moderately high because few non-typical visual features are present, and no particularly contrasting or uncharacteristic elements are seen. The unity rating is slightly above average because, although many aspects of the view are harmonious, elements such as the roadway, high volume of vehicle traffic, signage, and overhead utilities detract somewhat from the scene.

Environmental Consequences

The project would remove all existing vegetation from the lower and mid-sections of the slope. Above the wall, all existing vegetation approximately 5 feet to 7 feet behind the face of the wall would be removed. A small portion of the slope above the wall would be covered with wire mesh and erosion control seeding. Existing trees and other vegetation between the wire mesh area and the adjacent neighborhood would be saved.

Design Option 1 proposes a soil nail type wall (see Figure 2-2), which would include the application of shotcrete on the wall face. Shotcrete does not use formliners typical of other concrete wall types. Instead, the application is sprayed on the wall face and hand-sculpted into the desired aesthetic appearance. This type of concrete application lends itself to a more organic-appearing surface treatment such as the faux-rock slope shown in Figure 2-2. Because this Design Option has no drainage gutter behind the wall, no safety cable railing would be required along the top of the wall.

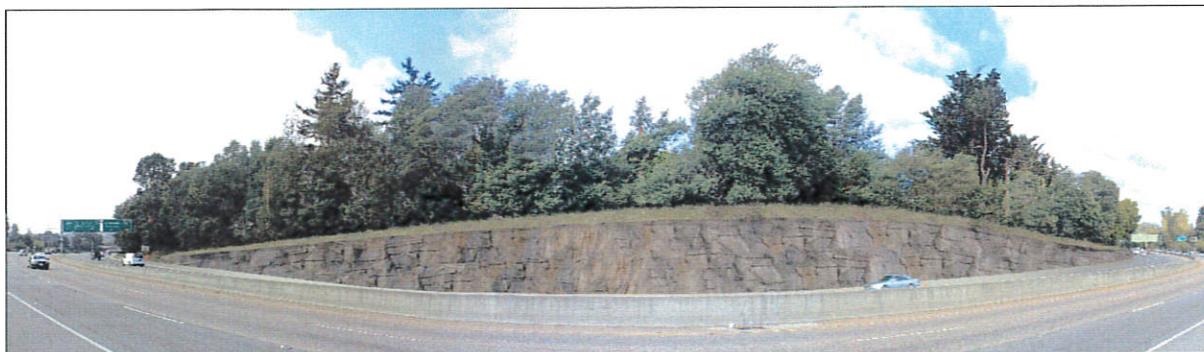


Figure 2-2 Proposed Condition – Design Option 1 – Soil Nail Wall

The project would result in a noticeable visual change. The loss of mature vegetation and introduction of a large built wall structure would add to the urban character of the area. This change would be offset, however, by the aesthetic treatment of the wall face. The faux-rock treatment would minimize the built characteristics of the wall and maintain a more natural (though less vegetated) appearance for the site. The wider highway shoulders and wall placement would create a more open character and larger-scale highway facility through the project location.

In terms of the Visual Quality Evaluation rating, implementation of Design Option 1 would result in a slight decrease in the vividness, or memorability, rating. The proposed wall would be more visually dominant than the current vegetated slope, and its large scale would be somewhat inconsistent with the other walls along the corridor, as well as the generally vegetated character of the route. The visual intactness of this design option would be reduced slightly because of the large scale of the wall and its highly visible location.

Although retaining walls are part of the overall roadside environment along Highway 17, the project wall would be more noticeable and uncharacteristic than the others because of its larger size and location near a primary entrance to the city. This increased noticeability would also reduce the effectiveness of potential project features intended to visually blend the project with its surroundings. The visual unity of the project would also be reduced to some degree by introducing new geometric forms onto the previously vegetated hillside.

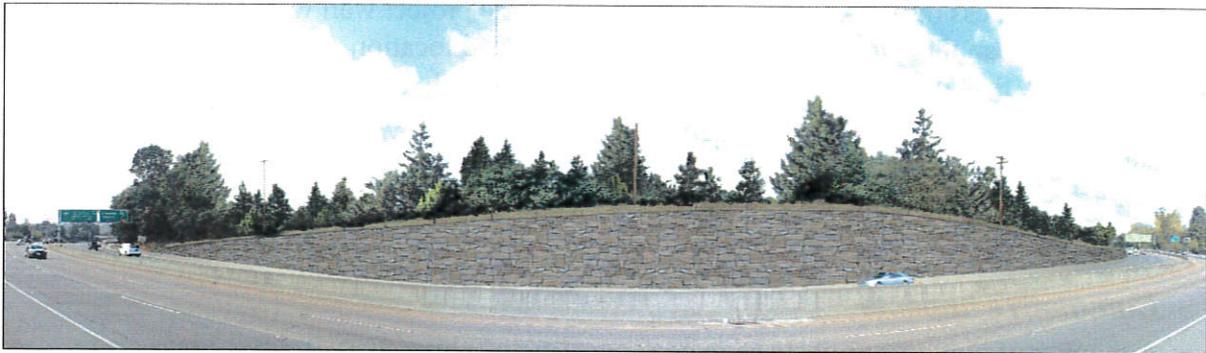


Figure 2-3 Proposed Condition – Design Options 2 and 3– Soldier Pile Wall and Cast-in-Place Wall

Design Options 2 and 3 would remove all of the existing vegetation from the lower and mid-sections of the slope. In addition, above the wall, all existing vegetation approximately 25 feet to 30 feet behind the face of the wall would be removed. See Figure 2-3. Existing trees and other vegetation within the adjacent neighborhood would be saved.

The aesthetic treatment for the wall face of Design Options 2 and 3 would be created by using a formliner, similar to a mold into which concrete is poured. This method of aesthetic application lends itself to more detailed, architectural designs such as placed-stone, brick patterns or other built-looking designs. Because these design options would include a drainage gutter behind the wall, safety cable railing would be required along the top of wall.

Design Options 2 and 3 would cause a noticeable change in visual character. Similar to Design Option 1, the loss of mature vegetation and introduction of a large built wall structure would add to the urban character of the area. This change would be offset by the aesthetic treatment of the wall face; the more formal look of these wall types would appear as intentionally constructed roadside elements, rather than naturally occurring cut slopes.

Tree removal for Design Options 2 and 3 would be more noticeable than with Design Option 1. Loss of vegetative screening would open up partial views from the highway to some of the residences in the adjacent neighborhood along West Circle Drive. Existing utility poles and overhead lines would become more visible from highway viewpoints. Wider highway shoulders and wall placement would create a more open, larger-scale highway facility through the project area.

Implementation of Design Option 2 or Design Option 3 would result in a minor reduction of the vividness rating. This is because although the proposed wall would be more memorable than the current vegetated slope, many viewers may not consider the change to be a positive one. The large scale of the wall and more formal aesthetic appearance would be distinct from the other walls along the corridor. Though retaining walls are part of the overall roadside environment along State Route 17, the visual intactness rating would be reduced because the project wall would be more noticeable than the others because of its larger size and location along a main entrance to the city. This increased noticeability would also reduce the effectiveness of potential project features intended to visually blend the project with its surroundings. The visual unity of the setting would also be reduced with the introduction of new geometric forms onto the hillside, removal of mature trees, and greater visibility of overhead utilities.

Cumulative Impacts

A number of highway projects have been constructed along State Route 17 in recent years. Curve corrections, shoulder widening, retaining walls, guardrail and other roadside safety projects have become visible along the corridor. In the project vicinity, two important highway projects are currently in the planning or design phase. A safety improvement project is proposed along the southbound off-ramp to Highway 1 just south of this project, which would realign the off-ramp and construct an approximately 200 to 400 foot long retaining wall. Approximately 0.3 mile north of the project, a highway sediment-control project is currently being designed to fix

drainage systems, repair erosion, and permanently remove most of the vegetation along about half a mile of highway roadside.

The shoulder widening project, when seen in the visual context of these other projects, would have a cumulative change on the vegetated character of the State Route 17 corridor approaching the City of Santa Cruz. The visual change would be noticeable, but not unexpected to viewers because the area is transitional, from the vegetated, less-developed inland areas to the urban land uses of Santa Cruz and the coastal communities. The avoidance and mitigation measures mentioned below would help reduce the cumulative urbanizing effect to the corridor.

Avoidance, Minimization, and/or Mitigation Measures

The following measures would reduce the project's potential visual impact as seen from State Route 17 and the surrounding area:

The following are common measures to be applied to all design options:

1. The top of the retaining wall would generally follow the natural contours of the land and would not be stepped to achieve elevation changes.
2. The retaining wall would be battered to reduce its perceived scale as seen from adjacent viewpoints.
3. Aesthetic treatment would be applied to above-roadway retaining walls and to the safety shape barrier.
4. The local communities would be involved in determining retaining wall aesthetics. Wall aesthetics would be discussed with both the County of Santa Cruz and the City of Santa Cruz.
5. Any required construction access roads, staging areas, or other disturbed areas would be re-graded if necessary to match their pre-construction contours.
6. The maximum number of trees horticulturally possible, with emphasis on Coast live oaks, would be replanted in the disturbed area above the retaining wall and at a density suitable for the species.
7. Shrubs would be planted between the new trees.
8. The revegetation planting would include a temporary irrigation system to promote vegetation establishment.
9. The revegetation planting would include a minimum three-year plant establishment contract.

In addition to the common measures listed above, the following measures would apply to Design Option 1:

10. Wire mesh drapery above the retaining wall would be colored to match the adjacent natural ground.
11. Native shrub seed would be applied to the wire mesh area above the retaining wall.
12. If additional shotcrete is required on the slope above the retaining wall, it would be sculpted and colored to match the adjacent natural ground.

In addition to the common measures listed above, the following measures would apply to Design Option 2 and Design Option 3:

13. Where the concrete drainage gutter behind the retaining wall is visible, it would be colored to match the adjacent natural ground.
14. All personnel safety rail would follow the gradual contour of the wall top and would not be stepped to achieve elevation changes.
15. All safety cable rail posts and cables would be darkened.

2.2 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the United States, the main source of greenhouse gas emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest source of greenhouse gas-emitting sources. The dominant greenhouse gas emitted is CO₂, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: "Greenhouse Gas Mitigation" and "Adaptation." "Greenhouse Gas Mitigation" is a term for reducing greenhouse gas emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).¹

There are four main strategies for reducing greenhouse gas emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower greenhouse gas-

¹ http://climatechange.transportation.org/ghg_mitigation/

emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.²

Regulatory Setting

State

With passage of several pieces of legislation including State Senate and Assembly bills and Executive Orders, California launched an innovative and proactive approach to dealing with greenhouse gas emissions and climate change.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (CARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this order is to reduce California's greenhouse gas emissions to: 1) 2000 levels by 2010, 2) 1990 levels by 2020, and 3) 80 percent below 1990 levels by 2050. In 2006, this goal was further reinforced with passage of Assembly Bill 32.

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order established the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill 97 (SB 97) Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research to develop recommended amendments to the California Environmental Quality Act (CEQA) guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill required the California Air Resources Board to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities

² http://www.fhwa.dot.gov/environment/climate_change/mitigation/

Strategy” that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This bill requires the State’s long-range transportation plan to meet California’s climate change goals under AB 32.

Federal

Although climate change and greenhouse gas reduction are a concern at the federal level, currently no regulations or legislation have been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the U.S. Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration has issued explicit guidance or methods to conduct project-level greenhouse gas analysis.³ The Federal Highway Administration supports the approach that climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by the Federal Highway Administration to lessen climate change impacts correlate with efforts that the State is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the “National Clean Car Program” and Executive Order 13514 - *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 (October 5, 2009): This order is focused on reducing greenhouse gas internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

U.S. EPA’s authority to regulate greenhouse gas emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean

³ To date, no national standards have been established regarding mobile source greenhouse gas, nor has U.S. EPA established any ambient standards, criteria or thresholds for greenhouse gases resulting from mobile sources.

Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the court's ruling, the U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six greenhouse gases constitute a threat to public health and welfare. It is the Supreme Court's interpretation of the existing act and U.S. EPA's assessment of the scientific evidence that form the basis for the U.S. EPA's regulatory actions. The U.S. EPA in conjunction with the National Highway Traffic Safety Administration issued the first of a series of greenhouse gas emission standards for new cars and light-duty vehicles in April 2010.⁴

The U.S. EPA and the National Highway Traffic Safety Administration are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever greenhouse gas regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle greenhouse gas regulations.

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, the U.S. EPA and National Highway Traffic Safety Administration issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of greenhouse gas emissions.

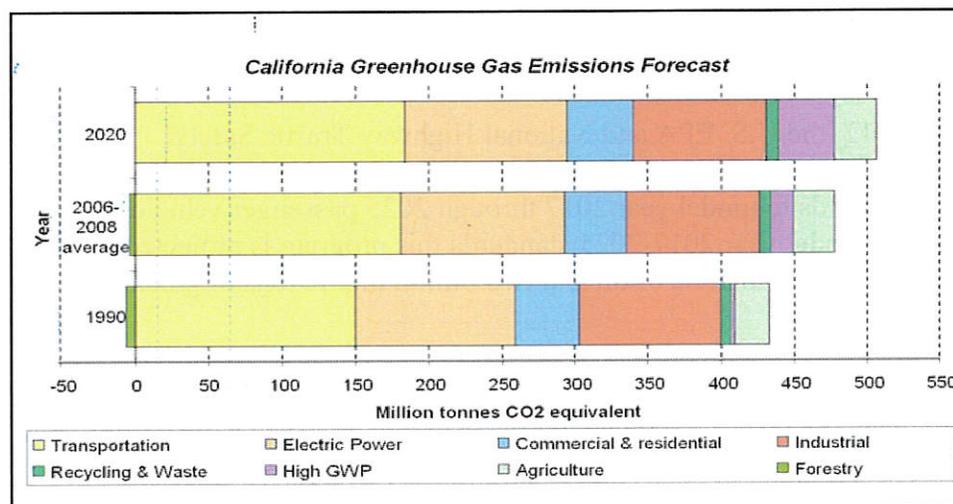
The complementary U.S. EPA and National Highway Traffic Safety Administration standards that make up the Heavy-Duty National Program apply to combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel-efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO₂ emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model-year 2014 to 2018 heavy-duty vehicles.

⁴ <http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq>

Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of greenhouse gas.⁵ In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 includes the main strategies California will use to reduce greenhouse gas emissions. As part of its supporting documentation for the Draft Scoping Plan, the California Air Resources Board released the greenhouse gas inventory for California (forecast last updated: October 28, 2010). See Figure 2-4.



Source: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Figure 2-4 California Greenhouse Gas Forecast

⁵ This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project-Level NEPA Analysis, July 13, 2009).

The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the scoping plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007 and 2008.

Caltrans and its parent agency, the State Transportation Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98 percent of California's greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human-made greenhouse gas emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.

One of the main strategies in Caltrans' Climate Action Program to reduce greenhouse gas emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0-25 miles per hour (see Figure 2-5). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors, greenhouse gas emissions, particularly CO₂, may be reduced.

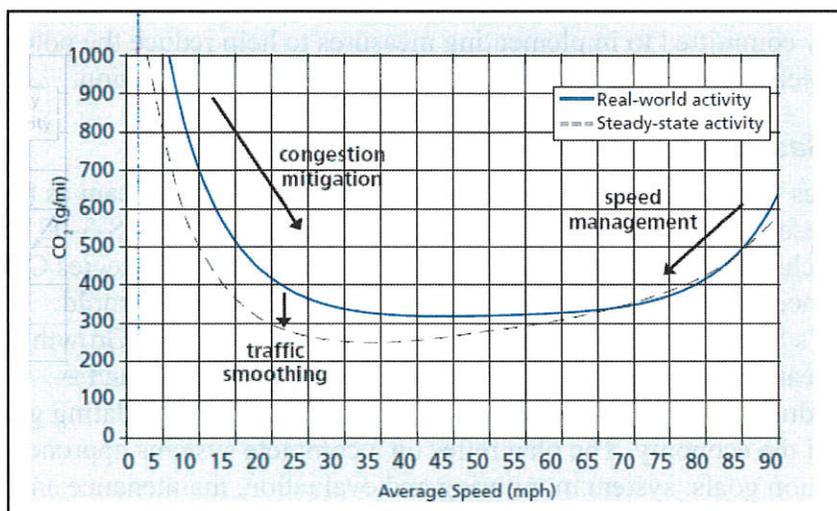


Figure 2-5 Possible Effect of Traffic Operation Strategies in Reducing On-Road CO₂ Emissions

The proposed project would have minimal or no increase in greenhouse gas emissions during operation. Construction emissions will be unavoidable, but there will likely be long-term greenhouse gas benefits by improved operation.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

California Environmental Quality Act Conclusion

Despite these estimated reductions, there are also limitations with EMFAC and with assessing what a given CO₂ emissions increase means for climate change. Therefore, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

Caltrans continues to be involved on the Governor's Climate Action Team as the California Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from then-Governor Arnold Schwarzenegger's Strategic Growth Plan for California. The Strategic Growth Plan targeted a significant decrease in traffic congestion below 2008 levels and a corresponding reduction in greenhouse gas emissions, while accommodating growth in population and the economy. The plan relies on a complete systems approach to attain CO₂ reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 2-6: Mobility Pyramid.

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities, but does not have local land use planning authority. Caltrans assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting ongoing research efforts at universities, by supporting legislative efforts to increase fuel economy, and by

participating on the Climate Action Team. It is important to note, however, that control of fuel economy standards is held by the U.S. EPA and California Air Resources Board.

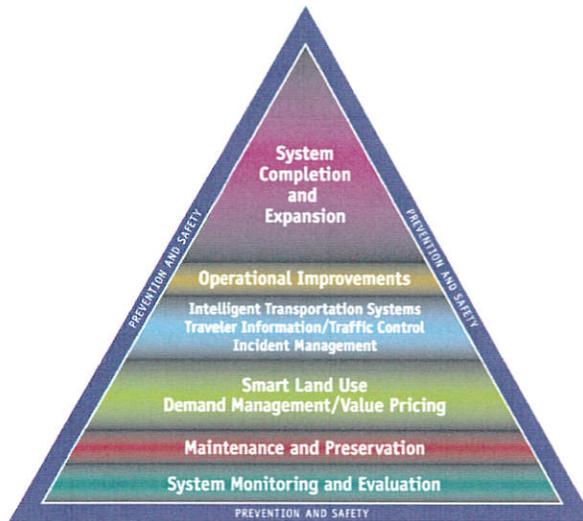


Figure 2-6 Mobility Pyramid

Caltrans is also working toward enhancing the State’s transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under SB 375 (Steinberg 2008), SB 391 (Liu 2009) requires the State’s long-range transportation plan to meet California’s climate change goals under AB 32.

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. The plan defines performance-based goals, policies, and strategies to achieve our collective vision for California’s future, statewide, integrated, multimodal transportation system.

The purpose of the California Transportation Plan is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the California Transportation Plan 2040 will identify the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the State’s transportation needs.

Table 2.1 summarizes Caltrans’ and statewide efforts that the Department is implementing to reduce greenhouse gas emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Table 2.1 Climate Change Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO ₂ Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local governments	Review and seek to mitigate development proposals	Not estimated	Not estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not estimated	Not estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.007	2.17
Mainstream Energy & Greenhouse Gas into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not estimated	Not estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not estimated	Not estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet replacement B20 B100	0.0045	0.0065 0.45 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and construction industries		2.5% limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not estimated	Not estimated
Total					2.72	18.18

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Caltrans policy that will ensure coordinated efforts to incorporate climate change into Caltrans' decisions and activities.

Caltrans Activities to Address Climate Change (April 2013)⁶ provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

The following measures will also be included in the project to reduce the greenhouse gas emissions and potential climate change impacts from the project:

1. Lighting—Using energy-efficient lighting, such as LED traffic signals, reduces the electricity needed to adequately illuminate the project. The project may install lighting at intersections.
2. Restricting idling time—According to the Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District's rules, ordinances, and regulations for air quality restrictions. Limiting the amount of time trucks and equipment are allowed to idle reduces greenhouse gas emissions from construction projects.

Adaptation Strategies

“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the State's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011⁷, outlining the federal government's progress in expanding and strengthening the nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical

⁶ http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml

⁷ <http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation>

natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Arnold Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This order set in motion several agencies and actions to address the concern of sea level rise.

In addition to addressing projected sea level rise, the California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state, and federal public and private entities to develop. The California Climate Adaptation Strategy (Dec 2009)⁸, which summarizes the best-known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Business, Transportation, and Housing Agency (now called the State Transportation Agency); Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include public health; biodiversity and habitat; ocean and coastal resources; water management; agriculture; forestry; and transportation and energy infrastructure. As data is developed and collected, the State's adaptation strategy will be updated to reflect current findings.

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report⁹ to recommend how California should plan for future sea level rise. The report was released in June 2012 and included:

- Relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates.

⁸ <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>

⁹ *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at: http://www.nap.edu/catalog.php?record_id=13389.

- Range of uncertainty in selected sea level rise projections.
- Synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems.
- Discussion of future research needs regarding sea level rise.

In 2010, interim guidance was released by the Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the State's infrastructure due to projected sea level rise. Subsequently, CO-CAT updated the Sea Level Rise guidance to include information presented in the National Academy's study.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

All projects that have filed a Notice of Preparation as of the date of Executive Order S-13-08, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The proposed project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency (now called the State Transportation Agency) to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be needed to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea

Level Rise Assessment Report.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization and/or mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team meetings, interagency coordination meetings, and public outreach. This chapter summarizes the results of the Department's efforts to identify, address, and resolve project-related issues through early and continuing coordination.

The following individuals were contacted to assess the potential for historic properties affected by the proposed project.

Mary McPherson, President,
Board of Trustees
Pasatiempo Homeowners Association
20 Clubhouse Road
Pasatiempo, CA 95060

(831) 454-3111
Annie Murphy

Susan Lehmann
28 Clubhouse Road
Santa Cruz, CA 95060
Phone: (831) 459-7619

Santa Cruz Museum of Art and History
705 Front Street
Santa Cruz, CA 95060
(831) 429-1964, ext. 7019
Marla Novo

Daniel P. Gregory

Office of Historic Preservation
Department of Parks and Recreation
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Historic Resources Commission
Santa Cruz County Planning Department
701 Ocean Street, Room 400
Santa Cruz, CA 95060

Chapter 4 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

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Robert Carr, Transportation Landscape Architect. California Licensed Landscape Architect #3473. B.S. Landscape Architecture, California Polytechnic State University San Luis Obispo; 27 years of experience in visual impact assessment preparation. Contribution: Visual Impact Assessment.

Rajeev Dwivedi, Engineering Geologist. Ph.D., Environmental Engineering, Oklahoma State University, Stillwater; more than 20 years of environmental technical studies experience. Contribution: Air quality and noise studies.

Damon Haydu, Associate Environmental Planner (Archaeology). M.A., Cultural Resources Management, California State University at Sonoma; B.A., Anthropology, University of California at Santa Cruz; 23 years of experience in California prehistoric archaeology and historic archeology. Contribution: Archaeological Survey Report; Historic Properties Survey Report.

Kirsten Helton, Senior Environmental Planner. B.A., Economics, California State University, Fresno; more than 20 years of environmental planning experience. Contribution: Document review.

Matthew Palmer, Associate Environmental Planner. M.A., Organizational Management, University of Phoenix, Fresno; B.S., Environmental Science, California State University, Fresno; 15 years of environmental technical experience. Contribution: Wrote draft environmental document.

Robert Tibstra, Associate Environmental Planner (Natural Sciences). M.S., Biology, B.S., Biology (Ecology), California State University, Fresno; 20 years of experience as a professional biologist, including extensive field surveys, document preparation, and permitting experience. Contribution: Biological impact analysis.

Roger Valverde, Graphic Designer III. Certificate of Multimedia, Mount San Jacinto and California State University, Fresno; more than 25 years of visual design and public participation experience. Contribution: Prepared document graphics.

Appendix A California Environmental Quality Act Checklist

Supporting documentation of all California Environmental Quality Act (CEQA) checklist determinations is provided in Chapters 2 and 3 of this Initial Study. Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapters 2 and 3.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Result in Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XI. MINERAL RESOURCES: Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIII. POPULATION AND HOUSING: Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XV. RECREATION:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVI. TRANSPORTATION/TRAFFIC: Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix C Minimization and/or Mitigation Summary

This appendix is a summary of minimization and/or mitigation measures required.

Visual/Biological Resources

The project would result in less than significant impacts with mitigation to visual resources under CEQA. The following are proposed minimization and mitigation measures for these impacts.

Common measures to be applied to all Design Options:

1. The top of the retaining wall would generally follow the natural contours of the land and would not be stepped to achieve elevation changes.
2. The retaining wall would be battered to reduce its perceived scale as seen from adjacent viewpoints.
3. Aesthetic treatment would be applied to above-roadway retaining walls and to the safety shape barrier.
4. The local communities would be involved in determining retaining wall aesthetics. Wall aesthetics would be discussed with both the County of Santa Cruz and the City of Santa Cruz.
5. Any required construction access roads, staging areas, or other disturbed areas would be re-graded if necessary to match their pre-construction contours.
6. The maximum number of trees horticulturally possible, with emphasis on Coast live oaks, would be replanted in the disturbed area above the retaining wall and at a density suitable for the species.
7. Shrubs would be planted between the new trees.
8. The revegetation planting would include a temporary irrigation system to promote vegetation establishment.
9. The revegetation planting would include a minimum three-year plant establishment contract.

In addition to the common measures listed above, the following measures would apply to Design Option 1:

10. Wire mesh drapery above the retaining wall would be colored to match the adjacent natural ground.
11. Native shrub seed would be applied to the wire mesh area above the retaining wall.
12. If additional shotcrete is required on the slope above the retaining wall, it would be sculpted and colored to match the adjacent natural ground.

In addition to the common measures listed above, the following measures would apply to Design Option 2 and Design Option 3:

13. Where the concrete drainage gutter behind the retaining wall is visible, it would be colored to match the adjacent natural ground.
14. All personnel safety rail would follow the gradual contour of the wall top and would not be stepped to achieve elevation changes.
15. All safety cable rail posts and cables would be darkened.

List of Technical Studies

Air Quality Report

Noise Study Report

Water Quality Report

Natural Environment Study

Historical Property Survey Report

- Historic Resource Evaluation Report
- Historic Architectural Survey Report
- Archaeological Survey Report

Hazardous Waste Reports

- Initial Site Assessment

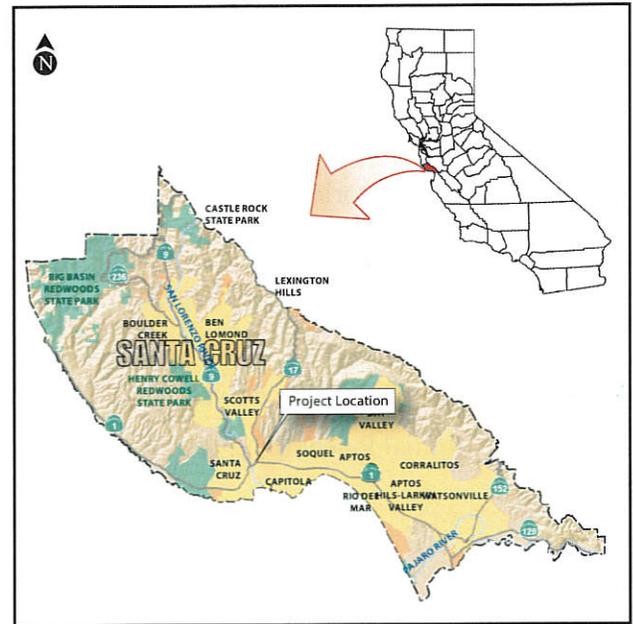
Scenic Resource Evaluation/Visual Assessment

Initial Paleontology Study



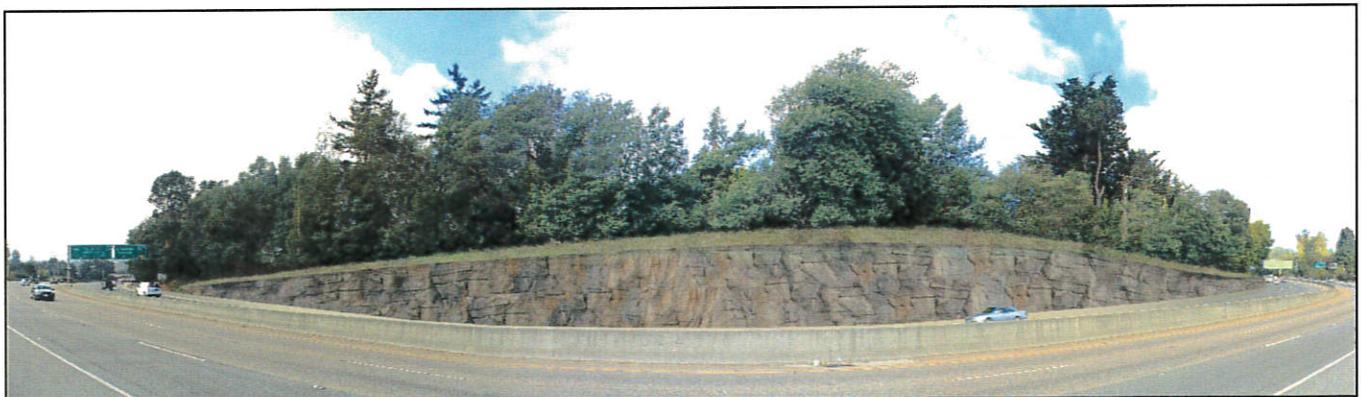
Pasatiempo Shoulder Widening

Initial Study with Proposed Mitigated Negative Declaration



For project updates and other project information, please go to <http://www.dot.ca.gov/>

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PRELIMINARY
PROJECT COST ESTIMATE

Project Report Cost Estimate (Soil Nail Wall)

Project ID: 05120001940

Type of Estimate : Project Report
 Program Code : SHOPP/201.010
 Project Limits : SCR-17-0 1/0.4
 Description : Shoulder Widening & Soil Nail Wall
 This project proposes to widen southbound outside shoulder at cut slope to improve stopping sight distance for 55-mph. Due to topographic constraints and potential right-of-way cost, a soldier pile wall is proposed
 Scope :
 Alternative :

	Current Cost	Escalated Cost
ROADWAY ITEMS	\$ 2,422,600	\$ 2,670,917
STRUCTURE ITEMS	\$ 2,594,000	\$ 2,768,026
SUBTOTAL CONSTRUCTION COST	\$ 5,017,000	\$ 5,439,000
RIGHT OF WAY	\$ 128,900	\$ 150,000
TOTAL CAPITAL OUTLAY COST	\$ 5,146,000	\$ 5,589,000
PAVED SUPPORT	\$ 1,101,000	\$ 1,101,000
PS&E SUPPORT	\$ 1,451,000	\$ 1,451,000
RIGHT OF WAY SUPPORT	\$ 198,000	\$ 198,000
CONSTRUCTION SUPPORT	\$ 1,413,000	\$ 1,413,000
TOTAL CAPITAL OUTLAY SUPPORT COST*	\$ 4,163,000	\$ 4,163,000
TOTAL PROJECT COST	\$ 9,350,000	\$ 9,800,000

If Project has been programmed enter Programmed Amount \$

Date of Estimate (Month/Year) 11 / 2015
 Estimated Date of Construction Start (Month/Year) 2 / 2019
 Number of Working Days 120 Working Days
 Estimated Mid-Point of Construction (Month/Year) Month / Year
 Number of Plant Establishment Days Days

Estimated Project Schedule

PID Approval 3 2016
 PAVED Approval 12 2017
 PS&E 4 2018
 RTL 2 2019
 Began Construction

Reviewed by Program Advisor

Deb Larson, Program Advisor

2/5/2016 (805) 549-3017

Approved by Project Manager

Luis Duazo, Project Manager

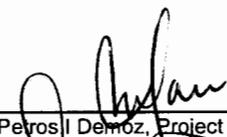
2/4/16 (805) 542-4678

ATTACHMENT F

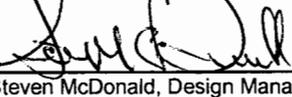
I. ROADWAY ITEMS SUMMARY

Section		Cost
1	Earthwork	\$ 285,000
2	Pavement Structural Section	\$ 191,900
3	Drainage	\$ 207,200
4	Specialty Items	\$ 212,100
5	Environmental	\$ 344,600
6	Traffic Items	\$ 45,800
7	Detours	\$ -
8	Minor Items	\$ 108,000
9	Roadway Mobilization	\$ 118,800
10	Supplemental Work	\$ 71,900
11	State Furnished	\$ 288,000
12	Contingencies	\$ 369,300
13	Overhead	\$ 180,000
TOTAL ROADWAY ITEMS		\$ 2,422,600

Estimate Prepared By

 2/4/16 (559) 243-3540
 Petros I Demoz, Project Engineer Date Phone

Estimate Reviewed By

 2/4/2016 (559) 375-3814
 Steven McDonald, Design Manager Date Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

PRELIMINARY
PROJECT COST ESTIMATE

SECTION 1: EARTHWORK

Item code	Unit	Quantity		Unit Price (\$)		Cost
160101 Clearing & Grubbing	LS	1	x	110,000.00	= \$	110,000
170101 Develop Water Supply	LS	1	x	5,000.00	= \$	5,000
190101 Roadway Excavation	CY	5,000	x	20.00	= \$	100,000
190103 Roadway Excavation (Type Y) ADL	CY		x		= \$	-
190105 Roadway Excavation (Type Z-2) ADL	CY	350	x	200.00	= \$	70,000
192037 Structure Excavation (Soil Nail Wall)	CY		x		= \$	-
193029 Structure Backfill (Soil nail Wall)	CY		x		= \$	-
193116 Concrete Backfill (Soil Nail Wall)	CY		x		= \$	-
193119 Lean Concrete Backfill	CY		x		= \$	-
198001 Imported Borrow	CY		x		= \$	-
190185 Shoulder Backing	TON		x		= \$	-
XXXXXX Some Item			x		= \$	-

TOTAL EARTHWORK SECTION ITEMS	\$ 285,000
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SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code	Unit	Quantity		Unit Price (\$)		Cost
150771 Remove Asphalt Concrete Dike	LF	250	x	11.00	= \$	2,750
150860 Remove Base and Surfacing	CY		x		= \$	-
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x		= \$	-
1532XX Remove Concrete (type)	CY		x		= \$	-
250401 Class 4 Aggregate Subbase	CY		x		= \$	-
260201 Class 2 Aggregate Base	CY	1,850	x	40.00	= \$	74,000
290201 Asphalt Treated Permeable Base	CY		x		= \$	-
365001 Sand Cover	TON		x		= \$	-
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x		= \$	-
374492 Asphaltic Emulsion (Polymer Modified)	TON		x		= \$	-
3750XX Screenings (Type XX)	TON		x		= \$	-
377501 Slurry Seal	TON		x		= \$	-
390095 Replace Asphalt Concrete Surfacing	CY		x		= \$	-
390132 Hot Mix Asphalt (Type A)	TON	1,075	x	100.00	= \$	107,500
390136 Minor Hot Mix Asphalt	TON		x		= \$	-
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x		= \$	-
393003 Geosynthetic Pavement Interlayer	SQYD		x		= \$	-
394054A Centerline Rumble Strip (HMA, Ground-In Ina	STA		x		= \$	-
394071 Place Hot Mix Asphalt Dike type C	LF	110	x	3.00	= \$	330
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x		= \$	-
397005 Tack Coat	TON	2	x	3,650.00	= \$	7,300
401000 Concrete Pavement	CY		x		= \$	-
401108 Replace Concrete Pavement (Rapid Strength	CY		x		= \$	-
404092 Seal Pavement Joint	LF		x		= \$	-
404094 Seal Longitudinal Isolation Joint	LF		x		= \$	-
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x		= \$	-
413115 Seal Existing Concrete Pavement Joint	LF		x		= \$	-
420102 Groove Existing Concrete Pavement	SQYD		x		= \$	-
420201 Grind Existing Concrete Pavement	SQYD		x		= \$	-
731502 Minor Concrete (Misc. Const)	CY		x		= \$	-
731530 Minor Concrete (Textured Paving)	SQFT		x		= \$	-
390134 Hot Mix Asphalt (Open Graded), 0.10' thick	TON		x		= \$	-

TOTAL STRUCTURAL SECTION ITEMS	\$ 191,900
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SECTION 3: DRAINAGE

Item code	Unit	Quantity	Unit Price (\$)	Cost
150206 Abandon Culvert	LF	190	x 55.00 = \$	10,450
150805 Remove Culvert	LF	45	x 114.00 = \$	5,130
150820 Modify Inlet	EA	1	x 3,200.00 = \$	3,200
152430 Adjust Inlet	LF		x = \$	-
155003 Cap Inlet	EA	1	x 2,150.00 = \$	2,150
155232 Sand Backfill	CY	22	x 170.00 = \$	3,740
510502 Minor Concrete (Minor Structure)	CY	14	x 2,650.00 = \$	37,100
510512 Minor Concrete (Box Culvert)	CY		x = \$	-
62XXXX XXX" APC Pipe	LF		x = \$	-
64XXXX XXX" Plastic Pipe	LF		x = \$	-
650018 24" RCP Pipe	LF	805	x 150.00 = \$	120,750
66XXXX XXX" CSP Pipe	LF		x = \$	-
68XXXX Edge Drain	LF		x = \$	-
69XXXX XXX" Pipe Downdrain	LF		x = \$	-
70XXXX XXX" Pipe Inlet	LF		x = \$	-
703239 36" CSP Pipe Riser	LF		x = \$	-
70XXXX XXX" Flared End Section	EA		x = \$	-
703233 Grated Line Drain	LF		x = \$	-
721026 Rock Slope Protection (No. 1, Method B)	CY	10	x 120.00 = \$	1,200
721420 Concrete (Ditch Lining)	CY		x = \$	-
721430 Concrete (Channel Lining)	CY		x = \$	-
729011 Rock Slope Protection Fabric	SQYD	150	x 7.50 = \$	1,125
750001 Miscellaneous Iron and Steel	LB	290	x 4.50 = \$	1,305
XXXXXX Large Drainage Facilities	LS		x = \$	-
XXXXXX	LS		x = \$	-
730040 Minor Conc Gutter	LF		x = \$	-
510502 Minor Conc Riser's Box	LS		x = \$	-
150820 Remove Inlet	EA	3	x 960.00 = \$	2,880
709522 Inlet Depression	EA	8	x 1,445.00 = \$	11,560
750030 Frame & Grate	EA	8	x 815.00 = \$	6,520
TOTAL DRAINAGE ITEMS				\$ 207,200

SECTION 4: SPECIALTY ITEMS

Item code	Unit	Quantity	Unit Price (\$)	Cost
070012 Progress Schedule (Critical Path Method)	LS	1	x 3,000.00 = \$	3,000
150661 Remove Guard Railing	LF	280	x 17.00 = \$	4,760
150668 Remove Flared End Section	EA		x = \$	-
1532XX Remove Barrier (<i>Insert Type</i>)	LF		x = \$	-
153250 Remove Sound Wall	SQFT		x = \$	-
190110 Lead Compliance Plan	LS	1	x 2,000.00 = \$	2,000
490316 Soil Nail Wall	LS	1	x = \$	-
490403 30" Drilled Hole	LF		x = \$	-
510133 Class 2 Concrete (Retaining Wall)	CY		x = \$	-
510524 Minor Concrete (Sound Wall)	CY		x = \$	-
511035 Architectural Treatment	SQFT	9,570	x 20.00 = \$	191,400
511048 Apply Anti-Graffiti Coating	SQFT		x = \$	-
5136XX Reinforced Concrete Crib Wall (<i>Insert Type</i>)	SQFT		x = \$	-
518002 Sound Wall (Masonry Block)	SQFT		x = \$	-
520103 Bar Reinf. Steel (Retaining Wall)	LB		x = \$	-
730040 Minor Concrete (Gutter)	LF		x = \$	-
832006 Midwest Guardrail System (Steel Post)	LF	200	x 35.00 = \$	7,000
839310 Double Thrie Beam Barrier	LF		x = \$	-
839527 Cable Railing (Modified)	LF		x = \$	-
839543 Transition Railing (<i>Type WB-31</i>)	EA		x = \$	-
8395XX Terminal System (<i>Type CAT</i>)	EA		x = \$	-
839585 Alternative Flared Terminal System	EA	1	x 3,153.00 = \$	3,153
839581 End Anchor Assembly (<i>Type SFT</i>)	EA	1	x 770.00 = \$	770
839561 Rail Tensioning Assembly	EA		x = \$	-
839579A Buried Post End Anchor	EA		x = \$	-
839704 Concrete Barrier (<i>Type 60D</i>)	LF		x = \$	-
839725 Concrete Barrier (<i>Type 736</i>)	LF		x = \$	-
TOTAL SPECIALTY ITEMS				\$ 212,100

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130680 TEMPORARY SILT FENCE	LF	2,000	x 5.00 = \$	10,000
071325 Temporary Fence (Type ESA)	LF	1,000	x 5.00 = \$	5,000
Subtotal Environmental				\$ 10,000

5B - LANDSCAPE AND IRRIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	1	x 25,000.00 = \$	25,000
20XXXX XXX" (Insert Type) Conduit (Use for	LF	x	= \$	-
20XXXX Extend XXX" (Insert Type) Conduit	LF	x	= \$	-
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	LS	1	x 110,000.00 = \$	110,000
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	1	x 20,000.00 = \$	20,000
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	1	x 80,000.00 = \$	80,000
598001 Anti-Graffiti Coating	LS	1	x 60,000.00 = \$	60,000
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				
Subtotal Landscape and Irrigation				\$ 295,000

5C - NPDES

Item code	Unit	Quantity	Unit Price (\$)	Cost
130100 Job Site Management	LS	1	x 3,000.00 = \$	3,000
074017 Prepare WPCP	LS	1	x 2,000.00 = \$	2,000
074019 Prepare SWPPP	LS	x	= \$	-
074023 Temporary Erosion Control	SQYD	x	= \$	-
074027 Temporary Erosion Control Blanket	SQYD	x	= \$	-
074028 Temporary Fiber Roll	LF	1,600	x 5.00 = \$	8,000
074032 Temporary Concrete Washout Facility	EA	x	= \$	-
074033 Temporary Construction Entrance	EA	1	x 4,200.00 = \$	4,200
074031 Temporary Gravel Berm	LF	1,600	x 7.00 = \$	11,200
074037 Move In/ Move Out (Temporary Erosion Cont	EA	3	x 600.00 = \$	1,800
074038 Temp. Drainage Inlet Protection	EA	8	x 230.00 = \$	1,840
074041 Street Sweeping	LS	1	x 5,000.00 = \$	5,000
074042 Temporary Concrete Washout (Portable)	LS	1	x 2,500.00 = \$	2,500
XXXXXX Some Item				

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing	LS	1	x 5,000.00 = \$	5,000
066596 Additional Water Pollution Control**	LS	1	x 5,000.00 = \$	5,000
066597 Storm Water Sampling and Analysis***	LS	1	x 2,500.00 = \$	2,500
XXXXXX Some Item				

Subtotal NPDES (Without Supplemental Work) \$ 39,540

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

TOTAL ENVIRONMENTAL	\$ 344,600
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SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA		x = \$	-
151581 Reconstruct Sign Structure	EA		x = \$	-
152641 Modify Sign Structure	EA	2	x 5,000.00 = \$	10,000
5602XX Furnish Sign Structure	LB		x = \$	-
5602XX Install Sign Structure	LB		x = \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF		x = \$	-
860090 Maintain Existing Traffic Management	LS		x = \$	-
860810 Inductive Loop Detectors	EA		x = \$	-
86055X Lighting & Sign Illumination	LS		x = \$	-
8607XX Interconnection Facilities	LS		x = \$	-
8609XX Traffic Monitoring Stations	LS		x = \$	-
860XXX Signals & Lighting	LS		x = \$	-
8611XX Ramp Metering System (Location X)	LS		x = \$	-
8611XX Ramp Metering System (Location X)	LS		x = \$	-
86XXXX Fiber Optic Conduit System	LS		x = \$	-
XXXXX Some Item				
<i>Subtotal Traffic Electrical</i>				\$ 10,000

6B - Traffic Signing and Striping

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1	x 1,000.00 = \$	1,000
141103 Remove Yellow Painted Traffic Stripe (Haz.)	LF		x = \$	-
150714 Remove Thermoplastic Stripe	LF	1,000	x 0.64 = \$	640
150630 Remove Marking	EA	1	x 18.00 = \$	18
152320 Reset Roadside Sign	EA		x = \$	-
152386 Relocate Roadside Sign (One Post)	EA		x = \$	-
152387 Relocate Roadside Sign (Two Post)	EA		x = \$	-
566011 Roadside Sign (One Post)	EA		x = \$	-
566012 Roadside Sign (Two Post)	EA		x = \$	-
560XXX Furnish Sign Panels	SQFT		x = \$	-
820143 Object Marker	EA	2	x 73.00 = \$	146
820118 Guard Railing Delineator	EA	6	x 55.00 = \$	330
846001 4" Thermoplastic Traffic Stripe	LF	1,000	x 2.00 = \$	2,000
<i>Subtotal Traffic Signing and Striping</i>				\$ 4,134

6C - Stage Construction and Traffic Handling

Item code	Unit	Quantity	Unit Price (\$)	Cost
120100 Traffic Control System	LS		x = \$	-
120120 Type III Barricade	EA		x = \$	-
120143 Temporary Pavement Delineation	LF	1,200	x 0.75 = \$	900
120165 Channelizer	EA	16	x 45.00 = \$	720
128652 Portable Changeable Message Signs	LS	1	x 10,000.00 = \$	10,000
129000 Temporary Railing (Type K)	LF	1,000	x 20.00 = \$	20,000
129100 Temp. Crash Cushion Module	EA		x = \$	-
129099A Traffic Plastic Drum	EA		x = \$	-
839603A Temporary Crash Cushion (ADIEM)	EA		x = \$	-
XXXXXX Some Item				
<i>Subtotal Stage Construction and Traffic Handling</i>				\$ 31,620

TOTAL TRAFFIC ITEMS	\$ 45,800
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SECTION 7: DETOURS

Include constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
0713XX Temporary Fence (Type X)	LF	x	= \$	-
07XXXX Temporary Drainage	LS	x	= \$	-
120143 Temporary Pavement Delineation	LF	x	= \$	-
1286XX Temporary Signals	EA	x	= \$	-
129000 Temporary Railing (Type K)	LF	x	= \$	-
190101 Roadway Excavation	CY	x	= \$	-
198001 Imported Borrow	CY	x	= \$	-
198050 Embankment	CY	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	x	= \$	-
260201 Class 2 Aggregate Base	CY	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
TOTAL DETOURS				\$ -

SUBTOTAL SECTIONS 1-7 \$ 1,079,400

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items

ADA Items 0.0% \$ -

8B - Bike Path Items

Bike Path Items 0.0% \$ -

8C - Other Minor Items

Other Minor Items 10.0% \$ 107,940

Total of Section 1-7 \$ 1,079,400 x 10.0% = \$ 107,940

TOTAL MINOR ITEMS \$ 108,000

SECTIONS 9: MOBILIZATION

Item code	Quantity	Unit Price (\$)	Cost
999990 Total Section 1-8	\$ 1,187,400	x 10%	= \$ 118,740
TOTAL MOBILIZATION			\$ 118,800

SECTION 10: SUPPLEMENTAL WORK

Item code	Unit	Quantity	Unit Price (\$)	Cost
066015 Federal Trainee Program	LS	x	= \$	-
066063 Traffic Management Plan - Public Informati	LS	x	= \$	-
066090 Maintain Traffic	LS	x	= \$	-
066094 Value Analysis	LS	x	= \$	-
066204 Remove Rock & Debris	LS	x	= \$	-
066222 Locate Existing Cross-Over	LS	x	= \$	-
066670 Payment Adjustments For Price Index Fluct	LS	x	= \$	-
066700 Partnering	LS	x	= \$	-
066866 Operation of Existing Traffic Management &	LS	x	= \$	-
066920 Dispute Review Board	LS	x	= \$	-
XXXXXX Some Item		x	= \$	-

Cost of NPDES Supplemental Work specified in Section 5C = \$ 12,500

Total Section 1-8 \$ 1,187,400 5% = \$ 59,370

TOTAL SUPPLEMENTAL WORK \$ 71,900

II. STRUCTURE ITEMS

DATE OF ESTIMATE	10/22/15	00/00/00	00/00/00
Name	1C670-Ret Wall	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	05E00xx	57-XXX	57-XXX
Structure Type	Soil Nail	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	790.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Linear Foot	\$3,283.54	\$0.00	\$0.00

COST OF EACH STRUCTURE	\$2,594,000.00	\$0.00	\$0.00
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DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00	\$0.00	\$0.00

COST OF EACH STRUCTURE	\$0.00	\$0.00	\$0.00
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TOTAL COST OF STRUCTURES	\$2,594,000.00
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TOTAL COST OF BUILDINGS	\$0.00
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TOTAL COST OF STRUCTURES¹	\$2,594,000.00
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Estimate Prepared By: Eric Watson
Division of Structures

10/22/2015
Date

¹Structure's Estimate includes Overhead and Mobilization.
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc

DO NOT PRINT THIS SHEET AS PART OF COST ESTIMATE ATTACHMENT TO PROJECT INITIATION OR APPROVAL DOCUMENTS.

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

A)	A1) Acquisition, including Excess Land Purchases, Damages & Goodwill,		\$	66,725
	A2) SB-1210		\$	0
B)	Acquisition of Offsite Mitigation		\$	21,445
C)	C1) Utility Relocation (State Share)		\$	35,000
	C2) Potholing (Design Phase)		\$	0
D)	Railroad Acquisition		\$	0
E)	Clearance / Demolition		\$	0
F)	Relocation Assistance (RAP and/or Last Resort Housing Costs)		\$	0
G)	Title and Escrow		\$	5,667
H)	Environmental Review		\$	0
I)	Condemnation Settlements	0%	\$	0
	(Items G & H applied to items A + B)			
J)	Design Appreciation Factor	0%	\$	0
K)	Utility Relocation (Construction Cost)		\$	0

L)	TOTAL RIGHT OF WAY ESTIMATE	\$128,900
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(Excluding Item #8 - Hazardous Waste)

M)	TOTAL RW ESTIMATE: Escalated	\$149,200
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N)	Right of Way Support	\$	198,000
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Support Cost	Danny Millsap	12-14-2015	(805)549-3207
Estimate Prepared By	Project Coordinator ¹	Date	Phone
Utility Estimate	Robert Davis	12-14-2015	(805)549-3577
Prepared By	Utility Coordinator ²	Date	Phone
R/W Acquisition	Jim Gentry	12-14-2015	(805)549-3578
Estimate Prepared By	Right of Way Estimator ³	Date	Phone

¹ When estimate has Support Costs only ² When estimate has Utility Relocation

³ When R/W Acquisition is required

Project Report Cost Estimate (Soldier Pile Wall)

Project ID: 05120001940

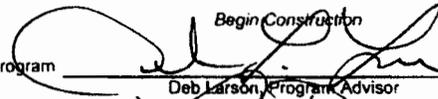
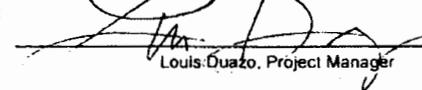
Type of Estimate : Project Report
 Program Code : SHOPP/201.010
 Project Limits : SCR-17-0.1/0.4
 Description: Shoulder Widening & Soldier Pile Wall
 Scope : This project proposes to widen southbound outside shoulder at cut slope to improve stopping sight distance for 55-mph. Due to topographic constraints and potential right-of-way cost, a soldier pile wall is proposed.
 Alternative :

	Current Cost	Escalated Cost
ROADWAY ITEMS	\$ 2,566,600	\$ 2,829,677
STRUCTURE ITEMS	\$ 3,567,000	\$ 3,806,303
SUBTOTAL CONSTRUCTION COST	\$ 6,134,000	\$ 6,636,000
RIGHT OF WAY	\$ 128,900	\$ 150,000
TOTAL CAPITAL OUTLAY COST	\$ 6,263,000	\$ 6,786,000
PR/ED SUPPORT	\$ 1,101,000	\$ 1,101,000
PS&E SUPPORT	\$ 1,451,000	\$ 1,451,000
RIGHT OF WAY SUPPORT	\$ 198,000	\$ 198,000
CONSTRUCTION SUPPORT	\$ 1,413,000	\$ 1,413,000
TOTAL CAPITAL OUTLAY SUPPORT COST*	\$ 4,163,000	\$ 4,163,000
TOTAL PROJECT COST	\$ 10,450,000	\$ 10,950,000

If Project has been programmed enter Programmed Amount \$
 Date of Estimate (Month/Year) Month / Year 9 / 2015
 Estimated Date of Construction Start (Month/Year) 2 / 2019
 Number of Working Days 120 Working Days
 Estimated Mid-Point of Construction (Month/Year) Month / Year 6 Jun-19
 Number of Plant Establishment Days Days

Estimated Project Schedule

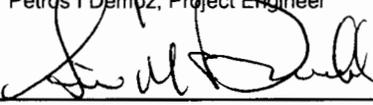
PID Approval
 PA/ED Approval 3 2016
 PS&E 12 2017
 RTL 4 2018
 Begin Construction 2 2019

Reviewed by Program  2/5/2016 (805) 549-3017
 Deb Larson, Program Advisor Date Phone
 Approved by Project Manager  2/4/16 (805) 542-4678
 Louis Quazo, Project Manager Date Phone

I. ROADWAY ITEMS SUMMARY

Section	Cost
1 Earthwork	\$ 285,000
2 Pavement Structural Section	\$ 191,900
3 Drainage	\$ 240,000
4 Specialty Items	\$ 212,300
5 Environmental	\$ 354,600
6 Traffic Items	\$ 45,800
7 Detours	\$ -
8 Minor Items	\$ 133,000
9 Roadway Mobilization	\$ 146,300
10 Supplemental Work	\$ 85,700
11 State Furnished	\$ 264,200
12 Contingencies	\$ 427,800
13 Overhead	\$ 180,000
TOTAL ROADWAY ITEMS	
	\$ 2,566,600

Estimate Prepared By  2/4/16 (559) 243-3540
 Petros I Demopz, Project Engineer Date Phone

Estimate Reviewed By  2/2/2016 (559) 375-3814
 Steven McDonald, Design Manager Date Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

PRELIMINARY
PROJECT COST ESTIMATE

SECTION 1: EARTHWORK

Item code	Unit	Quantity	Unit Price (\$)	Cost
160101 Clearing & Grubbing	LS	1	x 110,000.00 = \$	110,000
170101 Develop Water Supply	LS	1	x 5,000.00 = \$	5,000
190101 Roadway Excavation	CY	5,000	x 20.00 = \$	100,000
190103 Roadway Excavation (Type Y) ADL	CY		x = \$	-
190105 Roadway Excavation (Type Z-2) ADL	CY	350	x 200.00 = \$	70,000
192037 Structure Excavation (Retaining Wall)	CY		x = \$	-
193029 Structure Backfill (Soldier Pile Wall)	CY		x = \$	-
193116 Concrete Backfill (Soldier Pile Wall)	CY		x = \$	-
193119 Lean Concrete Backfill	CY		x = \$	-
198001 Imported Borrow	CY		x = \$	-
190185 Shoulder Backing	TON		x = \$	-
XXXXXX Some Item			x = \$	-

TOTAL EARTHWORK SECTION ITEMS	\$ 285,000
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SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code	Unit	Quantity	Unit Price (\$)	Cost
150771 Remove Asphalt Concrete Dike	LF	250	x 11.00 = \$	2,750
150860 Remove Base and Surfacing	CY		x = \$	-
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x = \$	-
1532XX Remove Concrete (type)	CY		x = \$	-
250401 Class 4 Aggregate Subbase	CY		x = \$	-
260201 Class 2 Aggregate Base	CY	1,850	x 40.00 = \$	74,000
290201 Asphalt Treated Permeable Base	CY		x = \$	-
365001 Sand Cover	TON		x = \$	-
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x = \$	-
374492 Asphaltic Emulsion (Polymer Modified)	TON		x = \$	-
3750XX Screenings (Type XX)	TON		x = \$	-
377501 Slurry Seal	TON		x = \$	-
390095 Replace Asphalt Concrete Surfacing	CY		x = \$	-
390132 Hot Mix Asphalt (Type A)	TON	1,075	x 100.00 = \$	107,500
390136 Minor Hot Mix Asphalt	TON		x = \$	-
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x = \$	-
393003 Geosynthetic Pavement Interlayer	SQYD		x = \$	-
394054A Centerline Rumble Strip (HMA, Ground-In Ina	STA		x = \$	-
394071 Place Hot Mix Asphalt Dike	LF	110	x 3.00 = \$	330
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x = \$	-
397005 Tack Coat	TON	2	x 3,650.00 = \$	7,300
401000 Concrete Pavement	CY		x = \$	-
401108 Replace Concrete Pavement (Rapid Strength	CY		x = \$	-
404092 Seal Pavement Joint	LF		x = \$	-
404094 Seal Longitudinal Isolation Joint	LF		x = \$	-
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x = \$	-
413115 Seal Existing Concrete Pavement Joint	LF		x = \$	-
420102 Groove Existing Concrete Pavement	SQYD		x = \$	-
420201 Grind Existing Concrete Pavement	SQYD		x = \$	-
731502 Minor Concrete (Misc. Const)	CY		x = \$	-
731530 Minor Concrete (Textured Paving)	SQFT		x = \$	-
390134 Hot Mix Asphalt (Open Graded), 0.10' thick	TON		x = \$	-

TOTAL STRUCTURAL SECTION ITEMS	\$ 191,900
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SECTION 3: DRAINAGE

Item code	Unit	Quantity	Unit Price (\$)	Cost
150206 Abandon Culvert	LF	190	x 55.00	= \$ 10,450
150805 Remove Culvert	LF	45	x 75.00	= \$ 3,375
150820 Modify Inlet	EA	1	x 1,500.00	= \$ 1,500
152430 Adjust Inlet	LF		x	= \$ -
155003 Cap Inlet	EA	1	x 2,150.00	= \$ 2,150
155232 Sand Backfill	CY	22	x 170.00	= \$ 3,740
510502 Minor Concrete (Minor Structure)	CY	14	x 2,650.00	= \$ 37,100
510512 Minor Concrete (Riser Box)	CY	1	x 10,000.00	= \$ 10,000
150820 Remove Inlet	LF	3	x 960.00	= \$ 2,880
65xxxx XXX" Plastic Pipe	LF		x	= \$ -
650018 24" RCP Pipe	LF	805	x 150.00	= \$ 120,750
66XXXX XXX" CSP Pipe	LF		x	= \$ -
68XXXX Edge Drain	LF		x	= \$ -
69XXXX XXX" Pipe Downdrain	LF		x	= \$ -
70XXXX XXX" Pipe Inlet	LF		x	= \$ -
703239 36" Pipe Riser	LF	45	x 600.00	= \$ 27,000
709522 Inlet Depression	EA	8	x 1,445.00	= \$ 11,560
703233 Grated Line Drain	LF		x	= \$ -
721026 Rock Slope Protection (No. 1, Method B)	CY	10	x 120.00	= \$ 1,200
721420 Concrete (Ditch Lining)	CY		x	= \$ -
721430 Concrete (Channel Lining)	CY		x	= \$ -
729011 Rock Slope Protection Fabric	SQYD	150	x 7.50	= \$ 1,125
750001 Miscellaneous Iron and Steel	LB	290	x 2.00	= \$ 580
750030 Frame & Grate	EA	8	x 815.00	= \$ 6,520
XXXXXX Some Item	LS		x	= \$ -

TOTAL DRAINAGE ITEMS	\$	240,000
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SECTION 4: SPECIALTY ITEMS

Item code	Unit	Quantity	Unit Price (\$)	Cost
070012 Progress Schedule (Critical Path Method)	LS	1	x 3,000.00	= \$ 3,000
150661 Remove Guard Railing	LF	280	x 17.00	= \$ 4,760
150668 Remove Flared End Section	EA		x	= \$ -
1532XX Remove Barrier (<i>Insert Type</i>)	LF		x	= \$ -
153250 Remove Sound Wall	SQFT		x	= \$ -
190110 Lead Compliance Plan	LS	1	x 2,000.00	= \$ 2,000
490316 Soldier Pile (HP 14 X 73)	LS		x	= \$ -
490403 30" Drilled Hole	LF		x	= \$ -
510133 Class 2 Concrete (Retaining Wall)	CY		x	= \$ -
510524 Minor Concrete (Sound Wall)	CY		x	= \$ -
511035 Architectural Treatment	SQFT	9,580	x 20.00	= \$ 191,600
511048 Apply Anti-Graffiti Coating	SQFT		x	= \$ -
5136XX Reinforced Concrete Crib Wall (<i>Insert Type</i>)	SQFT		x	= \$ -
518002 Sound Wall (Masonry Block)	SQFT		x	= \$ -
520103 Bar Reinf. Steel (Retaining Wall)	LB		x	= \$ -
730040 Minor Concrete (Gutter)	LF		x	= \$ -
832006 Midwest Guardrail System (Steel Post)	LF	200	x 35.00	= \$ 7,000
839310 Double Thrie Beam Barrier	LF		x	= \$ -
839527 Cable Railing (Modified)	LF		x	= \$ -
839543 Transition Railing (<i>Type WB-31</i>)	EA		x	= \$ -
8395XX Terminal System (<i>Type CAT</i>)	EA		x	= \$ -
839585 Alternative Flared Terminal System	EA	1	x 3,160.00	= \$ 3,160
839581 End Anchor Assembly (<i>Type SFT</i>)	EA	1	x 770.00	= \$ 770
839561 Rail Tensioning Assembly	EA		x	= \$ -
839579A Buried Post End Anchor	EA		x	= \$ -
839704 Concrete Barrier (<i>Type 60D</i>)	LF		x	= \$ -
839725 Concrete Barrier (<i>Type 736</i>)	LF		x	= \$ -

TOTAL SPECIALTY ITEMS	\$	212,300
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SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130680 TEMPORARY SILT FENCE	LF	2,000	x 5.00 = \$	10,000
071325 Temporary Fence (Type ESA)	LF	1,000	x 5.00 = \$	5,000
Subtotal Environmental				\$ 10,000

5B - LANDSCAPE AND IRRIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	1	x 25,000.00 = \$	25,000
20XXXX XXX" (Insert Type) Conduit (Use for	LF	x	= \$	-
597601A Stain Galvanized Surfaces (Cable Railing)	LS	1	x 10,000.00 = \$	10,000
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	LS	1	x 110,000.00 = \$	110,000
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	1	x 20,000.00 = \$	20,000
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	1	x 80,000.00 = \$	80,000
598001 Anti-Graffiti Coating	LS	1	x 60,000.00 = \$	60,000
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				
Subtotal Landscape and Irrigation				\$ 305,000

5C - NPDES

Item code	Unit	Quantity	Unit Price (\$)	Cost
130100 Job Site Management	LS	1	x 3,000.00 = \$	3,000
074017 Prepare WPCP	LS	1	x 2,000.00 = \$	2,000
074019 Prepare SWPPP	LS	x	= \$	-
074023 Temporary Erosion Control	SQYD	x	= \$	-
074027 Temporary Erosion Control Blanket	SQYD	x	= \$	-
074028 Temporary Fiber Roll	LF	1,600	x 5.00 = \$	8,000
074032 Temporary Concrete Washout Facility	EA	x	= \$	-
074033 Temporary Construction Entrance	EA	1	x 4,200.00 = \$	4,200
074035 Temporary Gravel Berm	LF	1,600	x 7.00 = \$	11,200
074037 Move In/ Move Out (Temporary Erosion Cont	EA	3	x 600.00 = \$	1,800
074038 Temp. Drainage Inlet Protection	EA	8	x 230.00 = \$	1,840
074041 Street Sweeping	LS	1	x 5,000.00 = \$	5,000
074042 Temporary Concrete Washout (Portable)	LS	1	x 2,500.00 = \$	2,500
XXXXXX Some Item				

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing	LS	1	x 5,000.00 = \$	5,000
066596 Additional Water Pollution Control**	LS	1	x 5,000.00 = \$	5,000
066597 Storm Water Sampling and Analysis***	LS	1	x 2,500.00 = \$	2,500
XXXXXX Some Item				

Subtotal NPDES (Without Supplemental Work) \$ 39,540

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

TOTAL ENVIRONMENTAL	\$ 354,600
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SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA	x	= \$	-
151581 Reconstruct Sign Structure	EA	x	= \$	-
152641 Modify Sign Structure	EA	2	x 5,000.00 = \$	10,000
5602XX Furnish Sign Structure	LB	x	= \$	-
5602XX Install Sign Structure	LB	x	= \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
860090 Maintain Existing Traffic Management	LS	x	= \$	-
860810 Inductive Loop Detectors	EA	x	= \$	-
86055X Lighting & Sign Illumination	LS	x	= \$	-
8607XX Interconnection Facilities	LS	x	= \$	-
8609XX Traffic Monitoring Stations	LS	x	= \$	-
860XXX Signals & Lighting	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXX Some Item				
Subtotal Traffic Electrical				\$ 10,000

6B - Traffic Signing and Striping

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1	x 1,000.00 = \$	1,000
141103 Remove Yellow Painted Traffic Stripe (Haz.)	LF	x	= \$	-
150712 Remove Thermoplastic Stripe	LF	1,000	x 0.64 = \$	640
150630 Remove Marker	EA	1	x 18.00 = \$	18
152320 Reset Roadside Sign	EA	x	= \$	-
152386 Relocate Roadside Sign (One Post)	EA	x	= \$	-
152387 Relocate Roadside Sign (Two Post)	EA	x	= \$	-
566011 Roadside Sign (One Post)	EA	x	= \$	-
566012 Roadside Sign (Two Post)	EA	x	= \$	-
560XXX Furnish Sign Panels	SQFT	x	= \$	-
820143 Object Marker	EA	2	x 73.00 = \$	146
820118 Guard Railing Delineator	EA	6	x 55.00 = \$	330
846001 4" Thermoplastic Traffic Stripe	LF	1,000	x 2.00 = \$	2,000
Subtotal Traffic Signing and Striping				\$ 4,134

6C - Stage Construction and Traffic Handling

Item code	Unit	Quantity	Unit Price (\$)	Cost
120100 Traffic Control System	LS	x	= \$	-
120120 Type III Barricade	EA	x	= \$	-
120143 Temporary Pavement Delineation	LF	1,200	x 0.75 = \$	900
120165 Channelizer	EA	16	x 45.00 = \$	720
128650 Portable Changeable Message Signs	LS	1	x 10,000.00 = \$	10,000
129000 Temporary Railing (Type K)	LF	1,000	x 20.00 = \$	20,000
129100 Temp. Crash Cushion Module	EA	x	= \$	-
129099A Traffic Plastic Drum	EA	x	= \$	-
839603A Temporary Crash Cushion (ADIEM)	EA	x	= \$	-
XXXXXX Some Item				
Subtotal Stage Construction and Traffic Handling				\$ 31,620

TOTAL TRAFFIC ITEMS	\$ 45,800
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SECTION 7: DETOURS

Include constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
0713XX Temporary Fence (Type X)	LF	x	= \$	-
07XXXX Temporary Drainage	LS	x	= \$	-
120143 Temporary Pavement Delineation	LF	x	= \$	-
1286XX Temporary Signals	EA	x	= \$	-
129000 Temporary Railing (Type K)	LF	x	= \$	-
190101 Roadway Excavation	CY	x	= \$	-
198001 Imported Borrow	CY	x	= \$	-
198050 Embankment	CY	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	x	= \$	-
260201 Class 2 Aggregate Base	CY	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-

TOTAL DETOURS	\$	-
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SUBTOTAL SECTIONS 1-7 \$ 1,329,600

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items

ADA Items 0.0% \$ -

8B - Bike Path Items

Bike Path Items 0.0% \$ -

8C - Other Minor Items

Other Minor Items 10.0% \$ 132,960

Total of Section 1-7 \$ 1,329,600 x 10.0% = \$ 132,960

TOTAL MINOR ITEMS	\$	133,000
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SECTIONS 9: MOBILIZATION

Item code	Quantity	Unit Price (\$)	Cost
999990 Total Section 1-8	\$ 1,462,600	x 10%	= \$ 146,260

TOTAL MOBILIZATION	\$	146,300
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SECTION 10: SUPPLEMENTAL WORK

Item code	Unit	Quantity	Unit Price (\$)	Cost
066015 Federal Trainee Program	LS	x	= \$	-
066063 Traffic Management Plan - Public Informati	LS	x	= \$	-
066090 Maintain Traffic	LS	x	= \$	-
066094 Value Analysis	LS	x	= \$	-
066204 Remove Rock & Debris	LS	x	= \$	-
066222 Locate Existing Cross-Over	LS	x	= \$	-
066670 Payment Adjustments For Price Index Fluc	LS	x	= \$	-
066700 Partnering	LS	x	= \$	-
066866 Operation of Existing Traffic Management &	LS	x	= \$	-
066920 Dispute Review Board	LS	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-

Cost of NPDES Supplemental Work specified in Section 5C = \$ 12,500

Total Section 1-8 \$ 1,462,600 5% = \$ 73,130

TOTAL SUPPLEMENTAL WORK	\$	85,700
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II. STRUCTURE ITEMS

DATE OF ESTIMATE	11/10/15	00/00/00	00/00/00
Name	1C670-Re Wall	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	05E00xx	57-XXX	57-XXX
Structure Type	Soldier Pile Wall	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	790.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Linear Foot	\$4,515.19	\$0.00	\$0.00

COST OF EACH STRUCTURE	\$3,567,000.10	\$0.00	\$0.00
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DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00	\$0.00	\$0.00

COST OF EACH STRUCTURE	\$0.00	\$0.00	\$0.00
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TOTAL COST OF BRIDGES	\$3,567,000.10
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TOTAL COST OF BUILDINGS	\$0.00
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TOTAL COST OF STRUCTURES¹	\$3,567,000.10
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Estimate Prepared By: Eric Watson
Division of Structures

10/22/2015
Date

¹Structure's Estimate includes Overhead and Mobilization.
Add more sheets if needed. Call them 9a, 9b, 9c, etc

DO NOT PRINT THIS SHEET AS PART OF COST ESTIMATE ATTACHMENT TO PROJECT INITIATION OR APPROVAL DOCUMENTS.

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

A)	A1) Acquisition, including Excess Land Purchases, Damages & Goodwill,		\$	66,725
	A2) SB-1210		\$	0
B)	Acquisition of Offsite Mitigation		\$	21,445
C)	C1) Utility Relocation (State Share)		\$	35,000
	C2) Potholing (Design Phase)		\$	0
D)	Railroad Acquisition		\$	0
E)	Clearance / Demolition		\$	0
F)	Relocation Assistance (RAP and/or Last Resort Housing Costs)		\$	0
G)	Title and Escrow		\$	5,667
H)	Environmental Review		\$	0
I)	Condemnation Settlements	0%	\$	0
	(Items G & H applied to items A + B)			
J)	Design Appreciation Factor	0%	\$	0
K)	Utility Relocation (Construction Cost)		\$	0

L)	TOTAL RIGHT OF WAY ESTIMATE	\$128,900
(Excluding Item #8 - Hazardous Waste)		

M)	TOTAL R/W ESTIMATE: Escalated	\$149,200
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N)	Right of Way Support	\$	198,000
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Support Cost	Danny Millsap	12-14-2015	(805)549-3207
Estimate Prepared By	Project Coordinator ¹	Date	Phone
Utility Estimate	Robert Davis	12-14-2015	(805)549-3577
Prepared By	Utility Coordinator ²	Date	Phone
R/W Acquisition	Jim Gentry	12-14-2015	(805)549-3578
Estimate Prepared By	Right of Way Estimator ³	Date	Phone

¹ When estimate has Support Costs only ² When estimate has Utility Relocation ³ When R/W Acquisition is required

PRELIMINARY
PROJECT COST ESTIMATE

Project Report Cost Estimate (Type I Ret Wall)

Project ID: 05120001940

Type of Estimate : Project Report
 Program Code : SCr-17-0 1/0 4
 Project Limits : SCr-17-0 1/0 4
 Description : Shoulder Widening & Retaining Wall (Type 1)
 Scope : This project proposes to widen southbound outside shoulder at cut slope to improve stopping sight distance for 55-mph. Due to topographic constraints and potential right-of-way cost, a soldier pile wall is proposed.
 Alternative :

	Current Cost	Escalated Cost
ROADWAY ITEMS	\$ 2,663,200	\$ 2,936,178
STRUCTURE ITEMS	\$ 3,656,002	\$ 3,901,275
SUBTOTAL CONSTRUCTION COST	\$ 6,320,000	\$ 6,838,000
RIGHT OF WAY	\$ 156,400	\$ 181,000
TOTAL CAPITAL OUTLAY COST	\$ 6,477,000	\$ 7,019,000
PR/ED SUPPORT	\$ 1,101,000	\$ 1,101,000
PS&E SUPPORT	\$ 1,451,000	\$ 1,451,000
RIGHT OF WAY SUPPORT	\$ 198,000	\$ 198,000
CONSTRUCTION SUPPORT	\$ 1,413,000	\$ 1,413,000
TOTAL CAPITAL OUTLAY SUPPORT COST*	\$ 4,163,000	\$ 4,163,000
TOTAL PROJECT COST	\$ 10,650,000	\$ 11,200,000

If Project has been programmed enter Programmed Amount: \$

Date of Estimate (Month/Year) Month / Year
11 / 2015

Estimated Date of Construction Start (Month/Year) 2 / 2019

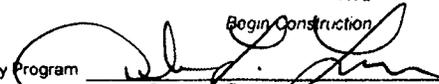
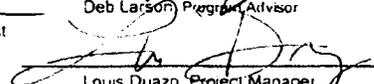
Number of Working Days 120 Working Days
Month / Year

Estimated Mid-Point of Construction (Month/Year)

Number of Plant Establishment Days Days

Estimated Project Schedule

PID Approval		
PA/ED Approval	3	2016
PS&E	12	2017
RTL	4	2018
Begin Construction	2	2019

Reviewed by Program  Date 2/5/2016 Phone (805) 549-3017
 Deb Larson Program Advisor
 Approved by Project Manager  Date 2/4/16 Phone (805) 542-4678
 Louis Duazo Project Manager

I. ROADWAY ITEMS SUMMARY

Section	Cost
1 Earthwork	\$ 285,000
2 Pavement Structural Section	\$ 191,900
3 Drainage	\$ 243,400
4 Specialty Items	\$ 212,300
5 Environmental	\$ 354,600
6 Traffic Items	\$ 45,800
7 Detours	\$ -
8 Minor Items	\$ 133,300
9 Roadway Mobilization	\$ 146,700
10 Supplemental Work	\$ 85,900
11 State Furnished	\$ 264,200
12 Contingencies	\$ 443,900
13 Overhead	\$ 256,200
TOTAL ROADWAY ITEMS	
	\$ 2,663,200

Estimate Prepared By

Petros I Demoz 2/4/16 (555) 243-3540
 Petros I Demoz, Project Engineer Date Phone

Estimate Reviewed By

Steven McDonald 2/4/2016 (559) 325-3814
 Steven McDonald, Design Manager Date Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

PRELIMINARY
PROJECT COST ESTIMATE

SECTION 1: EARTHWORK

Item code	Unit	Quantity		Unit Price (\$)		Cost
160101 Clearing & Grubbing	LS	1	x	110,000.00	= \$	110,000
170101 Develop Water Supply	LS	1	x	5,000.00	= \$	5,000
190101 Roadway Excavation	CY	5,000	x	20.00	= \$	100,000
190103 Roadway Excavation (Type Y) ADL	CY		x		= \$	-
190105 Roadway Excavation (Type Z-2) ADL	CY	350	x	200.00	= \$	70,000
192037 Structure Excavation (Retaining Wall)	CY		x		= \$	-
193013 Structure Backfill (Retaining Wall)	CY		x		= \$	-
193031 Pervious Backfill Material (Retaining Wall)	CY		x		= \$	-
194001 Ditch Excavation	CY		x		= \$	-
198001 Imported Borrow	CY		x		= \$	-
198007 Imported Material (Shoulder Backing)	TON		x		= \$	-
XXXXXX Some Item			x		= \$	-

TOTAL EARTHWORK SECTION ITEMS	\$ 285,000
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SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code	Unit	Quantity		Unit Price (\$)		Cost
150771 Remove Asphalt Concrete Dike	LF	250	x	11.00	= \$	2,750
150860 Remove Base and Surfacing	CY		x		= \$	-
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x		= \$	-
1532XX Remove Concrete (type)	CY		x		= \$	-
250401 Class 4 Aggregate Subbase	CY		x		= \$	-
260201 Class 2 Aggregate Base	CY	1,850	x	40.00	= \$	74,000
290201 Asphalt Treated Permeable Base	CY		x		= \$	-
365001 Sand Cover	TON		x		= \$	-
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x		= \$	-
374492 Asphaltic Emulsion (Polymer Modified)	TON		x		= \$	-
3750XX Screenings (Type XX)	TON		x		= \$	-
377501 Slurry Seal	TON		x		= \$	-
390095 Replace Asphalt Concrete Surfacing	CY		x		= \$	-
390132 Hot Mix Asphalt (Type A)	TON	1,075	x	100.00	= \$	107,500
390136 Minor Hot Mix Asphalt	TON		x		= \$	-
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x		= \$	-
393003 Geosynthetic Pavement Interlayer	SQYD		x		= \$	-
39405X Shoulder Rumber Strip (HMA, Type XX Inden	STA		x		= \$	-
394071 Place Hot Mix Asphalt Dike	LF	110	x	3.00	= \$	330
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x		= \$	-
397005 Tack Coat	TON	2	x	3,650.00	= \$	7,300
401000 Concrete Pavement	CY		x		= \$	-
401108 Replace Concrete Pavement (Rapid Strength	CY		x		= \$	-
404092 Seal Pavement Joint	LF		x		= \$	-
404094 Seal Longitudinal Isolation Joint	LF		x		= \$	-
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x		= \$	-
413115 Seal Existing Concrete Pavement Joint	LF		x		= \$	-
420102 Groove Existing Concrete Pavement	SQYD		x		= \$	-
420201 Grind Existing Concrete Pavement	SQYD		x		= \$	-
731502 Minor Concrete (Misc. Const)	CY		x		= \$	-
731530 Minor Concrete (Textured Paving)	SQFT		x		= \$	-
XXXXXX Some Item			x		= \$	-

TOTAL STRUCTURAL SECTION ITEMS	\$ 191,900
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SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price (\$)	=	Cost
150206	Abandon Culvert	LF	190	x	55.00	= \$	10,450
150805	Remove Culvert	LF	45	x	114.00	= \$	5,130
150820	Modify Inlet	EA	1	x	3,200.00	= \$	3,200
152430	Adjust Inlet	LF		x		= \$	-
155003	Cap Inlet	EA	1	x	2,150.00	= \$	2,150
193114	Sand Backfill	CY	22	x	170.00	= \$	3,740
510502	Minor Concrete (Minor Structure)	CY	14	x	2,650.00	= \$	37,100
510512	Minor Concrete (Box Culvert)	CY		x		= \$	-
510502	Minor Conc Riser's Box	LS	1	x	10,000.00	= \$	10,000
150820	Remove Inlet	EA	3	x	960.00	= \$	2,880
650018	24" RCP Pipe	LF	805	x	150.00	= \$	120,750
66XXXX	XXX" CSP Pipe	LF		x		= \$	-
68XXXX	Edge Drain	LF		x		= \$	-
69XXXX	XXX" Pipe Downdrain	LF		x		= \$	-
70XXXX	XXX" Pipe Inlet	LF		x		= \$	-
703239	36" Pipe Riser	LF	45	x	600.00	= \$	27,000
709522	Inlet Depression	EA	8	x	1,445.00	= \$	11,560
703233	Grated Line Drain	LF		x		= \$	-
721026	Rock Slope Protection (No. 1, Method B)	CY	10	x	120.00	= \$	1,200
721420	Concrete (Ditch Lining)	CY		x		= \$	-
721430	Concrete (Channel Lining)	CY		x		= \$	-
729010	Rock Slope Protection Fabric	SQYD	150	x	7.50	= \$	1,125
750001	Miscellaneous Iron and Steel	LB	290	x	2.00	= \$	580
750030	Frame & Grate	EA	8	x	815.00	= \$	6,520
XXXXXX	Some Item			x		= \$	-

TOTAL DRAINAGE ITEMS	\$	243,400
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SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price (\$)	=	Cost
070012	Progress Schedule (Critical Path Method)	LS	1	x	3,000.00	= \$	3,000
150662	Remove Metal Beam Guard Railing	LF	280	x	17.00	= \$	4,760
150668	Remove Terminal Systems	EA		x		= \$	-
1532XX	Remove Barrier (Insert Type)	LF		x		= \$	-
153250	Remove Sound Wall	SQFT		x		= \$	-
190110	Lead Compliance Plan	LS	1	x	2,000.00	= \$	2,000
49XXXX	CIDH Concrete Piling (Insert Diameter)	LF		x		= \$	-
510060	Structural Concrete (Retaining Wall)	CY		x		= \$	-
510133	Class 2 Concrete (Retaining Wall)	CY		x		= \$	-
510502	Minor Concrete Riser Box	LS		x		= \$	-
511035	Architectural Treatment	SQFT	9,580	x	20.00	= \$	191,600
511048	Apply Anti-Graffiti Coating	SQFT		x		= \$	-
5136XX	Reinforced Concrete Crib Wall (Insert Type)	SQFT		x		= \$	-
518002	Sound Wall (Masonry Block)	SQFT		x		= \$	-
520103	Bar Reinf. Steel (Retaining Wall)	LB		x		= \$	-
80XXXX	Fence (Insert Type)	LF		x		= \$	-
832006	Midwest Guard Railing System (Steel Post)	LF	200	x	35.00	= \$	7,000
839310	Double Thrie Beam Barrier	LF		x		= \$	-
839521	Cable Railing	LF		x		= \$	-
83954X	Transition Railing (Insert Type)	EA		x		= \$	-
8395XX	Terminal System (Type CAT)	EA		x		= \$	-
8395XX	Alternative Flared Terminal System	EA	1	x	3,160.00	= \$	3,160
839581	End Anchor Assembly (Type SFT)	EA	1	x	770.00	= \$	770
839561	Rail Tensioning Assembly	EA		x		= \$	-
839XXX	Crash Cushion (Insert Type)	EA		x		= \$	-
83XXXX	Concrete Barrier (Insert Type)	LF		x		= \$	-
XXXXXX	Some Item			x		= \$	-

TOTAL SPECIALTY ITEMS	\$	212,300
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SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
071325 TEMPORARY SILT FENCE	LF	2,000	x 5.00 = \$	10,000
071325 Temporary Fence (Type ESA)	LF	1,000	5.00	
<u>Subtotal Environmental</u>				<u>\$ 10,000</u>

5B - LANDSCAPE AND IRRIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	1	x 25,000.00 = \$	25,000
20XXXX XXX" (Insert Type) Conduit (Use for	LF	x	= \$	-
597601A Stain Galvanized Surfaces (Cable Railing)	LS	1	x 10,000.00 = \$	10,000
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	LS	1	x 110,000.00 = \$	110,000
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	1	x 20,000.00 = \$	20,000
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	1	x 80,000.00 = \$	80,000
598001 Anti-Graffiti Coating	LS	1	x 60,000.00 = \$	60,000
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				
<u>Subtotal Landscape and Irrigation</u>				<u>\$ 305,000</u>

5C - NPDES

Item code	Unit	Quantity	Unit Price (\$)	Cost
074016 Construction Site Management	LS	1	x 3,000.00 = \$	3,000
074017 Prepare WPCP	LS	1	x 2,000.00 = \$	2,000
074019 Prepare SWPPP	LS	x	= \$	-
074023 Temporary Erosion Control	SQYD	x	= \$	-
074027 Temporary Erosion Control Blanket	SQYD	x	= \$	-
074028 Temporary Fiber Roll	LF	1,600	x 5.00 = \$	8,000
074032 Temporary Concrete Washout Facility	EA	x	= \$	-
074033 Temporary Construction Entrance	EA	1	x 4,200.00 = \$	4,200
074031 Temporary Gravel Berm	LF	1,600	x 7.00 = \$	11,200
074037 Move In/ Move Out (Temporary Erosion Cont	EA	3	x 600.00 = \$	1,800
074038 Temp. Drainage Inlet Protection	EA	8	x 230.00 = \$	1,840
074041 Street Sweeping	LS	1	x 5,000.00 = \$	5,000
074042 Temporary Concrete Washout (Portable)	LS	1	x 2,500.00 = \$	2,500
XXXXXX Some Item				

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing	LS	1	x 5,000.00 = \$	5,000
066596 Additional Water Pollution Control**	LS	1	x 5,000.00 = \$	5,000
066597 Storm Water Sampling and Analysis***	LS	1	x 2,500.00 = \$	2,500
XXXXXX Some Item				

Subtotal NPDES (Without Supplemental Work) \$ 39,540

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

TOTAL ENVIRONMENTAL	\$ 354,600
----------------------------	-------------------

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA	x	= \$	-
151581 Reconstruct Sign Structure	EA	x	= \$	-
152641 Modify Sign Structure	EA	2	x 5,000.00 = \$	10,000
5602XX Furnish Sign Structure	LB	x	= \$	-
5602XX Install Sign Structure	LB	x	= \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
860090 Maintain Existing Traffic Management	LS	x	= \$	-
860810 Inductive Loop Detectors	EA	x	= \$	-
86055X Lighting & Sign Illumination	LS	x	= \$	-
8607XX Interconnection Facilities	LS	x	= \$	-
8609XX Traffic Monitoring Stations	LS	x	= \$	-
860XXX Signals & Lighting	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXX Some Item				
<i>Subtotal Traffic Electrical</i>				\$ 10,000

6B - Traffic Signing and Striping

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1	x 1,000.00 = \$	1,000
150701 Remove Yellow Painted Traffic Stripe	LF	x	= \$	-
150710 Remove Traffic Stripe	LF	1,000	x 0.64 = \$	640
150713 Remove Pavement Marking	EA	1	x 18.00 = \$	18
150742 Remove Roadside Sign	EA	x	= \$	-
152320 Reset Roadside Sign	EA	x	= \$	-
152390 Relocate Roadside Sign	EA	x	= \$	-
566011 Roadside Sign (One Post)	EA	x	= \$	-
566012 Roadside Sign (Two Post)	EA	x	= \$	-
560XXX Furnish Sign Panels	SQFT	x	= \$	-
820143 Object Marker	EA	2	x 73.00 = \$	146
820118 Delineator (Class X)	EA	6	x 55.00 = \$	330
846001 4" Thermoplastic Traffic Stripe	LF	1,000	x 2.00 = \$	2,000
<i>Subtotal Traffic Signing and Striping</i>				\$ 4,134

6C - Stage Construction and Traffic Handling

Item code	Unit	Quantity	Unit Price (\$)	Cost
120100 Traffic Control System	LS	x	= \$	-
120120 Type III Barricade	EA	x	= \$	-
120143 Temporary Pavement Delineation	LF	1,200	x 0.75 = \$	900
120165 Channelizer	EA	16	x 45.00 = \$	720
128650 Portable Changeable Message Signs	EA	1	x 10,000.00 = \$	10,000
129000 Temporary Railing (Type K)	LF	1,000	x 20.00 = \$	20,000
129100 Temp. Crash Cushion Module	EA	x	= \$	-
129099A Traffic Plastic Drum	EA	x	= \$	-
839603A Temporary Crash Cushion (ADIEM)	EA	x	= \$	-
XXXXXX Some Item				
<i>Subtotal Stage Construction and Traffic Handling</i>				\$ 31,620

TOTAL TRAFFIC ITEMS	\$ 45,800
----------------------------	------------------

SECTION 7: DETOURS

Include constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
0713XX Temporary Fence (Type X)	LF	x	= \$	-
07XXXX Temporary Drainage	LS	x	= \$	-
120143 Temporary Pavement Delineation	LF	x	= \$	-
1286XX Temporary Signals	EA	x	= \$	-
129000 Temporary Railing (Type K)	LF	x	= \$	-
190101 Roadway Excavation	CY	x	= \$	-
198001 Imported Borrow	CY	x	= \$	-
198050 Embankment	CY	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	x	= \$	-
260201 Class 2 Aggregate Base	CY	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
TOTAL DETOURS				\$ -

SUBTOTAL SECTIONS 1-7 \$ 1,333,000

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items

ADA Items 0.0% \$ -

8B - Bike Path Items

Bike Path Items 0.0% \$ -

8C - Other Minor Items

Other Minor Items 10.0% \$ 133,300

Total of Section 1-7 \$ 1,333,000 x 10.0% = \$ 133,300

TOTAL MINOR ITEMS \$ 133,300

SECTIONS 9: MOBILIZATION

Item code	Quantity	Unit Price (\$)	Cost
999990 Total Section 1-8	\$ 1,466,300	x 10%	= \$ 146,630
TOTAL MOBILIZATION			\$ 146,700

SECTION 10: SUPPLEMENTAL WORK

Item code	Unit	Quantity	Unit Price (\$)	Cost
066015 Federal Trainee Program	LS	x	= \$	-
066063 Traffic Management Plan - Public Informati	LS	x	= \$	-
066090 Maintain Traffic	LS	x	= \$	-
066094 Value Analysis	LS	x	= \$	-
066204 Remove Rock & Debris	LS	x	= \$	-
066222 Locate Existing Cross-Over	LS	x	= \$	-
066670 Payment Adjustments For Price Index Fluct	LS	x	= \$	-
066700 Partnering	LS	x	= \$	-
066866 Operation of Existing Traffic Management S	LS	x	= \$	-
066920 Dispute Review Board	LS	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-

Cost of NPDES Supplemental Work specified in Section 5C = \$ 12,500

Total Section 1-8 \$ 1,466,300 5% = \$ 73,315

TOTAL SUPPLEMENTAL WORK \$ 85,900

II. STRUCTURE ITEMS

DATE OF ESTIMATE	11/09/15	00/00/00	00/00/00
Name	1C670-Re WaLL	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	05E00xx	57-XXX	57-XXX
Structure Type	Retaining Wall	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	790.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$4,627.85	\$0.00	\$0.00

COST OF EACH STRUCTURE	\$3,656,001.50	\$0.00	\$0.00
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DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00	\$0.00	\$0.00

COST OF EACH STRUCTURE	\$0.00	\$0.00	\$0.00
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TOTAL COST OF BRIDGES	\$3,656,001.50
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TOTAL COST OF BUILDINGS	\$0.00
--------------------------------	---------------

TOTAL COST OF STRUCTURES¹	\$3,656,001.50
---------------------------------------------	-----------------------

Estimate Prepared By: Eric Watson
Division of Structures

10/22/2015
Date

¹Structure's Estimate includes Overhead and Mobilization.
Add more sheets if needed. Call them 9a, 9b, 9c,, etc

DO NOT PRINT THIS SHEET AS PART OF COST ESTIMATE ATTACHMENT TO PROJECT INITIATION OR APPROVAL DOCUMENTS.

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

A)	A1) Acquisition, including Excess Land Purchases, Damages & Goodwill,		\$	66,725
	A2) SB-1210		\$	0
B)	Acquisition of Offsite Mitigation		\$	21,445
C)	C1) Utility Relocation (State Share)		\$	62,500
	C2) Potholing (Design Phase)		\$	0
D)	Railroad Acquisition		\$	0
E)	Clearance / Demolition		\$	0
F)	Relocation Assistance (RAP and/or Last Resort Housing Costs)		\$	0
G)	Title and Escrow		\$	5,667
H)	Environmental Review		\$	0
I)	Condemnation Settlements	0%	\$	0
	(Items G & H applied to items A + B)			
J)	Design Appreciation Factor	0%	\$	0
K)	Utility Relocation (Construction Cost)		\$	0

L)

TOTAL RIGHT OF WAY ESTIMATE	\$156,400
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(Excluding Item #8 - Hazardous Waste)

M)

TOTAL R/W ESTIMATE: Escalated	\$181,000
--------------------------------------	------------------

N)

Right of Way Support	\$	198,000
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Support Cost	Danny Millsap	12-31-2015	(805)549-3207
Estimate Prepared By	Project Coordinator ¹	Date	Phone
Utility Estimate	Robert Davis	12-31-2015	(805)549-3577
Prepared By	Utility Coordinator ²	Date	Phone
R/W Acquisition	Jim Gentry	12-31-2015	(805)549-3578
Estimate Prepared By	Right of Way Estimator ³	Date	Phone

¹ When estimate has Support Costs only ² When estimate has Utility Relocation

³ When R/W Acquisition is required

DO NOT PRINT THIS SHEET AS PART OF COST ESTIMATE ATTACHMENT TO PROJECT INITIATION OR APPROVAL DOCUMENTS.

IV. SUPPORT COST ESTIMATE SUMMARY

Please obtain a P3 report (CL#3) from PPM to fill in the support cost for these categories.

SB-45 CATEGORY SUPPORT COST	PREVIOUS	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FUTURE	P3 Total	Support Ratio
PR/ED (PD,PE,PM)						\$ 1,101,000					\$ 1,101,000	15.69%
PS&E (PS)							\$ 1,451,000				\$ 1,451,000	20.67%
R/W (RW)							\$ 198,000				\$ 198,000	2.82%
CONSTRUCTION (CM)									\$ 1,413,000		\$ 1,413,000	20.13%
Total Support Cost:	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,101,000	\$ 1,649,000	\$ -	\$ 1,413,000		\$ 4,163,000	59.31%

Note: It is assumed that the Support Costs are already escalated by Programming to the year of expenditure. Use project Programming Sheet data.

Total Escalated Capital Cost:	\$7,019,000
Total Capital Outlay Support Cost:	\$4,163,000
Overall Percent Support Cost:	59.31%

V. ESCALATED CONSTRUCTION COST ESTIMATE SUMMARY

Note: Right of way escalated cost are accounted for on sheet 10 of 11.

Date of Estimate (Month/Year)	Month / Year	11 / 2015
Estimated Date of Construction Start (Month/Year)	Month / Year	2 / 2019
Number of Working Days	WD	120
Estimated Mid-Point of Construction (Month/Year)	Month / Year	0 / 0

YEAR	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	FUTURE	TOTAL ESCALATED COSTS
FORECASTED ESCALATION RATE OF ROADWAY			5.0%	5.0%								
FORECASTED ESCALATION RATE OF STRUCTURE			3.4%	3.2%								
ESCALATED CONSTRUCTION COSTS												
ROADWAY ITEMS	\$ 2,663,200	\$ 2,663,200	\$ 2,796,360	\$ 2,936,178	\$ 2,936,178	\$ 2,936,178	\$ 2,936,178	\$ 2,936,178	\$ 2,936,178	\$ 2,936,178	\$ 2,936,178	\$ 2,936,178
STRUCTURE ITEMS	\$ 3,656,002	\$ 3,656,001.50	\$ 3,780,306	\$ 3,901,275.33	\$ 3,901,275	\$ 3,901,275	\$ 3,901,275	\$ 3,901,275	\$ 3,901,275	\$ 3,901,275	\$ 3,901,275	\$ 3,901,275
SUBTOTAL	\$ 6,319,202	\$ 6,319,202	\$ 6,576,666	\$ 6,837,453								

Approved by: _____
Project Control Engineer

Date

Memorandum

*Flex your power!
Be energy efficient!*

To: JAMES ESPINOSA
Central Region Project Development
Office of Design II, Branch S

Date: October 22, 2015

File: 05-SCr-017-0.1/0.4
05-0B3401
ID: 0512000194
Retaining Wall at PM 0.1
"Pasatiempo Shoulder Widening"

From: JEFF SIMS 
Bridge Design Branch 1
Office of Bridge Design North
Structure Design
Division of Engineering Services

Subject: Advance Planning Study Transmittal

Attached is the Advance Planning Study for the above referenced project as submitted to the Division of Engineering Services at your request.

The forecast structure cost including time related overhead, mobilization and contingencies are given in the following tables is as follows: The following tables summarize the projected total structure costs based on a variable escalation rate. The escalated structure cost is provided for informational purposes only and does not replace annual cost updates as required by Department policy.

Alternatives	Br. No.	Estimated Cost		
		Soldier Pile Wall @ PM 0.1	Soil Nail Wall @ PM 0.1	Type 1 Retaining Wall
	05E00xx	\$3,567,000	\$2,594,000	\$3,656,000
Years Beyond Midpoint	Escalation Rate	Escalated Cost	Escalated Cost	Escalated Cost
1	3.40%	\$3,688,000	\$2,682,000	\$3,781,000
2	3.20%	\$3,806,000	\$2,768,000	\$3,902,000
3	3.40%	\$3,935,000	\$2,862,000	\$4,035,000
4	3.00%	\$4,053,000	\$2,948,000	\$4,156,000
5	2.40%	\$4,150,000	\$3,019,000	\$4,256,000

The escalated structure cost is provided for informational purposes only and does not replace annual cost updates as required by Department policy.

This Advance Planning Study cost estimate does not include:

- The cost for removal and replacement of the overhead sign.

ATTACHMENT F

JAMES ESPINOSA - District 5

October 4, 2015

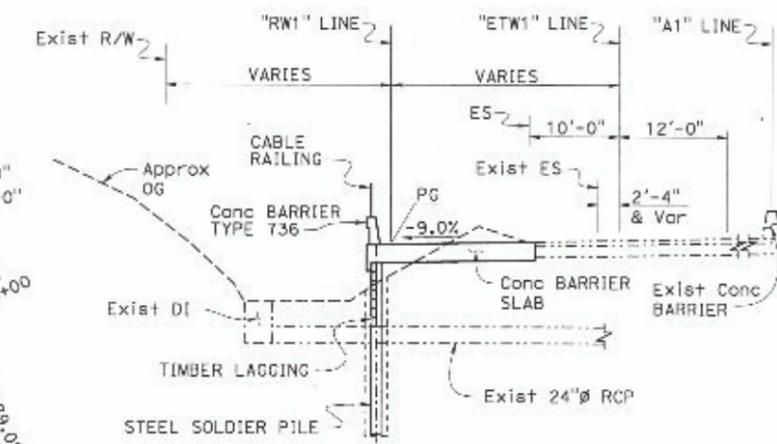
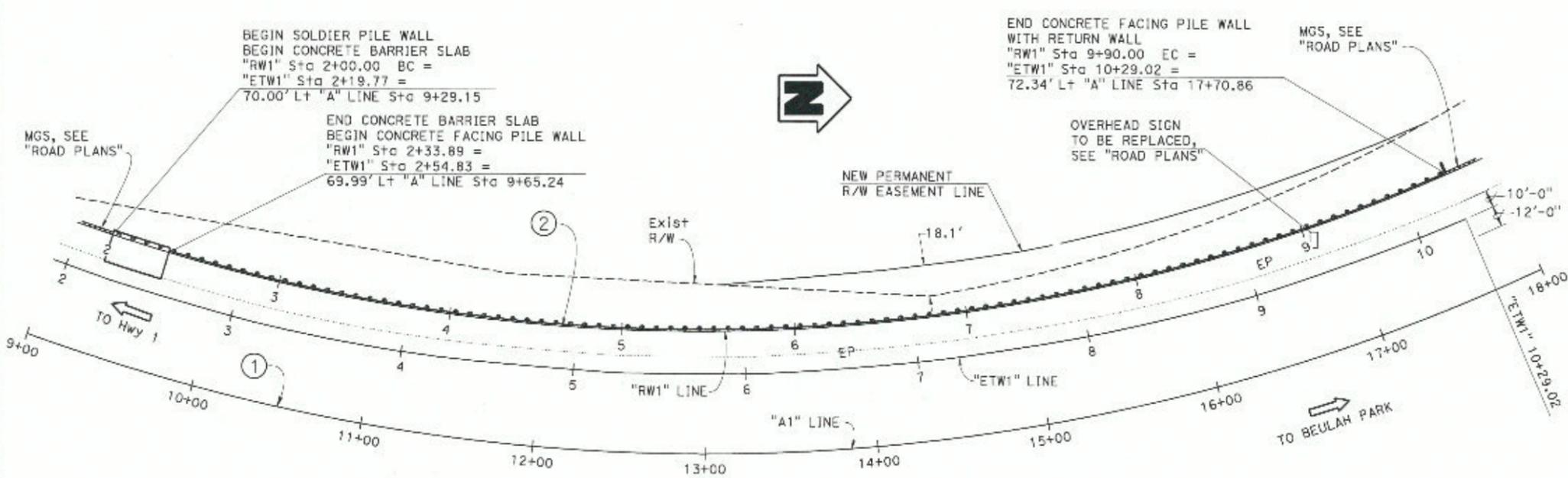
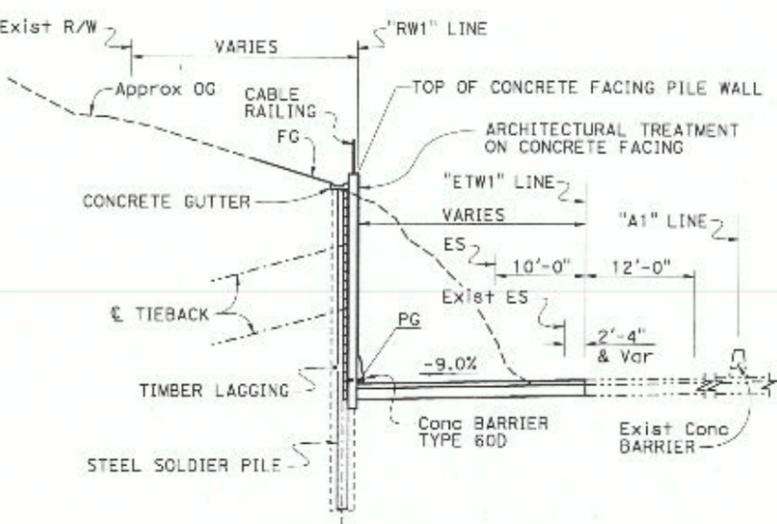
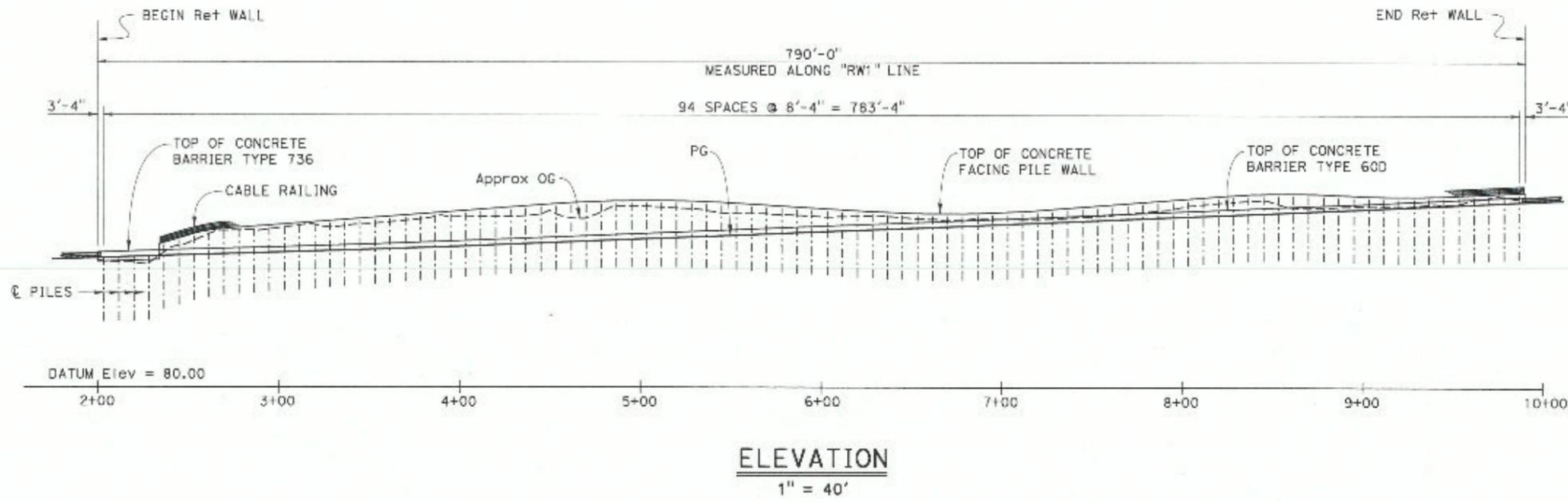
Page 2

If you have any questions or if you need additional information regarding this study, please contact Eric Watson at (916) 227-9792 or Jeff Sims at (916) 227-8497.

Attachments

c: A TAN , Project Liaison Engineer
G SETBERG, Bridge Design Office Chief
M DOWNS, Technical Liaison Engineer
S HEATH, Branch Chief, Bridge Architecture & Aesthetics
R TURNER, Geotechnical Services

DIST	COUNTY	ROUTE	POST MILE
05	SCR	17	0.1/0.4



CURVE DATA

NO.	R	Δ	T	L
①	1150'	67°59'09"	775.48'	1364.57'
②	1070'	43°45'39"	429.71'	817.23'

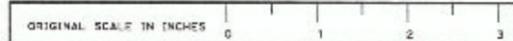
NOTES:
 • - Indicates Steel Soldier Pile

DATE OF ESTIMATE	10/22/15
BRIDGE REMOVAL	= -
STRUCTURE DEPTH	= -
LENGTH	= 790'-0"
WIDTH	= -
AREA	= 12,700 ft ²
WORKING DAYS	= -
COST/□ INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= \$278/ft ²
TOTAL COST	= \$3,567,000

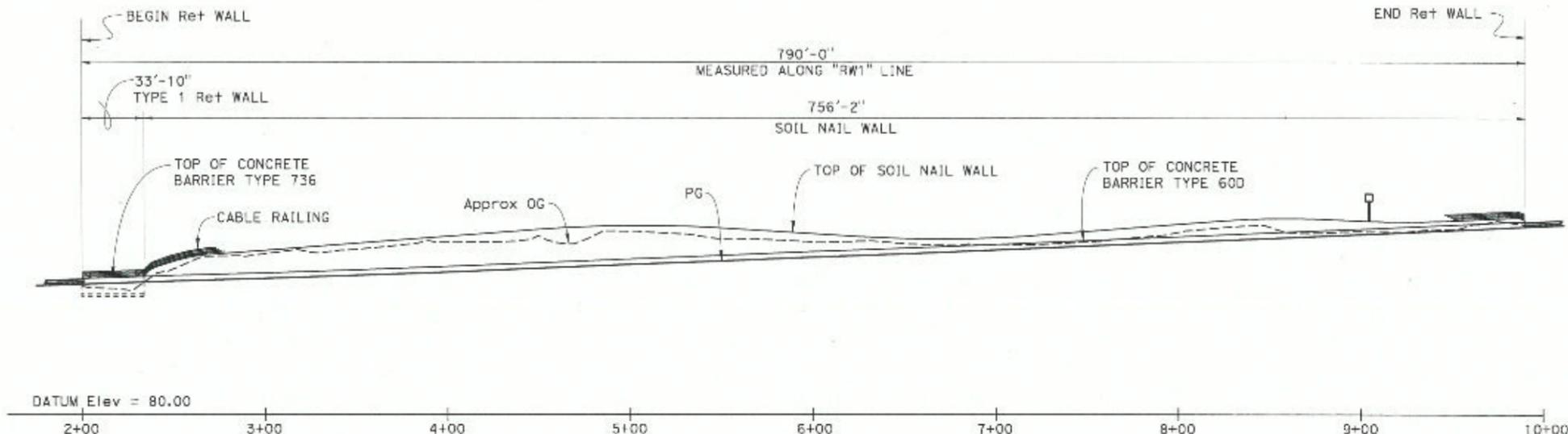
DESIGNED BY	Eric Watson	DATE	8-24-15
DRAWN BY	Gerald Dickerson	DATE	8-27-15
CHECKED BY		DATE	
APPROVED		DATE	

STRUCTURE DESIGN BRANCH
1

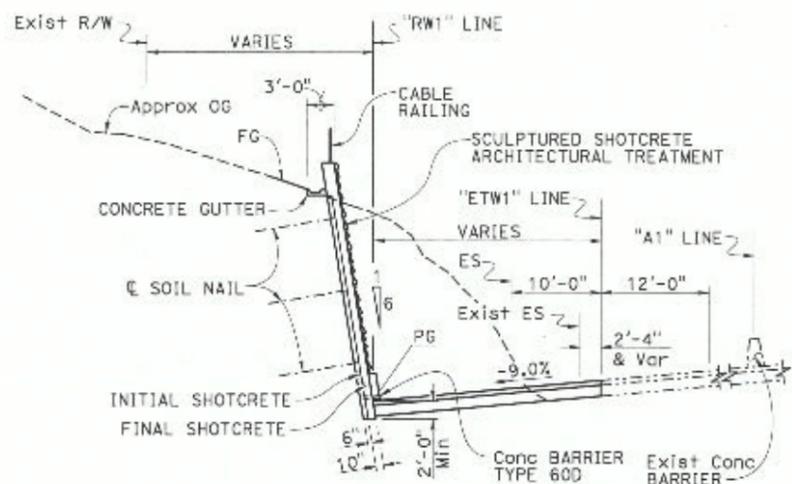
PLANNING STUDY	
PASATIEMPO SOLDIER PILE WALL	
UNIT: 3576	BRIDGE No. 36Exxxx
SCALE: Noted	PROJECT No. & PHASE: 05120001940



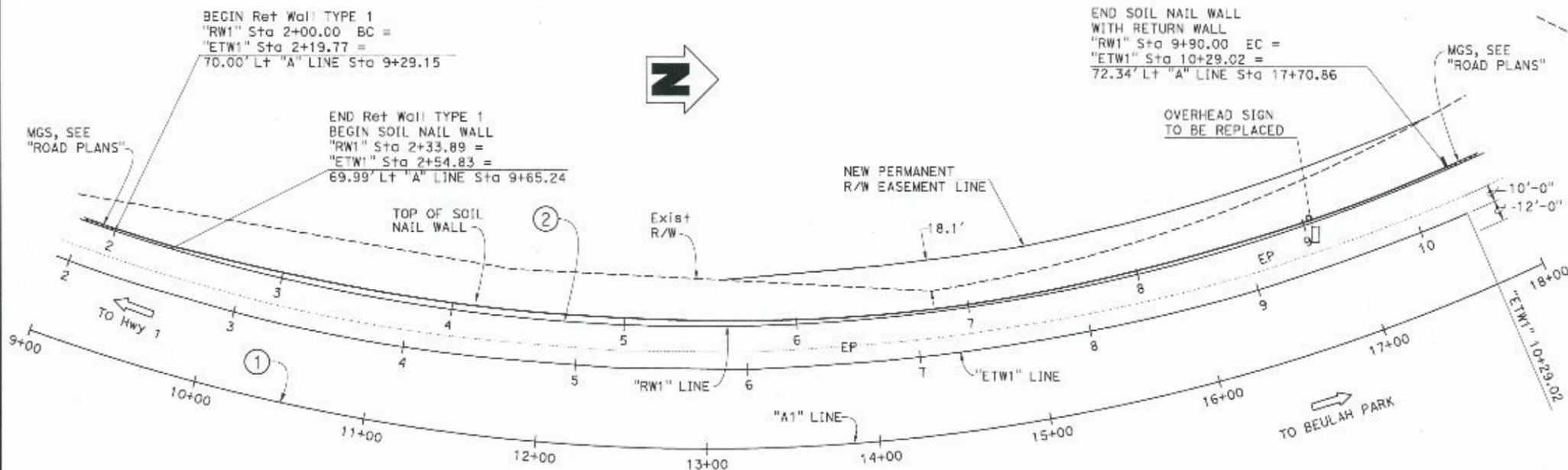
DIST	COUNTY	ROUTE	POST MILE
05	SCR	17	0.1/0.4



ELEVATION
1" = 40'



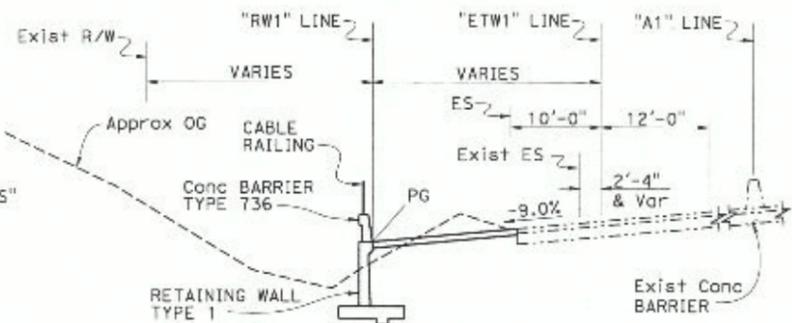
TYPICAL SECTION
"RW1" LINE STA 2+33.83 TO STA 9+90.00
1" = 10'



PLAN
1" = 40'

CURVE DATA

NO.	R	Δ	T	L
①	1150'	67°59'09"	775.48'	1364.57'
②	1070'	43°45'39"	429.71'	817.23'



TYPICAL SECTION
"RW1" LINE STA 2+00.00 TO STA 2+33.83
1" = 10'

DATE OF ESTIMATE	10/22/15
BRIDGE REMOVAL	=
STRUCTURE DEPTH	=
LENGTH	= 790'-0"
WIDTH	=
AREA	= 12,700 ft ²
WORKING DAYS	=
COST/□ INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= \$204/ft ²
TOTAL COST	= \$2,594,000

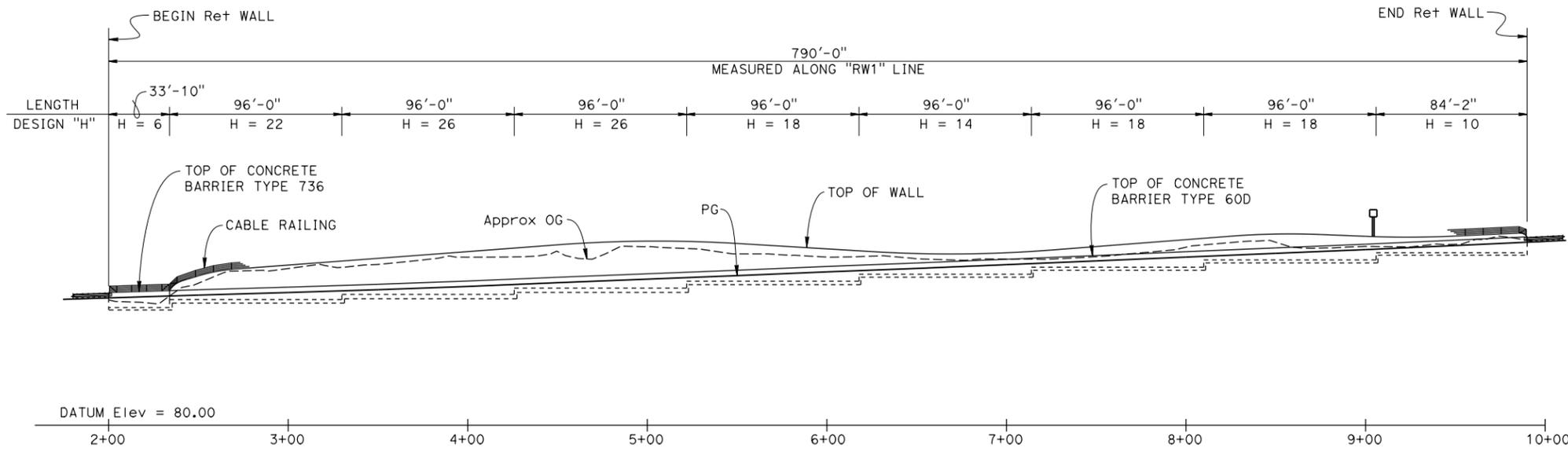
DESIGNED BY	Eric Watson	DATE	9-01-15
DRAWN BY	Gerald Dickerson	DATE	9-02-15
CHECKED BY		DATE	
APPROVED		DATE	

STRUCTURE DESIGN BRANCH
1

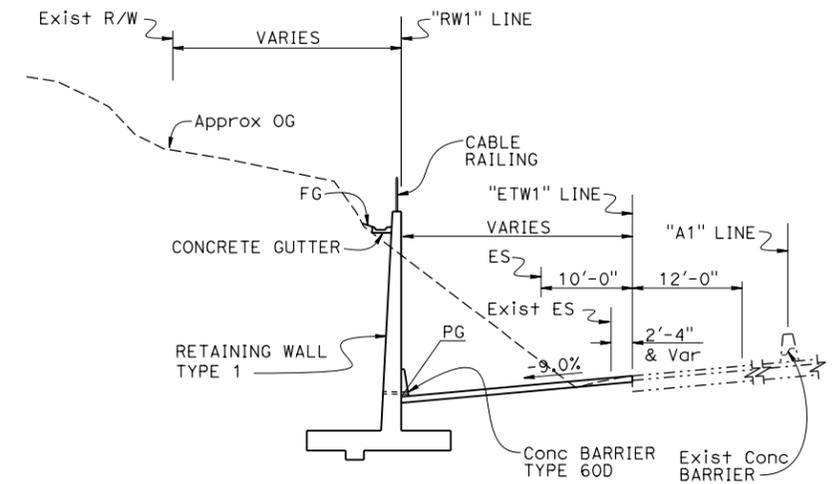
SOIL NAIL ALTERNATIVE	
PLANNING STUDY	
PASATIEMPO RETAINING WALL	
UNIT: 3576	BRIDGE No. 36Exxx
SCALE: Noted	PROJECT No. & PHASE: 05120001940



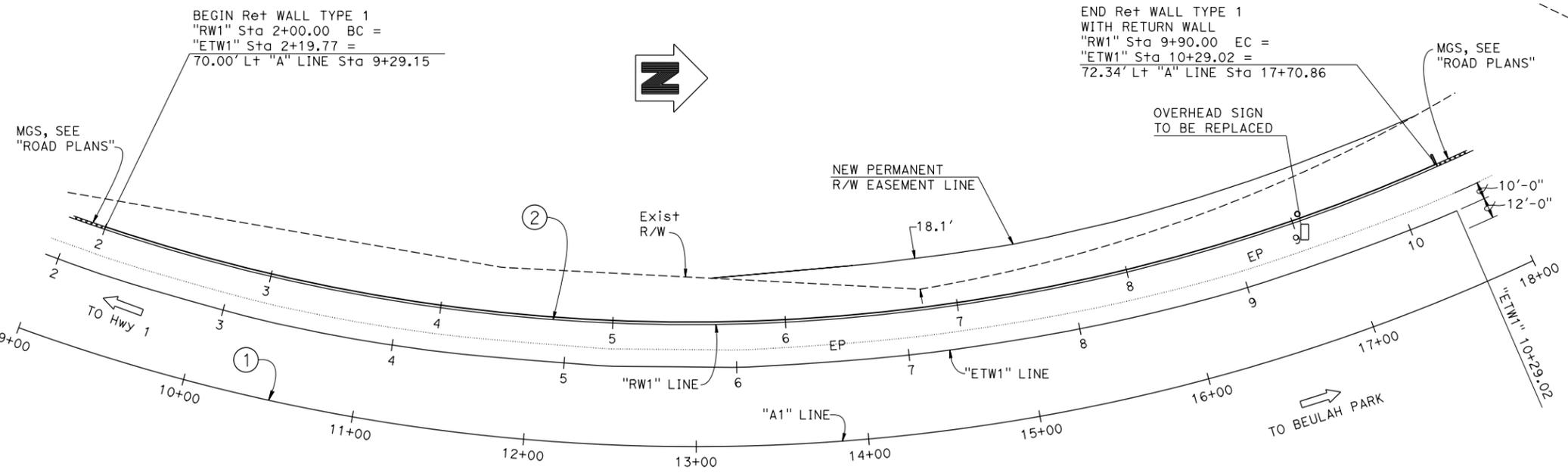
DIST	COUNTY	ROUTE	POST MILE
05	SCR	17	0.1/0.4



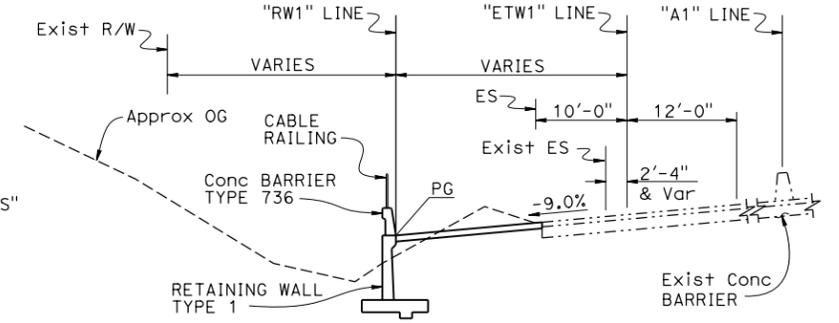
ELEVATION
1" = 40'



TYPICAL SECTION
"RW1" LINE STA 2+33.83 TO STA 9+90.00
1" = 10'



PLAN
1" = 40'



TYPICAL SECTION
"RW1" LINE STA 2+00.00 TO STA 2+33.83
1" = 10'

CURVE DATA

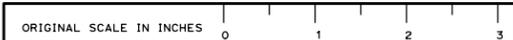
NO.	R	Δ	T	L
①	1150'	67°59'09"	775.48'	1364.57'
②	1070'	43°45'39"	429.71'	817.23'

DATE OF ESTIMATE	10/22/15
BRIDGE REMOVAL	= -
STRUCTURE DEPTH	= -
LENGTH	= 790'-0"
WIDTH	= -
AREA	= 12,700 ft ²
WORKING DAYS	= -
COST/□ INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= \$287/ft ²
TOTAL COST	= \$3,650,000

DESIGNED BY	Eric Watson	DATE	9-02-15
DRAWN BY	Gerald Dickerson	DATE	9-03-15
CHECKED BY		DATE	
APPROVED		DATE	

STRUCTURE DESIGN BRANCH 1

TYPE 1 ALTERNATIVE	
PLANNING STUDY	
PASATIEMPO RETAINING WALL	
UNIT: 3576	BRIDGE No. 36Exxx
SCALE: Noted	PROJECT No. & PHASE: 05120001940



Memorandum

To: Luis Duazo
PPM - SLO

Attn Petros Demoz
Design - CR
Steven McDonald
Design - CR

Date: 12/14/2015
File: CD 05 EA 1C6700 Alt 1
Co SCR RTE 017

DESCRIPTION:
Shoulder Widening and Soil Nail Wall

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 7/10/2015

The following assumptions and limiting conditions were identified:

Parcels

Utility

DS request (05-1C6700 ALT 1) dated 07/13/15 DUE 08/1/15 Project engineer indicated that aerial power poles may require relocation. It is recommended that utility verification plans be provided by design so that utility verifications can be requested from utility owners. Comply with USA alert requirements at all project locations, including at construction sign locations. Petros suggested that 4 total poles will need total relocation or guy wire and anchor adjustment to remove conflict.

Right of Way Lead Time will require a minimum of 13 months after we receive Certified Appraisal Maps and/or Utility Conflict Plans, obtained necessary environmental clearance and applicable freeway agreements have been approved.


Marshall Garcia, Sr. Right of Way Agent
San Luis Obispo Field Office
(805)549-3471

Right Of Way Cost Estimate	Current Year 2015	Contingency Rate	Right of Way Escalation Rate	Escalated Year 2018
Acquisition:	\$66,725	25%	5%	\$77,243
Mitigation:	\$21,445	25%	5%	\$24,825
State Share of Utilities:	\$35,000	25%	5%	\$40,517
Expert Witness:	\$0	25%	5%	\$0
Relocation Assistance:	\$0	25%	5%	\$0
Demolition and Clearance:	\$0	25%	5%	\$0
Title and Escrow:	\$5,667	25%	5%	\$6,561
Ad Signs:	\$0	25%	5%	\$0
Total Current Value:	\$128,837			\$149,145
If RW Cost Est fields are blank, Costs = \$0				

NOTE: above estimate includes railroad engineering in the amount of:

Estimated Construction Contract Work (CCW):

0 R/W LEAD TIME/Mo. 13

Cost Break Down

Pot Hole

Mitigation

Land	0
Bank	0
Permit Fees	17,156

Parcel Data

# of Parcel Type X:	0		
# of Parcel Type A: less than \$10,000 non-complex	4		
# 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
Totals:	4	Totals:	0

of Excess Parcels: 0

Misc R/W 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?	N
Const/Maint Agreement:	N
Service Contract Count:	
Right of Entry:	N
Clauses:	N
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 with Fed Aid	0
U5-7: Utility verification, no relocation/potholing	0
U5-8: Utility verification, w/ some relocation/potholing	
U5-9: Utility verifications, relocation/potholing required	2

Parcel Area

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

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

Four single family residential parcels with minimal impact to landscaping.

General Description of Utility Involvement:

This project proposes to widen the southbound outside shoulder at cut slope to improve stopping sight distance for 55 mph speed. This alternative constructs a soil nail wall to correct horizontal sight distance. Utilities in the project vicinity may include PG&E electric and AT&T communication including aerial fiber optic. SR 17 is designated a freeway at the project location. Relocations with PG&E &/or AT&T would be subject to the companies Freeway Master Contract.

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 multi-family:

0

of business/nonprofit:

0

of farms:

0

Sufficient replacement housing will be available without last resort housing:

N/A

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:	Jim Gentry	12/7/2015
Railroad Liaison Agent:	SB	7/20/2015
Utility Relocation Coordinator:	Robert H. Davis (for JTM)	7/13/2015

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.

Marshall Garcia Sr.
Right of Way Agent, Right of Way

Date
ENTERED PMCS 12/8/2015
BY: Danny Millsap

Memorandum

To: Luis Duazo
PM-SLO

Attn: Petros Demoz
PE-Fresno
Steven McDonald
DM-Fresno

Date: 12/31/2015
File: CD 05 EA 1C6700 Alt 3 REV 1
Co SCr RTE 17

DESCRIPTION:
Shoulder Widening and Soil Nail Wall

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 12/4/2015

The following assumptions and limiting conditions were identified:

Parcels

Utility

Project engineer states on his Right of Way Data Sheet Request Form 5. Utility permit search completed: YES (X), Utility involvement and/or relocation: REQUIRED (X), Potholing Required NO (X). This is a new alternative. On previous requests project engineer has indicated that up to 4 joint poles and or their appurtenances would require relocation. Utility verifications have previously been forwarded to design. Comply with USA alert requirements at all project locations, including at construction sign locations.

Right of Way Lead Time will require a minimum of 18 months after we receive Certified Appraisal Maps and/or Utility Conflict Plans, obtained necessary environmental clearance and applicable freeway agreements have been approved.



Marshall Garcia, Sr. Right of Way Agent
San Luis Obispo Field Office
(805) 549-3471

Right Of Way Cost Estimate	Current Year 2015	Contingency Rate	Right of Way Escalation Rate	Escalated Year 2018
Acquisition:	\$66,725	25%	5%	\$77,243
Mitigation:	\$21,445	25%	5%	\$24,825
State Share of Utilities:	\$62,500	25%	5%	\$72,352
Expert Witness:	\$0	25%	5%	\$0
Relocation Assistance:	\$0	25%	5%	\$0
Demolition and Clearance:	\$0	25%	5%	\$0
Title and Escrow:	\$5,667	25%	5%	\$6,561
Ad Signs:	\$0	25%	5%	\$0
Total Current Value: If RW Cost Est fields are blank, Costs = \$0	\$156,337			\$180,980

NOTE: above estimate includes railroad engineering in the amount of: \$0.00

Estimated Construction Contract Work (CCW): 0 R/W LEAD TIME/Mo. 18

Cost Break Down	
Pot Hole	
Mitigation	
Land	0
Bank	0
Permit Fees	17,156

RR Involvement

Railroad Facilities or Right of Way Affected?	N
Const/Maint Agreement:	N
Service Contract Count:	0
Right of Entry:	N
Clauses:	N
Estimated Lead-time:	0 Mos.

Parcel Data

# of Parcel Type X:	0		
# of Parcel Type A: less than \$10,000 non-complex	4		
# 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
Totals:	4	Totals:	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	3
U4-4: State Expense, both with Fed Aid	0
U5-7: Utility verification, no relocation/potholing	0
U5-8: Utility verification, w/ some relocation/potholing	0
U5-9: Utility verifications, relocation/potholing required	3

Parcel Area

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

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

Four single family residential parcels with minimal impact to landscaping.

General Description of Utility Involvement:

The project proposes to widen southbound outside shoulder at cut slope to improve stopping sight distance for 55 mph speed. Due to topographic conditions and potential right of way costs a retaining wall is proposed. This alternative proposes to improve the safety of the segment by constructing Type 1 Retaining wall to correct the horizontal sight distance at this location. Utilities in the project area include aerial PG&E electric, AT&T communications and fiber optic. SR 17 is designated a freeway at the project location. Relocation with PG&E&/or AT&T would be subject to the companies Freeway Master Contract.

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 multi-family:

0

of business/nonprofit:

0

of farms:

0

Sufficient replacement housing will be available without last resort housing:

N/A

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:

Jim Gentry

12/7/2015

Railroad Liaison Agent:

SWB

12/8/2015

Utility Relocation Coordinator:

John T. Magorian

12/9/2015

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.

Marshall Garcia
Sr. Right of Way Agent, Right of Way

Date

ENTERED PMCS

12/31/2015

BY: Danny Millsap



Dist-County-Route: 05 - SCr - 17

Post Mile Limits: 0.1/0.4

Project Type: Shoulder Widening and Soil Nail Wall

Project ID (or EA): 05.1200.0194.0 (05-1C670-0)

Program Identification: SHOPP 201.010

- Phase: PID
 PA/ED
 PS&E

Regional Water Quality Control Board(s): CENTRAL COAST, REGION 3

- | | | |
|---------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| 1. Is the project required to consider incorporating Treatment BMPs? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 2. Does the project disturb 5 or more acres of soil? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 3. Does the project disturb more than 1 acre of soil and not qualify for the Rainfall Erosivity Waiver? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 4. Does the project potentially create permanent water quality impacts? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 5. Does the project require a notification of ADL reuse | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |

If the answer to any of the preceding questions is "Yes", prepare a Long Form – Storm Water Data Report.

Estimate Construction Start Date: 10/03/2018

Construction Completion Date: 08/29/2019

Separate Dewatering Permit (if yes, permit number)

Yes Permit # _____ No

Erosivity Waiver

Yes Date: _____ No

This Short Form – Storm Water Data 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.

10-20-15

Petros Demoz, Registered Project Engineer

Date

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

11/17/15

James Espinosa, Regional SW Coordinator or Designee

Date

(Stamp Required for PS&E only)

for

DISTRICT 5

TRANSPORTATION MANAGEMENT PLAN DATA SHEET/CHECKLIST

District / EA: 05/1C6700
 Project Engineer: James Espinosa
 Date Prepared: 8/24/2015

Co.-Rte-PM: SCR-17-0.1/0.4
 Description: Shoulder widening, soil nail wall
 Working Days: 120 days

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

Required	Recommended	Not required	COMMENTS
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1.0 Public Information

- 1.1 Public Awareness Campaign
- 1.2 Other Strategies

x			Estimate \$8000

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			Two CMS units @ \$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 (during k-rail moving & work in live traffic)
- 3.2 Freeway Service Patrol

x			Estimate \$100/hour days; -\$200/hour nights

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:

Maximum delay is 10 minutes

Include \$300/day in 066070

Special Days: Wharf to Wharf, Watsonville Air Show, and the Santa Cruz County Fair.

x			To be provided during PS&E - nights only
		x	
x			
x			Standard SSP
		x	Construction/Contractor to provide
			Construction/Contractor to provide
			Construction/Contractor to provide
x			
x			
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			Per RE

Shayne Sandeman

District 5 TMP Coordinator

ATTACHMENT I

Risk Register

Project ID (05-1C670_)		0512000194		Project Name: Pasatiempo Shoulder Widening						Project Manager: Luis Duazo				Date Register Created:	12/9/2013	Date Register Last Updated:	12/9/2013			
				Co - Rte - PM: SCr - 17 - 0.1 / 0.4						Telephone: 805-542-4678										
Item	Risk ID	Risk Statement	Status of Risk	Opportunity or Threat	RBS Risk Category	Date Risk Identified	Objective	L / NL Impact	Probability (P)	Impact (I)	Risk Rating		Strategy Type	Response Description	Response Trigger	Adjusted Cost or Time Impact	Secondary Response Description	Risk Owner	Status Date & Review Comments	Next Review Date
	AUTO	MANUAL ENTRY	DROP DOWN	DROP DOWN	DROP DOWN	MM/DD/YY	DROP DOWN	OPTIONAL	DROP DOWN	DROP DOWN	Risk Score AUTO	Risk Rank AUTO	DROP DOWN	MANUAL ENTRY	MANUAL ENTRY	OPTIONAL	OPTIONAL	MANUAL ENTRY	MANUAL ENTRY	MM/DD/YY
0	0512000194-00	As a result of finding nesting birds during preconstruction surveys, a delay in the construction schedule may result.	Active	Threat	ENV	10/08/13	TIME		2=Low (10%)	3 =Med	6		ACCEPT	Construction to occur outside bird nesting season.	Birds encountered during preconstruction bird surveys.			Environmental		12/01/15
1	0512000194-01	As a result of any additional drainage work required in final design, the need to obtain permits may delay the project schedule.	Active	Threat	ENV	10/08/13	TIME		2=Low (10%)	3 =Med	6		ACCEPT	Design to avoid any additional environmental impacts if possible.	Environmental to review design details as they become available, and report any additional environmental impacts.			Environmental		12/01/15
2	0512000194-02	As a result of noise from pile driving operation, complaints/concerns by neighbors may occur that could lead to a delay in construction	Active	Threat	CON	12/09/13	TIME		2=Low (10%)	3 =Med	6		AVOID	Avoid evening pile driving operations.	Complaints by residents adjacent to project limits.			Construction		12/01/15
3	0512000194-03	As a result of field reviews and environmental surveys, sensitive species may be identified requiring consultation with agencies leading to a schedule delay.	Active	Threat	ENV	10/08/13	TIME	Linear	2=Low (10%)	3 =Med	6	Low	ACCEPT	Consult with agencies as soon as possible.	Environmental to report any sensitive species identified.			Environmental		12/01/15
4	0512000194-04	As a result of archeological resources identified, additional testing may be required to establish significance and delay schedule.	Active	Threat	ENV	10/08/13	TIME	Linear	2=Low (10%)	4 =High		Low	AVOID	Avoid archeological resources, or provide testing as required.	Environmental to report any archeological resources identified.			Environmental		12/01/15
5	0512000194-05	As a result of adjacent residential parcels with historic period resources in the APE, additional studies may be required that could result in schedule delay.	Active	Threat	ENV	10/08/13	TIME	Linear	2=Low (10%)	4 =High	8	Med	AVOID	Avoid historic properties, or conduct studies if required.	Environmental to report any historic parcels in the project APE.			Environmental		12/01/15
6	0512000194-06	As a result of any change in scope of work, additional design surveys, right of way engineering, right of way and/or right of way utility work, or construction staking may be required which may delay schedule.	Active	Threat	R/W	08/29/13	TIME	Linear	2=Low (10%)	3 =Med		Low	ACCEPT	Design and R/W to work closely to minimize any delays resulting from a change in r/w requirements.	Design to notify R/W and PDT of any additional R/W requirements.			Right of Way		12/01/15
7	0512000194-07	As a result of retaining wall requirements for soil nails/anchor blocks, temporary and permanent construction easements may be required on properties adjacent to the retaining wall.	Active	Threat	R/W	06/03/15	TIME	Linear	3=Med (39%)	3 =Med			ACCEPT	Design to determine right of way requirements as soon as possible	Design to notify R/W and PDT of any additional R/W requirements.			Design		12/01/15