Appendix 24B

2010 Initial Site Assessment

03 - Sac - 160 – PM 25.1-31.9
Program Code: 20.10.400
03-2F160
February 2011

PROJECT STUDY REPORT

FACILITATION FOR WATER INTAKE FACILITIES

On Route Sac 160 between Hood and Clarksburg

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

Brenda Schimpf

BRENDA SCHIMPF
CHIEF, NORTH REGION RIGHT OF WAY

APPROVAL RECOMMENDED: Sukhwinder Bajwa

SUKHWINDER BAJWA
PROJECT MANAGER, PE, PMP

APPROVED: Jody Jones 3/29/2011

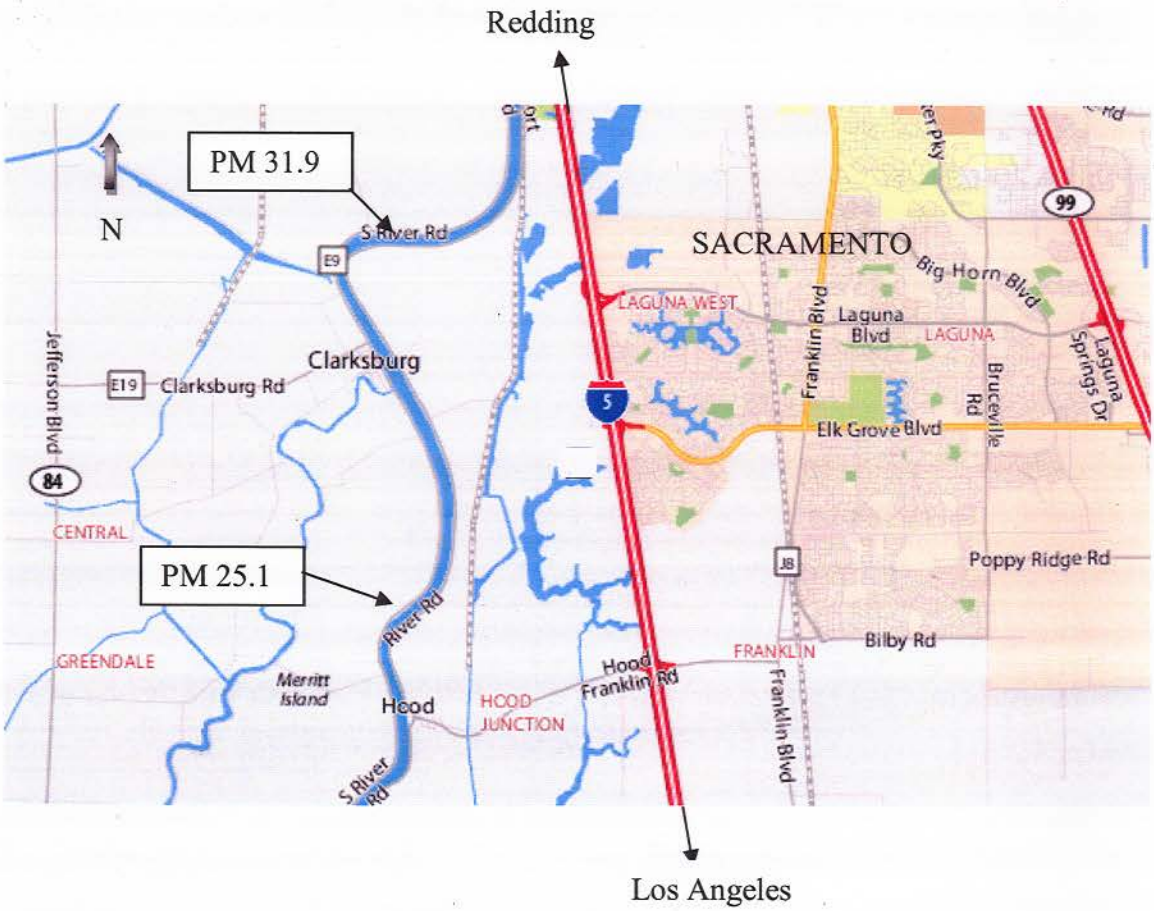
JODY JONES
DISTRICT DIRECTOR

DATE

03 - Sac - 160 – PM 25.1-31.9
Program Code: 20.10.400
03-2F160
November 2010

Vicinity Map

**IN AND NEAR SACRAMENTO COUNTY
ON ROUTE 160 FROM LAMBERT ROAD
TO 1.0 MILE OF FREEPORT BRIDGE**



This Project Study Report has been prepared under the direction of the following Registered 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 *DATE*

Table of Contents

Table of Contents

1. INTRODUCTION **1**
2. BACKGROUND **1**
2.1 Project History 1
2.2 Existing Facility 2
3. PURPOSE AND NEED **3**
3.1 Purpose 3
3.2 Need 3
4. DEFICIENCIES **3**
4.1 Problems, Deficiencies, Justification 3
4.2 Safety 3
5. CORRIDOR AND SYSTEM COORDINATION **4**
6. ALTERNATIVES **4**
6.1.1 Alternative 1 4
6.1.2 Alternative 2 5
6.2 Rejected Alternative 5
6.3 No Build Alternative 5
6.4 Analysis of Proposal 6
7. COMMUNITY INVOLVEMENT **6**
8. ENVIRONMENTAL DETERMINATION/DOCUMENTATION **6**
8.1 Hazardous Waste 6
8.2 Environmental 6
9. FUNDING **7**
9.1 Capitol Cost 7
9.2 Capitol Support Estimate for the Programmable Alternative in the 20xx STIP 8
10. SCHEDULE **8**
11. DISTRICT CONTACT **9**
12. PROJECT REVIEWS **10**
13. ATTACHMENTS **10**

1. INTRODUCTION

This project proposes to realign State Route 160 (SR 160) at four locations to facilitate the Department of Water Resources (DWR) Delta Habitat Conservation and Conveyance Program (DHCCP). The four locations effected are located at the following post miles: Location 1 (PM 31.9), Location 2 (PM 29.5), Location 3 (PM 26.8), and Location 4 (PM 25.1). At each location, SR 160 will be realigned and improved to Highway Design Standards. The improvements will consist of placing a full intersection to allow access to the new facilities, standard lane widths, super elevations and transitions, as well as standard shoulders.

This Study is funded by DWR thru DHCCP. The total DHCCP project cost is estimated to be $16.3 billion. The total Roadway Capital Construction cost is estimated to be $65 to $95 million, with Right of Way estimated to be approximately $20 to $30 million. It will be determined at a later date whom will be taking on the subsequent phases of project development. Construction is scheduled to begin in spring 2017.

2. BACKGROUND

2.1 Project History

The DHCCP was formed in 2008 as a result of Governor Schwarzenegger's call for studies to assess potential habitat restoration and water conveyance options in the Delta.

The DHCCP will evaluate the habitat restoration and water conveyance alternatives identified by the Bay Delta Conservation Plan (BDCP). The lead agencies conducting the environmental review are DWR for California, the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service for the federal government. The DHCCP will advance the preferred alternative for water conveyance facilities and habitat restoration. The proposed conveyance facilities will divert water from the northern Delta.

North Delta intakes will divert water from multiple locations and direct water from the Sacramento River into a conveyance system. A variety of intake locations, sizes, and technologies have been evaluated. The key outcomes of concept planning and development to this date comprise the following:

- Five individual 3,000 cfs intakes

- In-river and/or on-bank intake technologies

Based upon the current recommendations for intake locations, intakes will be placed between the towns of Freeport and Courtland. Realignment of SR 160 at the four locations will be required to facilitate the construction of intake facilities, and to accommodate for public and traffic after construction. The current locations were proposed based on the engineering and environmental analysis completed to-date at the conceptual level. DWR plans to perform more detailed hydraulic and environmental analysis in order to refine the proposed intake locations. Any changes to the intake locations and SR 160 realignment will be addressed during the project report phase.

2.2 Existing Facility

SR 160 is a south-north rural highway that extends in District 3, from the Contra Costa /Sacramento County line near Antioch to SR 51 in the City of Sacramento. Much of the route is designated as a scenic highway that follows the Sacramento River from Sherman Island to near Freeport. SR 160 serves agricultural traffic, daily commuter traffic, and recreational traffic between Sacramento and the Bay Area.

SR 160 within the limits of this study is a two-lane undivided conventional highway with two 12 foot lanes. Posted speed limit is 55 mph and alignment is somewhat windy with radius curves as small as 640 ft. Shoulder width varies from zero to two feet. SR 160 lies on top of the Sacramento River levee within the limits of this study.

Table 1 shows traffic volumes provided by Traffic Census Unit. Average Annual Daily Traffic (AADT) volumes (for both directions of travel) are shown for each location and year indicated.

Table 1
Mainline Volumes

Location	Post Mile	AADT		
		2007	2008	2009
River Rd	21.10	2,550	2,150	2,150
Hood-Franklin Rd.	26.25	1,350	1,350	1,350
	AADT-PeMS ML Census Sta #33120			
Location	Post Mile	2007	2008	2009
Hood-Franklin Rd.	26.25	2,325	2,400	No Data

PeMS - There were no capacity-exceeding segments.

Table 2 shows the current accident rates from the Traffic Accident Surveillance and Analysis System (TASAS) report from July 1, 2006 through June 30, 2009.

Table 2
Accident Rate Summary

Direction	Location (limits)	Actual Accident Rate (acc/mvm)			Average Accident Rate (acc/mvm)		
		Fatal	F+I	Total	Fatal	F+I	Total
Both	C. Costa/ Sac Co Line to Arden Way	0.046	0.55	1.20	0.027	0.46	1.13

The northbound direction experienced 16 collisions (62%) and the southbound direction experienced 10 collisions (38%) for a total of 26 collisions. One fatality occurred. This section of SR 160 experienced a slightly higher accident rate in all of the categories, when compared to the statewide averages for similar facilities. Thirty one percent of the accidents in both directions were hit object type collisions, 27% were broadside, and 23% were overturns.

3. PURPOSE AND NEED

3.1 Need

The project is necessary in order for DWR to place intake facilities on the Sacramento River.

3.2 Purpose

The project proposes to realign SR 160 at the proposed locations to meet Highway Design Standards and provide safe access to the intake facilities.

4. DEFICIENCIES

4.1 Problems, Deficiencies, Justification

The purpose of this project is to accommodate DWR's future Water Intakes at each of the four locations and to bring each location up to design standards. With the new DWR intake facilities to be located on the Sacramento River, it will require a full intersection at each location to provide DWR safe access to operate and maintain each facility. This portion of SR 160 currently operates at a level of service (LOS) D and is expected to decline to LOS E by the year 2027.

4.2 Safety

Over the period from July 2006 through June 2009, TASAS reports the northbound direction experienced 16 collisions (62%) and the southbound direction experienced 10 collisions (38%) for a total of 26 with one fatality occurred. This section of SR 160 experienced a slightly higher accident rate in all of the categories, when compared to the statewide averages for similar facilities.

Of all the accidents in both directions, 31% were hit object type collisions, 27% were broadside, and 23% were overturns.

This project would construct the necessary driveways to the four intake facilities along SR 160, where no driveways or intersections existed previously. Standardized intersections with good sight distance will be necessary to provide safe access.

5. CORRIDOR AND SYSTEM COORDINATION

Due to limited availability of other direct routes along the Sacramento River corridor, all type of traffics including agricultural, goods movement, recreation, and the ever increasing commuter traffic have to use this segment.

Planned improvements to the facility include a focus on upgrading the facility to current design standards with special emphasis on the bridge structures and roadbed structural section.

6. ALTERNATIVES

6.1.1 Alternative 1 – Realign SR 160 and construct an intersection at each of the four locations.

This alternative proposes to offset the existing SR 160 at each location by 200 ft in order to accommodate the DWR Intake facility. A cross intersection will be constructed at each of the four locations. Depending on which intake facility is used at each location, existing roadway may or may not be removed once realignment is completed and the 200 ft offset will require adjustment. If the new alignment is required to be a levee, USACE design standards require that levees will have a 2:1 embankment, the riverside of the intersection will have a bridge structure to allow access to the new facility, and rock slope protection will be placed to protect the embankment at a minimum. Coordination between DWR and Caltrans will be needed to determine actual embankment treatment, i.e. slurry wall, at the PR stage. For the PSR estimating purposes, a bridge structure and rock slope protection has been included. Existing levee may or may not be used as borrow, depending on many factors which include: will existing remain, how the project is staged, is existing material suitable for new levee. For estimating purposes it is assumed that imported borrow will be used. Left turn and acceleration lanes will be provided to allow safe access to each facility. Shoulder widths will be widened to 8ft and embankments will be placed at 4:1. Feasibility of all assumptions will need to be re-evaluated in the Project Report phase. In order to both minimize impact to the area and maintain safety, 1000 ft horizontal curves with a design speed of 65 mph will be used to bring proposed alignment back to the existing alignment.

Construction cost estimate of this alternative is $99 million.

6.1.2 Alternative 2 - Realign SR 160 and place a T-intersection at each of the four locations.

This alternative proposes to offset the existing SR 160 at each location by 100 ft to accommodate the DWR Intake facility. A T-intersection will be constructed at each of the four locations. Left turn and acceleration lanes will be provided to allow safe access to each facility. Shoulder widths will be widened to 8ft. Depending on which intake facility is used at each location, existing roadway may or may not be removed once realignment is completed. If the new alignment is required to be a levee, USACE design standards require that levees have a 2:1 embankment and riverside embankment will have rock slope protection. Existing levee may or may not be used as borrow, depending on many factors which include: will existing remain, how the project is staged, is existing material suitable for new levee. For estimating purposes it is assumed that imported borrow will be used. Coordination between DWR and Caltrans will be needed to determine actual embankment treatment, i.e. slurry wall, at the PR stage. For PSR estimating purposes, rock slope protection has been included. Feasibility of placement of a 4:1 embankment will need to be re-evaluated in the Project Report phase, but for estimating purposes assumption will be made that it is feasible. In order to both minimize impact to the area and maintain safety, 1000 ft horizontal curves with a design speed of 65mph will be used to bring proposed alignment back to the existing alignment.

Construction cost estimate of Alternative 2 is $65 million.

6.2 Rejected Alternative – Replace SR 160 at each location with a bridge structure.

This alternative proposes to place a bridge structure at each location to avoid or minimize realignment of SR 160. During construction of the bridge structure, detour roads would need to be constructed.

This alternative would not minimize impact enough to justify the complexity of staging and the much higher cost involved with a bridge structure.

Construction cost estimate of rejected alternative is $ 125 million.

6.3 No Build Alternative

This alternative does not include any improvements and does not allow for DWR to place the new intake facilities at each location.

6.4 Analysis of Proposal

It is anticipated that DWR will be required to access the water intake facility daily. With dedicated turn lanes and acceleration lanes, Alternative 1 will allow DWR to safely access each of the facilities and minimize intersection related collisions.

7. COMMUNITY INVOLVEMENT

Numerous public information meetings will be held after the PSR is completed. DWR will take the lead on any public meetings required. DWR currently has a website (http://baydeltaconservationplan.com/) dedicated to keeping the public up to date with the overall process of the project.

8. ENVIRONMENTAL DETERMINATION/DOCUMENTATION

8.1 Hazardous Waste

According to an Initial Site Assessment done on October 26, 2010, there is potential for hazardous waste within the project limits. Lead-contaminated soil may be present in the area due to the historical use of lead gasoline, fuels, etc... Aerial Deposited Lead investigation will need to be performed. With the removal of yellow and white striping, there is a potential for hazardous levels of chromium and will need to be disposed of in accordance with Standard Special Provisions 15-305 (Residue Containing High Lead Concentration Paints), which also requires a Lead Compliance Plan. With the removal and replacement of Metal Beam Guard Rail, the existing wood posts are known to have hazardous chemicals and will need to be disposed of in accordance with Standard Special Provision 14-010 (Treated Wood Waste). A Hazardous Materials Disclosure Document (HMDD) will be required for attachment to the Certificate of Sufficiency (COS) before any new Right of Way can be acquired.

8.2 Environmental

DWR and the U.S. Bureau of Reclamation (Bureau) are the lead agencies for the proposed DHCCP project, and are using both state and federal funds for the preliminary engineering and environmental studies. DWR is therefore the Lead Agency for compliance with the California Environmental Quality Act (CEQA) and other state laws and regulations for the proposed project. Since non-transportation federal funds under the jurisdiction of the Bureau are also being used for the engineering and environmental studies, the Bureau is the federal Lead Agency for compliance with the National Environmental Policy Act (NEPA) and related federal laws. The DWR and Bureau are preparing a full range of environmental technical analyses and reports, plus a combined Draft Environmental Impact Report / Draft Environmental Impact Statement

(DEIR/DEIS) document, leading to a Final EIR/EIS and Record of Decision (ROD) for the proposed project. Any required permits, including those associated with relocation of SR 160 to accommodate the water intake pumping stations, would be the responsibility of DWR and the Bureau. DWR and the Bureau have established a schedule for preparation, review and approval of the environmental technical reports and draft and final EIR/EIS documents.

Caltrans is the owner-operator of the State Highway System, and has statutory obligations associated with this stewardship role. In this case, SR 160 would be affected by the DHCCP project at four locations along the Sacramento River that are proposed for intake pumping stations and one location where a proposed water pipeline would intersect SR 160. Caltrans will therefore perform the role of a Responsible Agency under CEQA for this project. Since no federal funds under the jurisdiction of the Federal Highway Administration are being used, Caltrans will serve no role in providing technical support or compliance with NEPA on this project. However, Caltrans may elect to review and comment on the Bureau's NEPA portion of the combined environmental document as it pertains to the project's potential impacts to SR 160.

As a CEQA Responsible Agency, Caltrans will participate in DWR's CEQA process and consider the environmental effects of the project shown in the FEIR certified by DWR in making subsequent decisions for those activities involved in the project that Caltrans is required by law to carry out or approve. These duties will include providing timely reviews and comments to DWR on the administrative draft and final environmental technical reports and documents as they pertain to the affected locations on SR 160. Caltrans will assign an Environmental Coordinator and technical specialists to this project to provide this level of review and oversight. Caltrans will also inform and provide relevant documents to the California Transportation Commission as required for this project. Caltrans staff will attend periodic project team meetings as needed, and be available for public workshops and focused meetings with stakeholder groups on issues related to the project's potential impacts to SR 160.

9. FUNDING

9.1. CAPITAL COST ESTIMATE

The DHCCP program is proposed to be funded by DWR and U.S Bureau of Reclamation. An interagency agreement has been executed with DWR to prepare the PSR. The interagency agreement will be amended, or a new one will be prepared if Caltrans be involved for subsequent phases in the process.

9.2 Support Cost Estimate for the Programmable Alternative

	PA&ED 0 Phase	Design 1 Phase	Right of Way 2 Phase	Construction 3 Phase	Total
Total $'s	1,100,000	4,200,000	1,200,000	10,000,000	16,500,000

Support Cost estimate is not to be used for budgeting purposes.
Intent for Right of Way to be handled by DWR.

10. SCHEDULE

HQ Milestones	Delivery Date (Month, Day, Year)
Begin Environmental	03/01/2008
Circulate DED	01/15/2012
PA & ED	01/15/2013
Regular Right of Way	01/15/2014
Project PS&E	10/15/2015
Right of Way Certification	01/15/2016
Ready to List	01/15/2016
Approve Contract	06/01/2016
Contract Acceptance	01/15/2020
End Project	01/15/2022

11. DISTRICT CONTACT

Sukhwinder Bajwa **Project Manager**	**530-741-4432**
Praba Pirabarooban **DWR, Div of Engineering**	**916-653-6396**
David Simmons, P.E. **Design Engineer**	**530-741-4529**
Oscar Vasquez, P.E. **Senior Design Engineer**	**530-741-4523**
John Webb **Environmental Manager**	**530-741-4393**
Gurdeep Bhattal, P.E. **Hydraulics**	**530-740-4830**
Kenneth Murray **Landscape Associate**	**530-741-4436**
Laurie Lammert **TMP Manager**	**530-741-4129**
Jennifer Lowden **Senior Right of Way Agent**	**530-741-5139**
Mike Auslam **Traffic Operations**	**916-859-7957**
Sadie Smith **Transportation Planning**	**916-741-4004**

12. PROJECT REVIEWS

Field Review	David Simmons/ Oscar Vasquez	Date	Sep 10
Maintenance	Cliff Bollong	Date	Jan 11
Safety Review	Jim Calkins	Date	Jan 11
Constructability Review	Ann Murphy	Date	Jan 11
HQ Design Coordinator	Heidi Sykes	Date	Jan 11

13. ATTACHMENTS

A. Title Sheet and Typical Cross Section
B. Layout Plans
C. Preliminary Project Cost Estimate Summary
D. Right of Way Data Sheet
E. Initial Site Assessment
F. Traffic Report
G. Traffic Data & Designation
H. Traffic Data Sheet and Transportation Management Plan
I. Preliminary Hydraulics Recommendation
J. Materials Recommendation
K. Landscape Architecture Assessment Sheet and Visual Impact Assessment
L. Programming Sheet/Resources assigned to project

PROJECT STUDY REPORT COST ESTIMATE

District-County-Route 03-Sac-160

PM 24.2/31.9

EA 2F160

Program Code 20.10.400

PROJECT DESCRIPTION:

Limits In 4 locations Sacramento County on Route 160 between Clarksburg and Hood

Proposed Improvement (Scope) Realignment of Route 160 to accommodate Dept. of Water Resources Water Intake Facilities and placement of cross intersections.

Alternate 1

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$ 89,963,784
TOTAL STRUCTURE ITEMS	$ 4,531,200
SUBTOTAL CONSTRUCTION COSTS	$ 94,494,984
TOTAL RIGHT OF WAY ITEMS	$ 30,000,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$ 124,494,984

Reviewed by District Program Manager _____
(Signature)

Approved by Project Manager _____ Date _____
(Signature)

Phone No. _____

PROJECT STUDY REPORT COST ESTIMATE

District-County-Route 03-Sac-160

PM 24.2/31.9

EA 2F160

Program Code 20.10.400

PROJECT DESCRIPTION:

Limits In 4 locations Sacramento County on Route 160 between Clarksburg and Hood

Proposed Improvement (Scope) Realignment of Route 160 to facilitate for Dept. of Water Resources Water Intake Facilities and placement of a T-intersection.

Alternate 2

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$ 66,633,811
TOTAL STRUCTURE ITEMS	$
SUBTOTAL CONSTRUCTION COSTS	$ 66,633,811
TOTAL RIGHT OF WAY ITEMS	$ 30,000,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$ 96,633,811

Reviewed by District Program Manager _____
(Signature)

Approved by Project Manager _____ Date _____
(Signature)

Phone No. _____

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT A

Title Sheet and Typical Cross Section

INDEX OF PLANS

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN AND NEAR SACRAMENTO COUNTY ON ROUTE 160 FROM LAMBERT ROAD TO 1.0 MILE OF FREEPORT BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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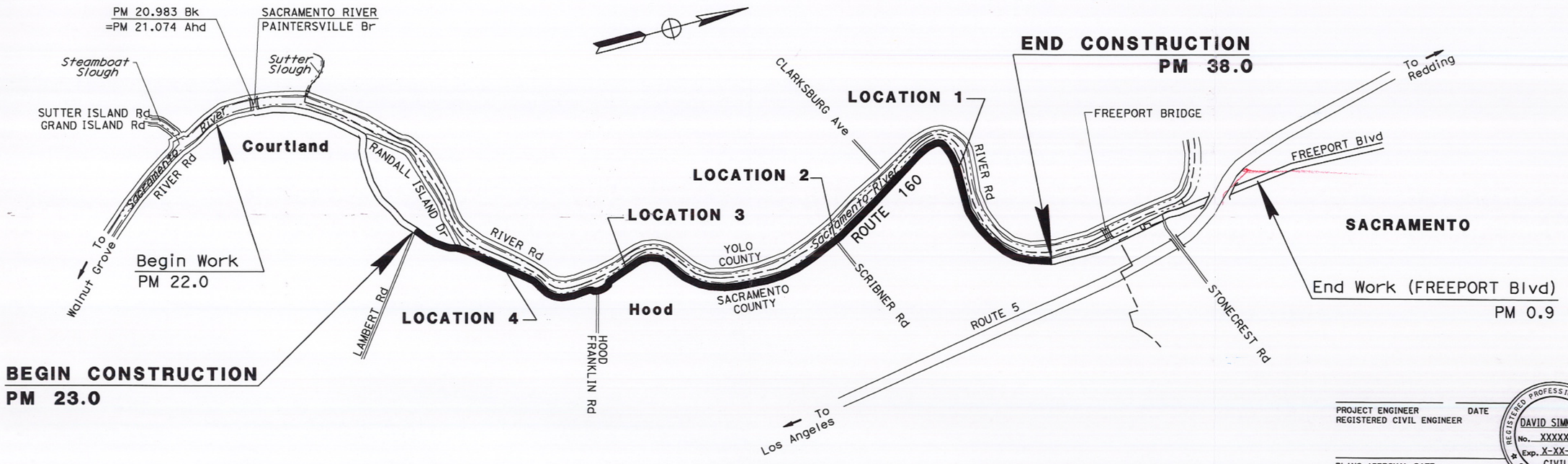

NO SCALE

PROJECT MANAGER: W. BAJWA

DESIGN ENGINEER: D.SIMMONS

PROJECT ENGINEER — DATE
REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
DAVID SIMMONS
No. XXXXXXX
Exp. X-XX-XX
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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

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

CONTRACT No.	03-2F160
PROJECT ID	0000000000

DATE PLOTTED => 26-JAN-2011
TIME PLOTTED => 09:49
LAST REVISION 00-00-00

LEGEND
RHMA- RUBBERIZED HOT MIX ASPHALT
OGAC-OPEN GRADED ASPHALT CONCRETE
HMA-HOT MIX ASPHALT
AB-AGGREGATE BASE
AC-ASPHALT CONCRETE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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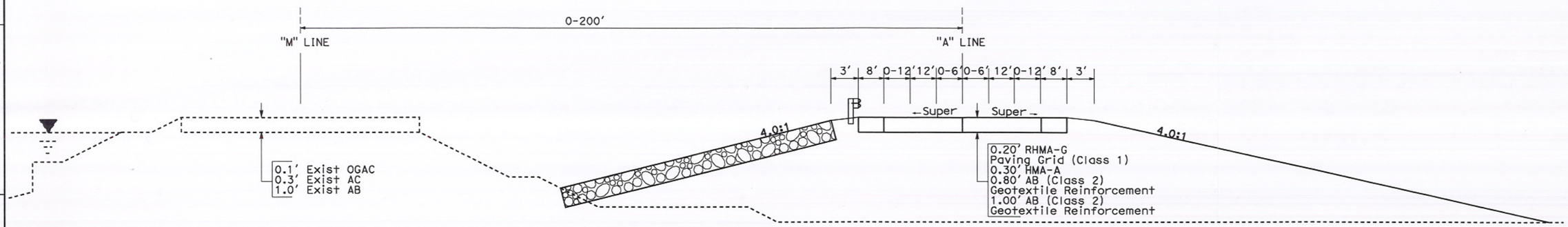

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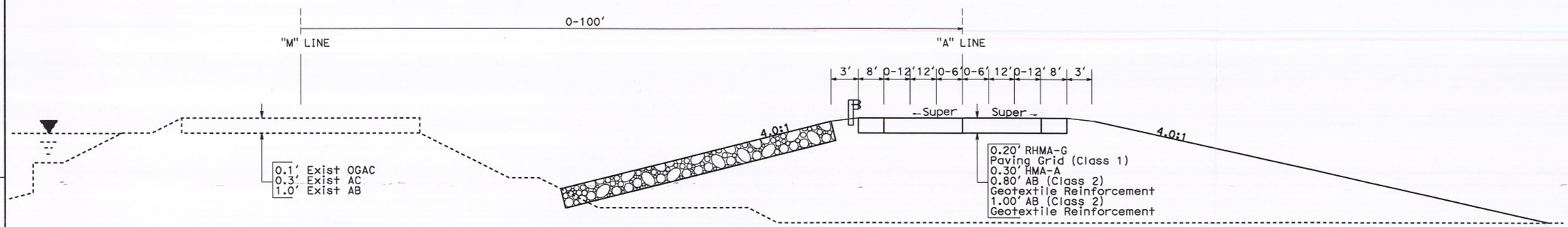

ALTERNATIVE 2

TYPICAL CROSS SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
PROJECT DEVELOPMENT
FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ
CALCULATED-DESIGNED BY: DAVID SIMMONS
CHECKED BY
REVISED BY
DATE REVISED
LAST REVISION
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TIME PLOTTED => 13:45

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UNIT 0333
PROJECT NUMBER & PHASE XXXXXXXXXXX

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT B

Layout Plans

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN

LOCATION 4 LAYOUT

SCALE 1"=50'

L-01

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ

CALCULATED-DESIGNED BY: DAVID SIMMONS

CHECKED BY

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 19-NOV-2010 | TIME PLOTTED => 12:50

BORDER LAST REVISED 7/2/2010

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UNIT 0333

PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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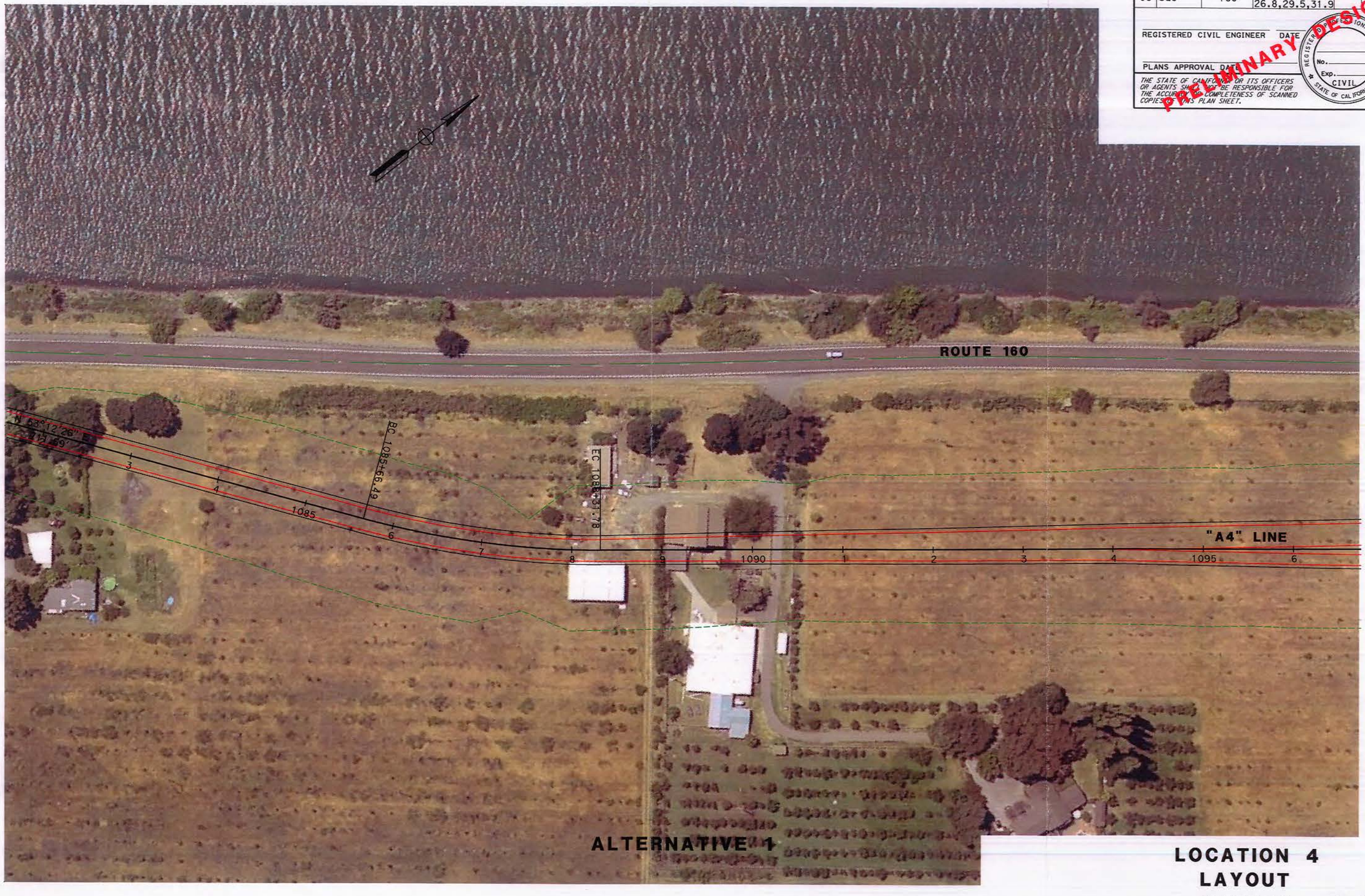
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN



LOCATION 4 LAYOUT

SCALE 1"=50'

L-02

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ

CALCULATED-DESIGNED BY

CHECKED BY

DAVID SIMMONS

REVISED BY

DATE REVISED

LAST REVISION

DATE PLOTTED => 19-NOV-2010
TIME PLOTTED => 12:50

BORDER LAST REVISED 7/2/2010

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UNIT 0333

PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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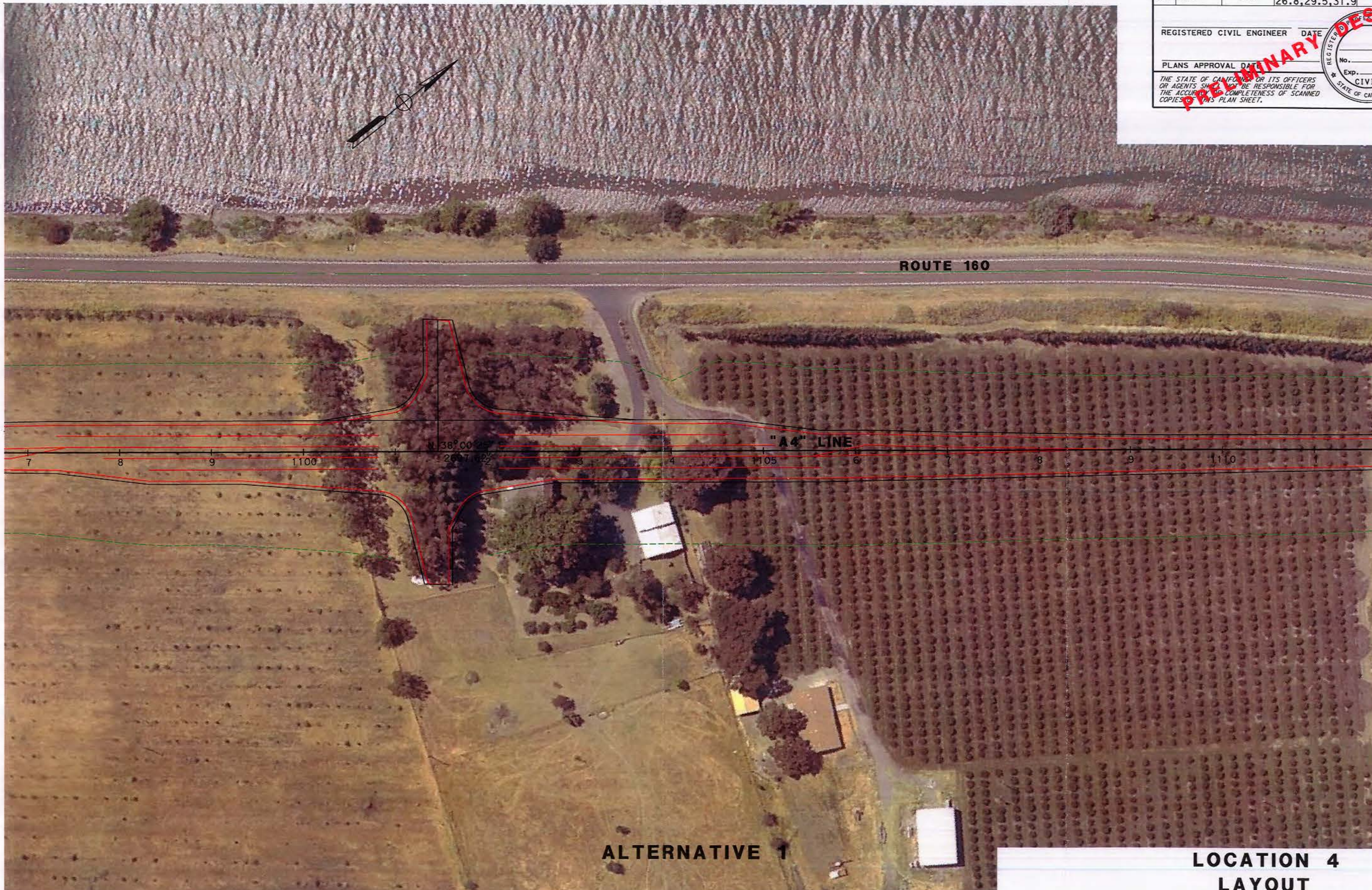
PRELIMINARY DESIGN



LOCATION 4 LAYOUT

SCALE 1"=50'

L-03

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ

CALCULATED-DESIGNED BY: DAVID SIMMONS

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION

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UNIT 0333

PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

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.

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN

LOCATION 4
LAYOUT
SCALE 1"=50'

L-04

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY	DATE REVISED
Caltrans PROJECT DEVELOPMENT	OSCAR VASQUEZ	DAVID SIMMONS		
		CHECKED BY		

LAST REVISION: DATE PLOTTED => 19-NOV-2010 TIME PLOTTED => 12:50

BORDER LAST REVISED 7/2/2010 | USERNAME => s113274 DGN FILE => 0x000ea004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0333 | PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN

ALTERNATIVE 1

LOCATION 3
LAYOUT
SCALE 1"=50'

L-05

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CALCULATED-DESIGNED BY	DAVID SIMMONS	REVISED BY	
Caltrans	CHECKED BY		DATE REVISED	
PROJECT DEVELOPMENT	FUNCTIONAL SUPERVISOR	OSCAR VASQUEZ		

LAST REVISION DATE PLOTTED => 19-NOV-2010 TIME PLOTTED => 12:50

BORDER LAST REVISED 7/2/2010 | USERNAME => s113274 DGN FILE => 0x000ea005.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0333 | PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

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.

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN

CALCULATED-DESIGNED BY

CHECKED BY

DAVID SIMMONS

REVISED BY

DATE REVISED

FUNCTIONAL SUPERVISOR

OSCAR VASQUEZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

PROJECT DEVELOPMENT

LOCATION 3
LAYOUT

SCALE 1"=50'

L-06

LAST REVISION

DATE PLOTTED => 19-NOV-2010
TIME PLOTTED => 12:50

BORDER LAST REVISED 7/2/2010

USERNAME => s113274
DGN FILE => 0x000ea006.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0333

PROJECT NUMBER & PHASE XXXXXXXXXXXX

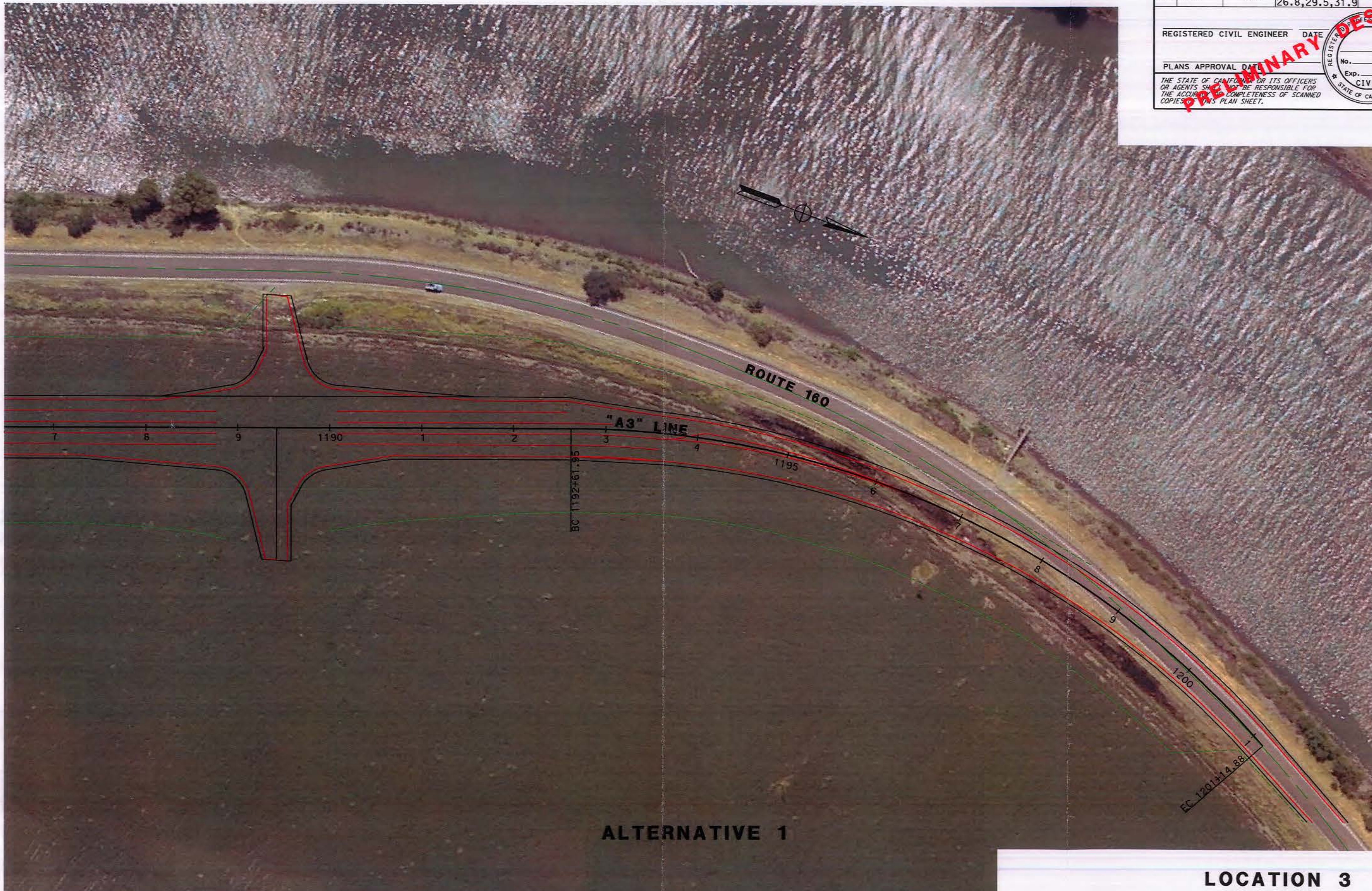
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

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.

PRELIMINARY DESIGN



ALTERNATIVE 1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ

CALCULATED-DESIGNED BY: DAVID SIMMONS

CHECKED BY

REVISED BY

DATE REVISED

LOCATION 3 LAYOUT

SCALE 1"=50'

L-07

DATE PLOTTED => 19-NOV-2010
TIME PLOTTED => 12:51

LAST REVISION

BORDER LAST REVISED 7/2/2010

USERNAME => s113274
DGN FILE => 0x000ea007.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0333

PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

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.

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

PRELIMINARY DESIGN

LOCATION 2 LAYOUT

SCALE 1"=50'

L-08

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: DAVID SIMMONS

CHECKED BY:

STATE OF CALIFORNIA -- DEPARTMENT OF TRANSPORTATION

PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ

LAST REVISION: DATE PLOTTED => 19-NOV-2010 TIME PLOTTED => 12:51

BORDER LAST REVISED 7/2/2010

USERNAME => s113274
DGN FILE => 0x000ea008.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0333

PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

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.

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN

LOCATION 2
LAYOUT
SCALE 1"=50'

L-09

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ
CALCULATED-DESIGNED BY: DAVID SIMMONS
CHECKED BY:

REVISED BY	DATE REVISED

LAST REVISION
DATE PLOTTED => 19-NOV-2010
TIME PLOTTED => 12:51

BORDER LAST REVISED 7/2/2010
USERNAME => s113274
DGN FILE => 0x000ed009.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0333
PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

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.

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN

ALTERNATIVE 1

LOCATION 2
LAYOUT
SCALE 1"=50'

L-10

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ

CALCULATED-DESIGNED BY

CHECKED BY

DAVID SIMMONS

REVISED BY

DATE REVISED

LAST REVISION

DATE PLOTTED => 19-NOV-2010
TIME PLOTTED => 12:51

BORDER LAST REVISED 7/2/2010

USERNAME => s113274
DGN FILE => 0x000ea010.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0333

PROJECT NUMBER & PHASE XXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

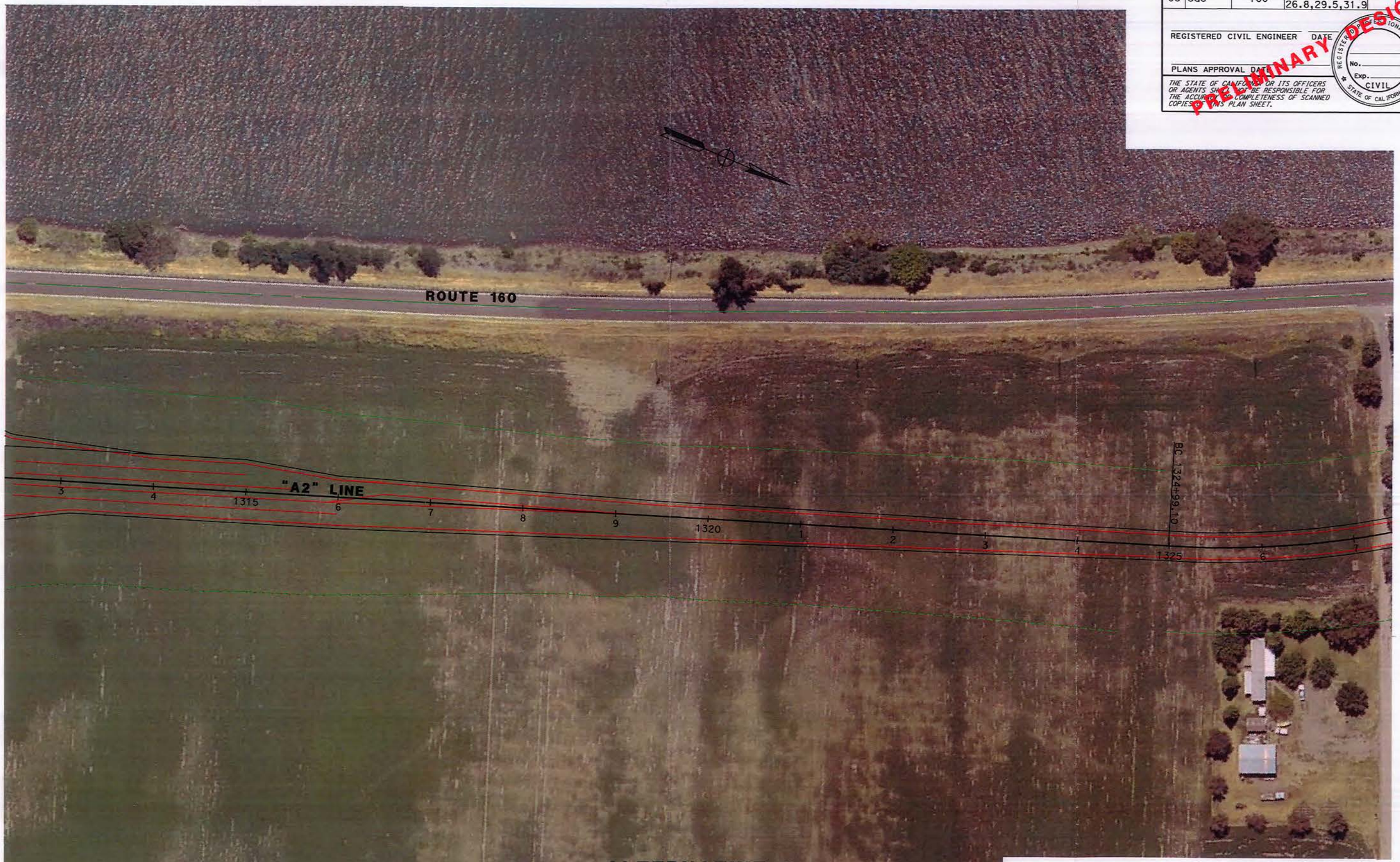
REGISTERED CIVIL ENGINEER DATE

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.

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN



ALTERNATIVE 1

LOCATION 2
LAYOUT

SCALE 1"=50'

L-11

CALCULATED-DESIGNED BY			
CHECKED BY			
DAVID SIMMONS	REVISED BY		
	DATE REVISED		
FUNCTIONAL SUPERVISOR	OSCAR VASQUEZ		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

LAST REVISION DATE PLOTTED => 19-NOV-2010 TIME PLOTTED => 12:51

BORDER LAST REVISED 7/2/2010 | USERNAME => s113274 DGN FILE => 0x000ea011.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0333 | PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN

ALTERNATIVE 1

LOCATION 2
LAYOUT

SCALE 1"=50'

L-12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ

CALCULATED-DESIGNED BY: DAVID SIMMONS

CHECKED BY

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 19-NOV-2010 | TIME PLOTTED => 12:51

BORDER LAST REVISED 7/2/2010

USERNAME => s113274
DGN FILE => 0x000ea012.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0333

PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

PRELIMINARY DESIGN

LOCATION 1 LAYOUT

SCALE 1"=50'

L-13

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: DAVID SIMMONS

CHECKED BY:

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans PROJECT DEVELOPMENT

LAST REVISION — DATE PLOTTED => 19-NOV-2010 TIME PLOTTED => 12:51

BORDER LAST REVISED 7/2/2010

USERNAME => s113274
DGN FILE => 0x000ea013.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0333

PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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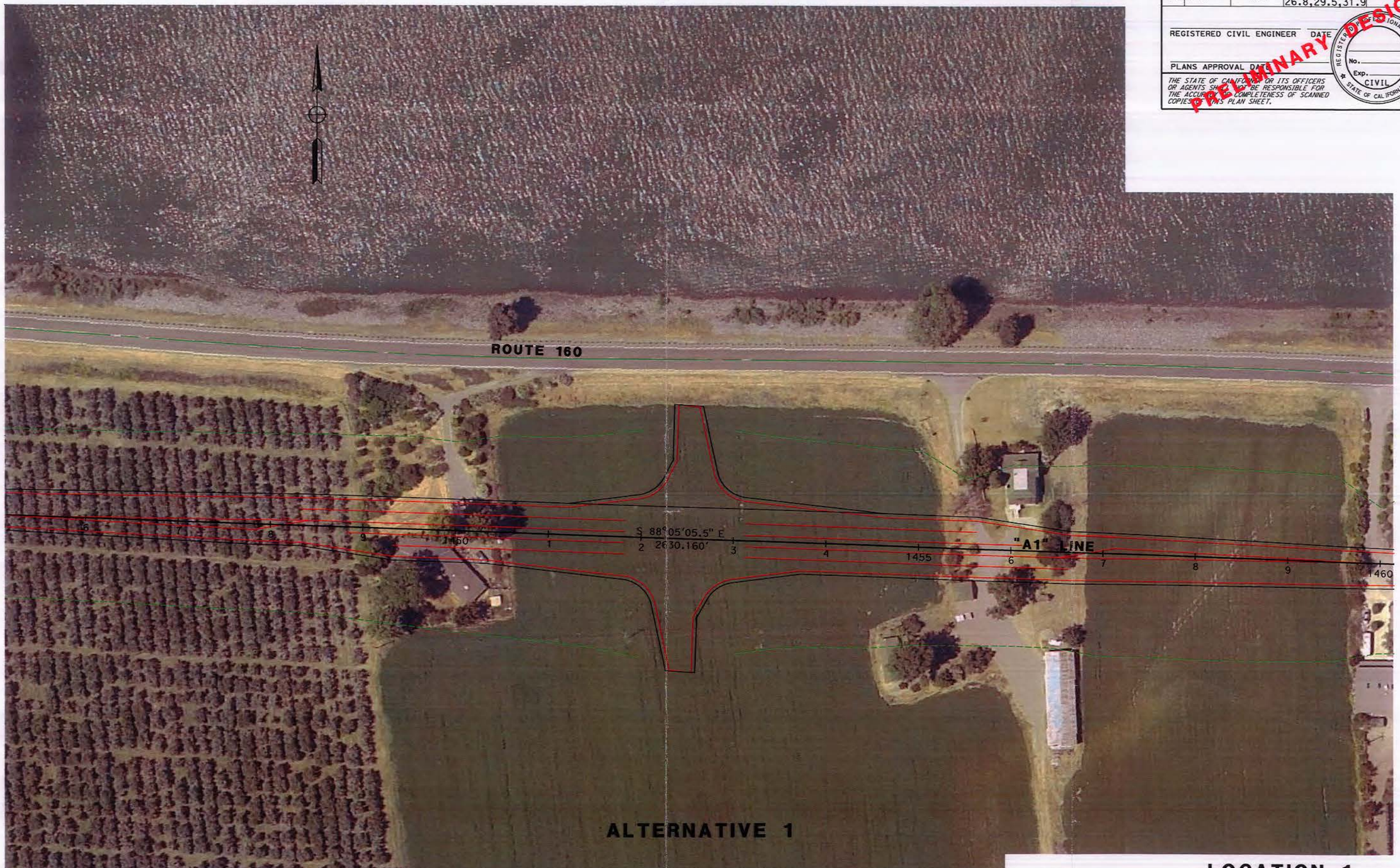
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN



ALTERNATIVE 1

LOCATION 1
LAYOUT
SCALE 1"=50'

L-14

CALCULATED-DESIGNED BY	DAVID SIMMONS	REVISED BY	
CHECKED BY		DATE REVISED	
FUNCTIONAL SUPERVISOR	OSCAR VASQUEZ		
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	PROJECT DEVELOPMENT		

LAST REVISION DATE PLOTTED => 19-NOV-2010 TIME PLOTTED => 12:52

BORDER LAST REVISED 7/2/2010 | USERNAME => s113274 DGN FILE => 0x000ea014.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0333 | PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN

LOCATION 1
LAYOUT

SCALE 1"=50'

L-15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: OSCAR VASQUEZ

CALCULATED-DESIGNED BY: DAVID SIMMONS

CHECKED BY

REVISED BY	DATE REVISED

LAST REVISION: DATE PLOTTED => 19-NOV-2010
TIME PLOTTED => 12:52

BORDER LAST REVISED 7/2/2010

USERNAME => s113274
DGN FILE => 0x000ea015.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0333

PROJECT NUMBER & PHASE XXXXXXXXXXXX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	PM 24.2,25.1, 26.8,29.5,31.9		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

PRELIMINARY DESIGN

LOCATION 1
LAYOUT
SCALE 1"=50'

L-16

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	DAVID SIMMONS	REVISED BY
Caltrans PROJECT DEVELOPMENT	OSCAR VASQUEZ	CHECKED BY		DATE REVISED

LAST REVISION DATE PLOTTED => 19-NOV-2010 TIME PLOTTED => 12:52

BORDER LAST REVISED 7/2/2010 | USERNAME => s113274 DGN FILE => 0x000ea016.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0333 | PROJECT NUMBER & PHASE XXXXXXXXXXXX

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT C

Preliminary Project Cost Estimate

PROJECT STUDY REPORT COST ESTIMATE

District-County-Route 03-Sac-160

PM 24.2/31.9

EA 2F160

Program Code 20.10.400

PROJECT DESCRIPTION:

Limits In 4 locations Sacramento County on Route 160 between Clarksburg and Hood

Proposed Improvement (Scope) Realignment of Route 160 to accommodate Dept. of Water Resources Water Intake Facilities and placement of cross intersections.

Alternate 1

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$ 89,963,784
TOTAL STRUCTURE ITEMS	$ 4,531,200
SUBTOTAL CONSTRUCTION COSTS	$ 94,494,984
TOTAL RIGHT OF WAY ITEMS	$ 30,000,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$ 124,494,984

Reviewed by District Program Manager _____
(Signature)

Approved by Project Manager _____ Date _____
(Signature)

Phone No. _____

ALTERNATIVE 1 COST ESTIMATE

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost	Section Cost
Roadway Excavation	7,251	CY	$50	$362,567	
Imported Borrow	1,148,578	CY	$37	$42,497,398	
Clearing & Grubbing	1	LS	$1,800,000	$1,800,000	
				Subtotal Earthwork	$44,659,965

Section 2 Pavement Structural	Quantity	Unit	Unit Price	Item Cost	Section Cost
RHMA	15,104	ton	$92	$1,389,568	
HMA	22,654	ton	$56	$1,268,624	
Aggregate Base	67,971	CY	$23	$1,563,333	
Paving Grid (Class 1)	69,341	sqyd	$10.00	$693,413	
Geotextile Reinforcement	138,683	sqyd	$3.00	$416,048	
				Subtotal Pavement Structural	$5,330,985

Section 3 Drainage	Quantity	Unit	Unit Price	Item Cost	Section Cost
Project Drainage	1	LS	$5,000	$5,000	
				Subtotal Drainage	$5,000

Section 4 Specialty Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Barriers and Guardrails	1	LS	$1,170,000	$1,170,000	
Remove MBGR	1	LS	$295,000	$295,000	
Water Pollution Control	1	LS	$2,172,500	$2,172,500	
Hazardous Waste Investigation	1	LS	$2,000	$2,000	
Resident Engineer Office Space	1	LS	$180,000	$180,000	
				Subtotal Specialty Items	$3,819,500

Section 5 Traffic Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Lighting	1	LS	$250,000	$250,000	
Count Stations	1	LS	$50,000	$50,000	
Traffic Delinieation Items	1	LS	$32,000	$32,000	
Roadside Signs	1	LS	$5,000	$5,000	
Transportation Management Plan	1	LS	$2,000	$2,000	
				Subtotal Traffic Items	$339,000

Section 6 Planting and Irrigation	Quantity	Unit	Unit Price	Item Cost	Section Cost
Mitigation Planting	1	LS	$560,000	$560,000	
				Subtotal Planting and Irrigation	$560,000

Section 7 Roadside Management	Quantity	Unit	Unit Price	Item Cost	Section Cost
Vegetation Screening	1	LS	$800,000	$800,000	
Aesthetics	1	LS	$400,000	$400,000	
Rock Slope Protection	108345.7	CY	$50	$5,417,287	
Slope Protection	1	LS	$1,180,000	$1,180,000	
Permanent Storm Water Treatment	1	LS	$400,000	$400,000	

			Subtotal Roadside Management	$8,197,287
			TOTAL SECTIONS 1 thru 7	$62,911,737
Section 8 Minor Items				
Subtotal of Sections 1-7	$62,911,737	x 10% =	$6,291,174	
			TOTAL MINOR ITEMS	$6,291,174
Section 9 Roadway Mobilization				
Subtotal of Sections 1-8	$69,202,910	x 10% =	$6,920,291	
			TOTAL ROADWAY MOBILIZATION	$6,920,291
Section 10 Roadway Additions				
Supplemental Work	$69,202,910	x 10% =	$6,920,291	
	Subtotal of Sections 1-8			
Contingencies	$69,202,910	x 10% =	$6,920,291	
	Subtotal of Sections 1-8			
			TOTAL ROADWAY ADDITIONS	$13,840,582
			TOTAL ROADWAY ITEMS	$89,963,784

Estimate Prepared by David Simmons	Phone# 530-741-4529	Date 1/24/2011
Estimate Checked by Dan Parkinson	Phone# 530-741-4529	Date 1/24/2011

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)	Structure (4)
Bridge Name	Location 1	Location 2	Location 3	Location 4
Structure Type	Bridge	Bridge	Bridge	Bridge
Width (out to out) - (ft)	130	130	130	130
Span Lengths - (ft)	110	110	110	110
Total Area - (ft^2)	7,552	7,552	7,552	7,552
Footing Type (pile/spread)	pile	pile	pile	pile
Cost Per ft^2 (incl. 10% mobilization and 20% contingency)	$150	$150	$150	$150
Cost per Structure	$1,132,800	$1,132,800	$1,132,800	$1,132,800
Total Structure Items	$4,531,200			
Comments:				

Estimate Prepared By David Simmons Phone# 530-741-4529 Date 11/1/2010

Alt 1 Total Construction Cost **$94,494,984**

PROJECT STUDY REPORT COST ESTIMATE

District-County-Route 03-Sac-160

PM 24.2/31.9

EA 2F160

Program Code 20.10.400

PROJECT DESCRIPTION:

Limits In 4 locations Sacramento County on Route 160 between Clarksburg and Hood

Proposed Improvement (Scope) Realignment of Route 160 to facilitate for Dept. of Water Resources Water Intake Facilities and placement of a T-intersection.

Alternate 2

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$ 66,633,811
TOTAL STRUCTURE ITEMS	$
SUBTOTAL CONSTRUCTION COSTS	$ 66,633,811
TOTAL RIGHT OF WAY ITEMS	$ 30,000,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$ 96,633,811

Reviewed by District Program Manager _____
(Signature)

Approved by Project Manager _____ Date _____
(Signature)

Phone No. _____

ALTERNATIVE 2 COST ESTIMATE

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost	Section Cost
Roadway Excavation	9,153	CY	$50	$457,645	
Imported Borrow	800,438	CY	$42	$33,618,409	
Clearing & Grubbing	1	LS	$1,800,000	$1,800,000	
				Subtotal Earthwork	$35,876,054

Section 2 Pavement Structural	Quantity	Unit	Unit Price	Item Cost	Section Cost
RHMA	12,780	ton	$92	$1,175,760	
HMA	19,170	ton	$56	$1,073,520	
Aggregate Base	57,524	CY	$23	$1,323,052	
Paving Grid (Class 1)	59,837	sqyd	$10.00	$598,370	
Geotextile Reinforcement	89,056	sqyd	$3.00	$267,167	
				Subtotal Pavement Structural	$4,437,869

Section 3 Drainage	Quantity	Unit	Unit Price	Item Cost	Section Cost
Project Drainage	1	LS	$5,000	$5,000	
				Subtotal Drainage	$5,000

Section 4 Specialty Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Barriers and Guardrails	1	LS	$1,009,750	$1,009,750	
Remove MBGR	1	LS	$252,000	$252,000	
Water Pollution Control	1	LS	$1,457,500	$1,457,500	
Hazardous Waste Investigation	1	LS	$2,000	$2,000	
Resident Engineer Office Space	1	LS	$180,000	$180,000	
				Subtotal Specialty Items	$2,901,250

Section 5 Traffic Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Lighting	1	LS	$250,000	$250,000	
Count Stations	1	LS	$50,000	$50,000	
Traffic Delinieation Items	1	LS	$28,000	$28,000	
Roadside Signs	1	LS	$5,000	$5,000	
Transportation Management Plan	1	LS	$2,000	$2,000	
				Subtotal Traffic Items	$335,000

Section 6 Planting and Irrigation	Quantity	Unit	Unit Price	Item Cost	Section Cost
Mitigation Planting	1	LS	$467,000	$467,000	
				Subtotal Planting and Irrigation	$467,000

Section 7 Roadside Management	Quantity	Unit	Unit Price	Item Cost	Section Cost
Vegetation Screening	1	LS	$665,000	$665,000	
Aesthetics	1	LS	$400,000	$400,000	
Rock Slope Protection	93495.34	CY	$50	$4,674,767	
Slope Protection	1	LS	$943,000	$943,000	
Permanent Storm Water Treatment	1	LS	$330,000	$330,000	
				Subtotal Roadside Management	$7,012,767

			TOTAL SECTIONS 1 thru 7	$46,597,071
Section 8 Minor Items				
Subtotal of Sections 1-7	$46,597,071	x 10% =	$4,659,707	
			TOTAL MINOR ITEMS	$4,659,707
Section 9 Roadway Mobilization				
Subtotal of Sections 1-8	$51,256,778	x 10% =	$5,125,678	
			TOTAL ROADWAY MOBILIZATION	$5,125,678
Section 10 Roadway Additions				
Supplemental Work	$51,256,778 Subtotal of Sections 1-8	x 10% =	$5,125,678	
Contingencies	$51,256,778 Subtotal of Sections 1-8	x 10% =	$5,125,678	
			TOTAL ROADWAY ADDITIONS	$10,251,356
			TOTAL ROADWAY ITEMS	$66,633,811
			ALT 2 TOTAL CONSTRUCTION COST	$66,633,811

Estimate Prepared by David Simmons	Phone# 530-741-4529	Date 1/24/2011
Estimate Checked by Dan Parkinson	Phone# 530-741-4529	Date 1/24/2011

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT D

Right of Way Data Sheet

State of California – Department of Transportation

RIGHT OF WAY SCOPING CHECKLIST

To: OSCAR VASQUEZ,
Chief, Design South
Department of Transportation, District 3

Date: November 23, 2010
EA: 2F160
Co/Rte: 03-SAC-160
PM: 24.2 – 31.9

From: North Region, Division of Right of Way

Right of Way Scoping

We have completed a "scoping estimate" of the right of way costs for the above referenced project based on "project maps" received from on November 15, 2010, and the following assumptions and limiting conditions apply:

Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the early design requirements.

The mapping did not provide sufficient detail to determine the limits of all right of way required, including utility easements. Although there are two alternatives, we studied the alternative with the greater requirements at this preliminary stage.

Right of Way to be acquired includes residential homesites, vineyards, and agricultural land.

Environmental needs are to be determined and estimated by Department of Water Resources.

1. **New Right of Way required:** ☑ Yes ☐ No
   - a. **Number of Parcels:** ☐ 1-10 ☐ 11-20 ☑ 21-50 ☐ 51-100 ☐ 100+
   - b. **Railroad Involvement:** ☐ Yes ☑ No
   - c. **Utility Relocation** ☑ Yes ☐ No
2. **Number of Alternates to be studied:** ☑ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+
3. **Housing Study Required:** ☑ Yes ☐ No
4. **Environmental Permits Required:** ☐ Yes ☑ No
5. **Public Meetings Anticipated:** ☐ None ☐ 1 ☑ 2 ☐ 3 ☐ 4+
6. **Right of Way Capital Cost Estimate:**
   - ☐ $0-50,000
   - ☐ $50,000-$100,000
   - ☐ $100,000-$1,000,000
   - ☐ $1,000,000-$5,000,000
   - ☐ $5,000,000-$20,000,000
   - ☑ $20,000,000-$30,000,000
   - ☐ $30,000,000-$50,000,000
   - ☐ Exceeds $50,000,000
7. **Support hours are not to be estimated at this time.**

Prepared by: Kelly J Kilpatrick
KELLY J KILPATRICK
Associate Right of Way Agent

Approved by: _____
JENNIFER LOWDEN
Senior Right of Way Agent
Project Delivery, Marysville

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT E

Initial Site Assessment

State of California **Business, Transportation and Housing Agency**

Memorandum

Date: October 26, 2010

File: 03-Sac-160
Various PM's
EA 03-2F160
EFIS # 0300000235

To: David Simmons
Design Engineer

From: Rajive Chadha
North Region Office of Environmental Engineering (NROEE) - South

Subject: Initial Site Assessment

It is understood that this project proposes to realign state route 160 at four locations as detailed in your request. Two different alternatives are being considered for this project. Alternative 1 and Alternative 2 propose excavating 1.5 and 1.1 million cubic yards of material respectively. Some of this material will be reused within the project limits (if feasible) and the balance of this material will be relinquished to the contractor. The existing yellow and white traffic stripes will be cold planed along with the road surface and guardrail replacement will occur. It is understood that new right of way will be required for this project.

The review for potential hazardous waste impacts involved the following;

1. A review of the project plans and aerial mapping;
2. Discussions with the design engineer;
3. Review of the Geotracker database (a database of hazardous waste sites).

Based on this review, the potential for hazardous waste exists with respect to the following;

1) Lead-contaminated soil may exist within and near our R/W due to the historical use of leaded gasoline, leaded airline fuels, waste incineration, and et-cetera. The areas of primary concern in relation to highway facilities are soils along routes with historically high vehicle emissions due to large traffic volumes, congestion, or stop and go situations. Since soil disturbance, relinquishment and re-use will occur, an Aerially Deposited Lead (ADL) site investigation is required. This site investigation will determine if hazardous soils exist and what actions, if any, will need to occur during construction.

2) Hazardous levels of lead and chromium are known to exist in the yellow color traffic stripes. Since these traffic stripes will be grinded off along with the roadway, the levels of lead and chromium will become non-hazardous. These grindings (which consist of the roadway material and the yellow color traffic stripes) shall be removed and disposed of in accordance with Standard Special Provision 15-305 (Residue Containing High Lead Concentration Paints) which requires a Lead Compliance Plan (LCP). Non-hazardous levels of lead are known to exist in the white traffic striping. As such, these grindings shall be removed and disposed of in accordance with the same specification. For budgetary purposes, you can assume a cost of $ 2,000 (Use BEES item code 190110).

3) Hazardous chemicals are known to exist in the wood posts associated with the MBGR. As such, if wood posts are removed, they shall be disposed of in accordance with Standard Special Provision 14-010 (Treated Wood Waste).

4) A Hazardous Materials Disclosure Document (HMDD) will be required for attachment to the Certificate of Sufficiency (COS) before any new Right of Way can be acquired. Please submit final R/W mapping to the NROEE so that our office can provide the HMDD.

Since construction of the proposed project cannot avoid disturbing soils, a Site Investigation (SI) is required. A SI needs to be requested by the PE or PM and takes 2 to 5 months to complete since a task order has to be prepared, approved, and issued to a contractor. The contractor is then required to prepare work plans, health and safety plans, conduct site investigations, and prepare site investigation reports for Caltrans review and approval.

The following support costs will be needed for this project;

Unit 349 NROEE (Hazardous Waste) Resource Hour Needs				
ISA	**Site Investigation**	**HMDD**	**Specs Prep**	**Functional Support**
150.20.10	**165.10.50**	**235.30**	**230.35**	**285.10**
8	**80**	**16**	**8**	**12**

Should the project take place at locations other than those specified, another review will be required. Should you require further information or have any questions, I can be reached at (530) 741-4295.

c.c. John Webb, Environmental Manager - South - Caltrans North Region
Winder Bajwa, Project Manager
Douglas Coleman, NROEE - South

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT F

Traffic Report

TECHNICAL MEMORANDUM

DATE: October 13, 2010

TO: David Simmons, Design, Branch S-6

FROM: Office of Freeway Operations, Sacramento

SUBJECT: Traffic analysis results for the project to reconstruct portions of Rt-160 in conjunction with the proposed Delta Conveyance Intake Project.

INTRODUCTION

Five pumping plant locations are proposed as part of the Delta Conveyance Intake Project. The pumps would access the Sacramento River underneath the east side levee and Rt-160, which sits on top of the levee. Each of the five locations would require 1,700 to 2,500 feet access areas along Rt-160. Each of the five areas would also require reconstruction of Rt-160 at these locations. Reconstruction in these areas and other areas would require upgrading to the current rural highway geometric and safety standards.

State Route 160 is a south-north rural highway that extends from the Contra Costa/Sacramento County line near Antioch to Route 51 in the City of Sacramento. Much of the route is designated as a scenic highway that follows the Sacramento River from Sherman Island to near Freeport. Rt-160 serves daily commuter traffic and recreational traffic between Sacramento and the Bay Area.

EXISTING CONDITIONS

Rt-160 within the limits of this study is a two-lane undivided conventional highway with two 12 foot lanes. Shoulder width varies from zero to two feet. Rt-160 lies on top of the Sacramento River levee within the limits of this study.

Traffic Volumes

Table 1 shows traffic volumes provided by Traffic Census Unit. Average Annual Daily Traffic (AADT) volumes (for both directions of travel) are shown for each location and year indicated.

Table 1
Mainline Volumes

Location	Post Mile	AADT		
		2007	2008	2009
River Rd	21.10	2,550	2,150	2,150
Hood-Franklin Rd.	26.25	1,350	1,350	1,350
	AADT-PeMS ML Census Sta #33120			
Location	Post Mile	2007	2008	2009
Hood-Franklin Rd.	26.25	2,325	2,400	No Data

PeMS - There were no capacity-exceeding segments.

Accident Data

Table 2 shows the current accident rates from the Traffic Accident Surveillance and Analysis System (TASAS) report from July 1, 2006 through June 30, 2009.

Table 2
Accident Rate Summary

Direction	Location (limits)	Actual Accident Rate (acc/mvm)			Average Accident Rate (acc/mvm)		
		Fatal	F+I	Total	Fatal	F+I	Total
Both	C. Costa/ Sac Co Line to Arden Way	0.046	0.55	1.20	0.027	0.46	1.13

The northbound direction experienced 16 collisions (62%) and the southbound direction experienced 10 collisions (38%) for a total of 26 collisions. One fatality occurred. This section of SR 160 experienced a slightly higher accident rate in all of the categories, when compared to the statewide averages for similar facilities. Thirty one percent of the accidents in both directions were hit object type collisions, 27% were broadside, and 23% were overturns. This accident pattern would indicate that most of the accidents were turning related at intersections and driveways.

This project would add 5 pumping plants and the necessary driveways to those plants along Rt-160, where no driveways or intersections existed previously. Special care should be taken to ensure that proper sight distance be established for vehicles entering and exiting the highway.

OTHER CONSIDERATIONS

Parking

It is anticipated that, if constructed, these 8-foot shoulders would be used as parking areas by fishermen and others seeking recreation along the river. Because of safety and operational concerns, it is recommended to prohibit parking in these 8-foot shoulder areas. These areas would need to be signed with "No Parking or Stopping Any Time" signs and aggressively enforced. In addition, it is recommended to require that the pumping plant areas be separated from the state highway with secure fencing that prevents access by the public.

Sight distance

As mentioned previously, sight distance considerations would be important for of the access points needed for these pumping plants. Each plant could be expected to contain two access points. Four of the five plant locations along the route are positioned on relatively straight and flat sections with no apparent sight restrictions. However, the southern boundary of location four contains a reversing curve with a rolling profile. In addition, two driveways enter the route in this segment. Corner sight distance and stopping sight distance could be limited in this area and should be studied during the next phase of the project development process.

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT G

Traffic Data & Designation

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: **DAVID SIMMONS**
Design Branch S06

Date: 9/08/2010

File: 03-SAC-160
PM 24.2/31.9
EA: 03-2F160
03 0000 0094

From: **WILLIAM A. DAVIS**, Chief W. D.
Office of Travel Forecasting and Modeling

Re: TRAFFIC DATA & DESIGNATION REQUEST

The traffic data that you requested via email on 8/30/2010 is listed below. The Traffic Index (TI) design periods are 10, 20 and 40-year projections.

County		SAC
Highway		160
Post Mile		24.2/31.9
Annual ADT		
Base Year	2008	2,500
	2015	2,830
	2025	3,280
	2035	3,740
	2055	4660
Peak Hour		
Base Year	2008	290
	2015	320
	2025	370
	2035	430
	2055	530
Directional %		55
DH Truck %		5.0
10-year TI		8.0
20-year TI		9.0
40-year TI		9.5

If you have any questions or need additional information, please contact Susan Zanchi at (530) 741-4199.

cc: Files

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT H

Traffic Data Sheet and Transportation Management Plan

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: David Simmons
District 3-Traffic Safety

Date: Oct 18, 2010

File: 03-XXXXXX
03-Sac-160
PM 24.2/31.9
Realignment

From: NHAN BUI
TMP Coordinator
Transportation Management Planning

Subject: Transportation Management Plan (TMP) Data Sheet

Background

- This project is located on two-lane, two-way highway, with a daily peak-hour volume (in both directions) 290 vph. This project consists of realignment of state route 160 to accommodate for Department of Water Resource's future project. The volumes within the project limits are low and the impacts on the mainline is minimal.

- For Traffic volumes refer to **Table-1.**

Table-1: Traffic Volumes
(2009 Traffic Volumes on California State Highways)

Location Description	Type of Roadway	Peak-Hour (both directions combined) (vph)	AADT (vpd)
03-Sac-160-PM 24.2/31.9	2-Lane, 2-Way	290	2,800

- Truck traffic at this location on SR-160 averages 7.3% of the total AADT.

Recommendations

- One-way traffic control and lane closure on mainline will be allowed any time during the day with no restrictions. Advanced flaggers are recommended in area where there is inadequate approaching sight distance.
- On SR-160 in Sacramento County, two lanes shall remain open at all time when construction operations are not actively in progress.
- During construction operations, a minimum of one paved traffic lane, not less than 11 feet wide, shall be open for use by public traffic.

- Lane closures on the two-lane, two-way roadway will be performed with reversible traffic control using flaggers, in accordance with Standard Plan sheet T13.
- When closures occur within 200 feet of an intersection, flaggers shall be deployed to control all legs of the intersection.
- The maximum length of any lane closure shall be limited to 0.5 mile.
- Delays during reversible traffic control shall not exceed 10 minutes.
- Portable changeable message signs (PCMS) will be required in direction of traffic during construction for each lane or shoulder closure.
- Work at these locations may require the assistance of COZEEP, but a full time COZEEP presence is not anticipated.
- If there is a change in the scope or schedule of the project, the TMP unit must be advised, as this may affect the TMP recommendations.
- Coordination with projects within, or nearby the project limits will be required to avoid conflicts. Care should be taken in the timing of the schedules of each project to ensure that they are not constructed at the same time, or at a minimum to ensure that all projects are coordinated during construction to minimize any interference among the various projects.
- Lane closure charts will have to be developed prior to P&E.

Cost

- For estimating purposes, use $2,000 per working day that requires traffic control to estimate the costs for the Traffic Management Plan (TMP) items. These items include:
    - Traffic Control System: $800/traffic control day
    - Portable Changeable Message Signs: $250/traffic control day
    - Maintain Traffic: $950/traffic control day
- The cost for Public Information Office (PIO) is estimated at $500 (lump sum) for this project. The PIO funds are paid for public outreach in the form of fliers, mailers, brochures and other uses as determined by the Public Information Officer.
- COZEEP is estimated at $1,000 per working day and $2,000 per working night whenever CHP involvement is needed during construction. COZEEP estimate should include 2 officers per vehicle when performing night work.
- If there is a change in the scope of the project or the order of work (schedule), please advise the TMP unit, as this may affect the TMP estimate.

P & E Requirement

To complete a TMP for this project, please provide the following to the Office of Traffic Management Planning at least three months prior to P&E: project description, title sheet, typical cross sections, layout sheets, construction cost estimates, number of working days, project schedule, and a contact person.

Needed Resources

TMP office will need the following resources to complete our work:

Activity 160	50 hours
Activity 230	140 hours
Activity 255	60 hours
Activity 265	30 hours
Activity 270	40 hours
Activity 285	10 hours

Attachments

TMP Checklist

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT I

Preliminary Hydraulics Recommendation

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: MR. DAVID SIMMONS
Project Engineer, Design Branch S6
Office of Design – South
D-3 Division of Engineering

Date: October 18, 2010

File: Sac-160 PM 23.0/33.0
EA 03-2F160

From: MR. GURDEEP BHATTAL
Hydraulics Engineer
Office of Engineering Services
NR Division of Engineering – Hydraulics Branch

Gurdeep Bhattal

Subject: Preliminary Drainage Report

INTRODUCTION: The scope of the project includes realignment of Sac-160 at four locations as well as realignment of a segment of Randall Island Drive at one location. All realignments would require construction of the highway on engineered levees. Existing levees at these locations would be removed and water intake systems from the Sacramento River at each of these locations would be constructed to convey water to Delta Habitat Conservation containment areas designated outside the levees. This report does not include R/W acquisitions, associated costs, or costs of relocation of privately owned facilities.

HISTORICAL DRAINAGE PROBLEMS: A review of the hydraulics files has revealed flooding problems adjacent to location 3 in the town of Hood. There are two existing cross culverts located at the intersection of Sac-160 and Hood Franklin Road, one north of the intersection and one south of the intersection. The culvert located north of the intersection had failed in 2006 and was lined with an 8" liner. The second culvert located south of the intersection appears to be at the end of its service life. Both culverts are connected to a storm drain system owned and operated by the county of Sacramento. The existing culverts need to be replaced with new culverts per current design standards. The new culverts need to be connected to the county's system at junction boxes located east of the roadway in the shape of State Standard drainage inlets (DI). Drainage inlets should also be placed at the inlet ends of the proposed culverts, west of the roadway. In summary, 4 DI's and two culverts 15" x 21" x 50' each, CMPA (equivalent to 18" round) will be required.

FIELD REVIEW: A field review of the project site indicated that several drainage/irrigation facilities would need to be reconstructed for affected property owners. Facilities expected to be impacted and recommended improvements at each location are provided below;

LOCATION 4, PM 24.80: The proposed alignment runs across residential property at this site. A ditch collects runoff from the private property and directs it to a sump located near the toe of slope of the highway. A sump pump with associated electrical panel and controls is installed at the sump. The runoff is pumped through a 2" galvanized steel pipe which runs under the roadway and discharges on the river side of the levee.
The proposed project would require a new ditch to be excavated to collect runoff from the property and a new sump pump with a control panel would need to be installed. New piping would be required to convey the discharge from the pump across the levee.

PM 24.99: An old concrete pump house is located east of the highway along with a control panel. An 8" suction pipe runs under the roadway from the river to the pump house. This pump is used for irrigation of the fields located east of the existing highway. The pump house would need to be reconstructed and relocated 300 feet, approximately, towards the south due to the location of the intake structure of the proposed project at Sta. 1099+10, approximately.

PM 24.99

PM 25.13: A concrete apron with retaining walls on three sides contains an old control panel, piping, and arrangements for the installation of a pump/motor. The facility is designed to pump water from the river across the levee to a vertical three-foot diameter RCP stand pipe for distributing irrigation water to the fields east of the existing levee. Due to the proximity of this system to the intake system of the proposed project the pumping facility would require relocation by 800 feet, approximately, to the north with

arrangements either through open channels or pipes to convey the water towards the east for irrigation. All piping should be replaced with new pipes.

PM 25.13

Since the pump will be conveying water through a pressurized pipe, it is recommended that the 8" pipe running under the roadway be encased in a casing consisting of a seamless welded steel pipe.

PM 25.40: Two pumps with motors and two control panels are located on the river side of the levee. The pumps convey water to a three-foot diameter RCP stand pipe located on the east side of the levee. Realignment of the highway will require relocation of the facility and replacement of the piping. The pipes running under the roadway will need to be encased in a seamlessly welded steel pipe casing.

PM 25.40

LOCATION 3, PM 26.42: A pump house is located on the river and pumps water to the east side of the levee through an 8-inch steel pipe. The water is used to irrigate a field on the east side of the levee. The pumping facility along with the electrical controls will require relocation to the newly aligned levee and existing piping needs to be replaced with new pipes. The 8-inch discharge pipe has to be encased in a welded steel casing

under the roadway. The discharge point from the pump and the distribution system (stand pipe, etc.) will require redesign and reconstruction.

PM 26.42

PM 26.57: A centrifugal pump with an electrical control panel is installed on a concrete slab to deliver water through an 8-inch pipe to the east side of the levee. The pumping facility will require relocation to a point 300 to 400 feet to the south to avoid any conflict with the intake system of the proposed project. The discharge pipe from the pump to the outfall in a 3-foot diameter RCP stand pipe needs to be replaced with a new 8" welded steel pipe. The discharge pipe should be encased in a welded steel pipe casing under the highway.

PM 26.57

PM 26.95: A vertical pump is installed on a steel structure in the river with the drive motor on a platform. This pump may not require relocation. The 8" discharge pipe runs under the roadway and will need to be extended across the new alignment. This location approaches the site where the proposed alignment conforms to the existing alignment. The section of pipe running under the proposed alignment should be encased in a welded steel pipe casing. The electrical wiring and conduits for the pump will also need to be extended and relocated. There is a filtration system of tanks and pumps located on the east side of the roadway under a shed. This complete system would require relocation

and the discharge from the pump in the river will require appropriate connections to the filtration system.

PM 26.95

LOCATION 2, PM 28.59: Irrigation for a pear orchard is accomplished by a pump located on the east side of the levee. The suction side of the pump is connected to an 8-inch welded steel pipe extending under the highway and running down the side slope to the river. The pump and associated electrical controls will require relocation further to the east. The suction pipe will need to be extended to the relocated pump but may require an engineering evaluation to determine if priming the pump would be adversely impacted by extending the suction piping.

PM 28.59

PM 28.74: A pumping facility housed on the east side of the levee provides irrigation water to a pear orchard. The entire pumping system will need relocation to the east of the realigned highway. The existing 6-inch suction pipe providing water from the river to the pump will require extension/relocation after an engineering assessment of the entire system.

PM 28.74

PM 29.13: A pumping facility including control panels is located on the east side of the levee. A blockhouse type intake structure is located on the river bank for providing water to the pumping facility. The pumping facility will need relocation to the east side of the realigned highway and depending upon the existence or removal of the existing levee, a new intake structure may need to be designed/constructed.

PM 29.13

PM 29.28: A 4-inch steel pipe runs under the highway and provides water from the river to a pump located on the east side of the levee. The pump and control panel will require relocation to the east side of the realigned levee/highway. An engineering assessment will be required to determine if it would be sufficient to extend the existing 4-inch suction pipe to the pump or if a larger pipe/booster pump will be required.

PM 29.28

PM 29.53: A vertical pump is located on a platform erected on a steel structure in the river. The pump will not require relocation. However, the discharge pipe from the pump needs to be replaced and encased in a larger steel pipe at the location where it traverses the highway. The discharge pipe will need to be extended to the east side of the realigned highway and the 3-foot RCP stand pipe will need to be reconstructed for receiving / distribution of the water.

PM 29.53

PM 31.90: A pump with a control panel is located in a metal enclosure on a steel structure near the edge of the water. Water is pumped through a 6-inch pipe running under the highway to a stand pipe located across the levee. This location appears to be within 250 feet of the intake structure of the proposed project. The entire system would require relocation 600 to 800 feet towards the south to avoid the area impacted by the project. Provisions would have to be made to convey the water either through open channels or buried pipes to meet historical irrigation demands.

PM 31.90

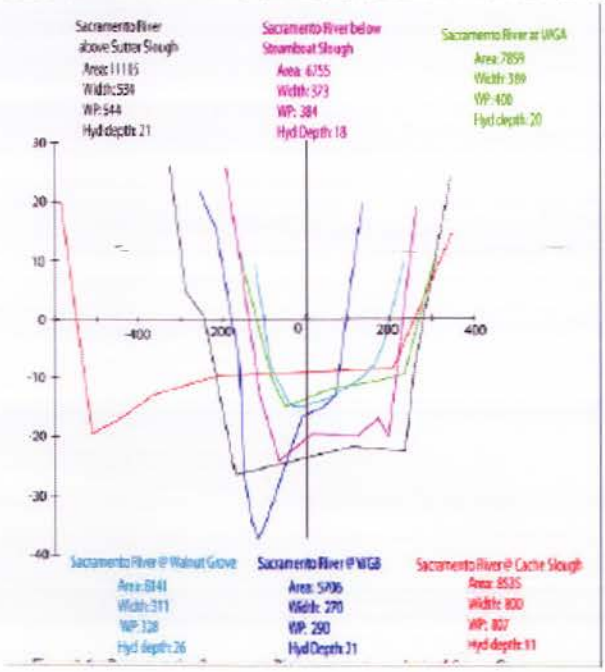
PM 32.03: A pump with a control panel is located in a shed 1000 feet, approximately, north of the proposed intake structure for the project. The pumping facility will require relocation to the east side of the new alignment. There is a 6-inch steel pipe that provides water from the river to the suction of the pump. An engineering evaluation will be required to determine if the 6-inch suction pipe may be extended to the pump or if a booster pump may be required.

PM 32.03

PM 32.13: A 6-inch pipe running under the highway delivers water from the river to the suction of a pump located east of the levee. The pump and control panel are located in a metal shed and the pumping facility will require relocation to the east side of the new alignment. Depending upon the removal of the existing levee/highway at this location, the 6-inch suction pipe may either be extended to the suction of the relocated pump or the suction pipe may be relocated to adapt to the new location of the pump.

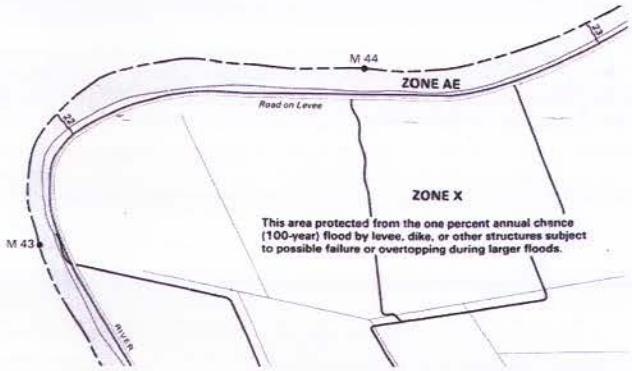
PM32.13

RSP REQUIREMENTS: Removal of existing levees and construction of realigned levees/highway may create areas susceptible to erosion from high flow velocities. Historical records were reviewed to determine design velocities for design of rock revetments to protect the levees and embankments. Cross-sectional areas of the Sacramento River at various locations were obtained from the **"Sacramento/San Joaquin River Delta Regional Salmon Outmigration Study Plan"** report. High flows in the Sacramento River at I Street, recorded by National Oceanic and Atmospheric Administration (NOAA) were 108,800 cfs in 1996 and 107,600 cfs in 1997.
The cross sections of the Sacramento River are provided below,

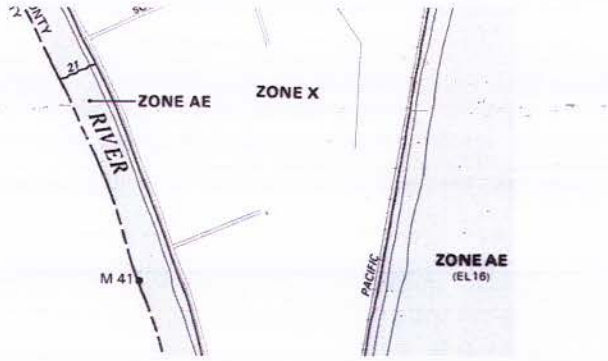


The FEMA 100-year flow in the Sacramento River at I-Street as recorded in the "Flood Insurance Study" for Sacramento County, is 120,000 cfs. The cross sectional area of the channel above Sutter Slough as depicted on the illustration above, is 11,105 square feet. The cross sectional area of the river above the Delta Cross Channel is 7859 square feet. An average of the two cross sections will be used to estimate the design velocity of water for design of riprap revetment.
Average cross sectional area = 9482 square feet
Design Velocity V = Q/A = 12.66 fps.
Use 13 fps for RSP design.
If the determination is made that the proposed levees need to be armored, armoring must be provided to protect the embankment up to the 100-year water surface elevation. Armoring methodology (RSP, gabions, etc) must be based upon tried and tested engineering principles since the levees protect human life and property. The 100-year water surface elevations for the sites are provided from FEMA's Flood Insurance Rate Maps (FIRM). FIRM panels 0602620295D and 0602620410D were reviewed to determine water surface elevations of the Sacramento River at the various project sites.

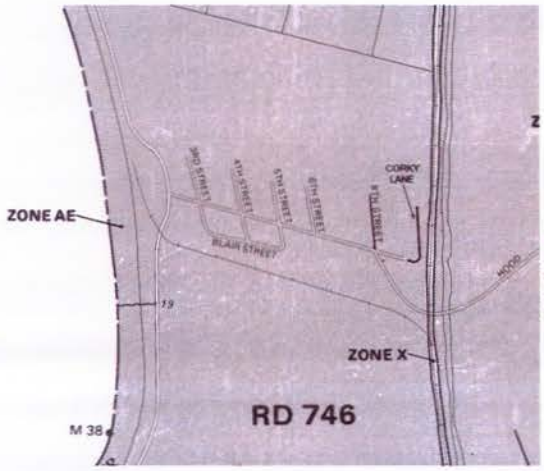
LOCATION	WATER SURFACE EL (ft) NGVD
1	22.5
2	21.0
3	19.5
4	18.0



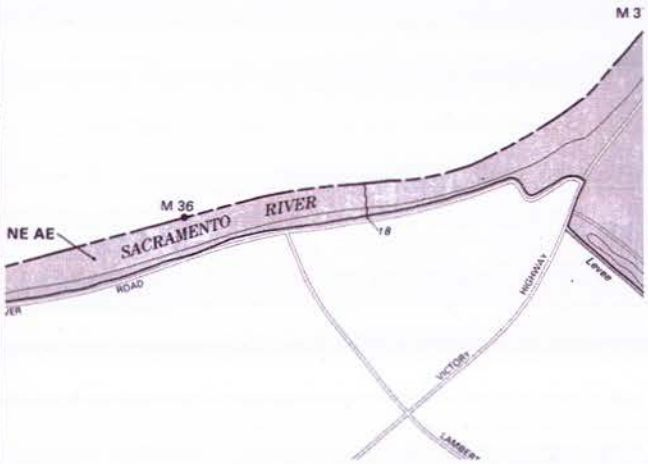
LOCATION 1



LOCATION 2



LOCATION 3



LOCATION 4

HYDROLOGY and HYDROLOGICAL METHODS: The appropriate design storm (per HDM) for onsite hydrology is a 25-year storm. The Rational Method may be used to calculate runoff from the watershed. IDF-2000 program was used to develop the IDF curves for the segments of roadway within project limits. Rainfall intensity may be calculated from Caltrans IDF equation $I = A_j t^n$, where,

- I Rainfall intensity (inches/hour)
- A_j One-hour rainfall intensity (inches/hour) of return period j years
- t time of concentration (hours)
- n slope of the log-intensity/log-line plot.

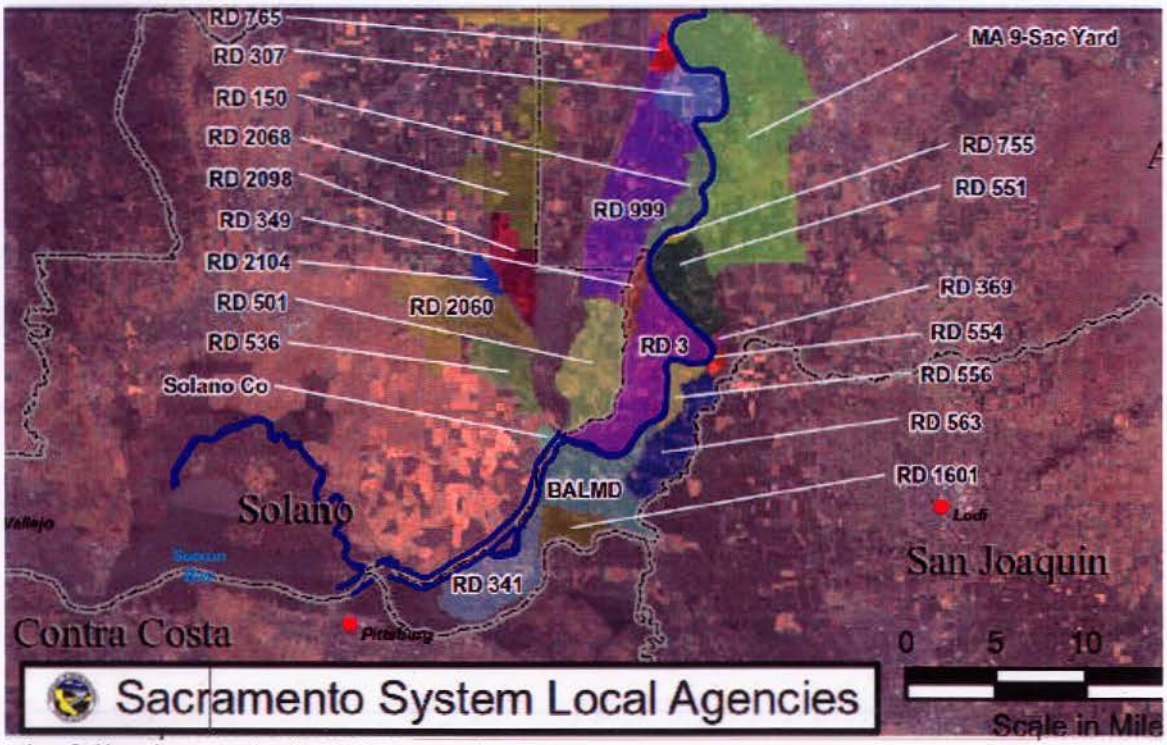
The 2-year return one-hour rainfall intensity $I = 0.44t^{-0.550}$
The 10-year return period one hour rainfall intensity $I = 0.73t^{-0.550}$
The 25-year return period one hour rainfall intensity $I = 0.87t^{-0.550}$
The 100-year return period one hour rainfall intensity $I = 1.07t^{-0.550}$

SUMMARY of DRAINAGE RECOMMENDATIONS: Drainage modifications and improvements will be required within the scope of this project. Proposed recommendations are included below:

1: Place irrigation and other piping in a welded pipe casing under the proposed roadway.
2: Replace/relocate existing pumping and drainage facilities.
3: Provide engineered revetment design to protect levee from erosion up to the 100-year levels of water surface in the river.
4: Annular open space between the casement pipes and pressure pipes should be sealed on both ends of the casement pipe.

DESIGN STANDARDS: The roadway on the new alignment will now act as the new levee and should be designed according to current USACE standards. The design should be reviewed and approved by the USACE. Approval will also be required from the Central Valley Flood Protection Board.

CONTACTS:
Central Valley Flood Protection Board: Gary Lemon, (916) 574-0609
US Army Corps of Engineers: Meegan Nagy, (916) 557-6704
Reclamation District RD150: Warren Bogle, (916) 744-1139
Reclamation District RD551: Topper Van Loben Sels, (916) 439-3291
Reclamation District RD554: Jeff Tranum, (916) 776-1947
Reclamation District RD775: Douglas Hemly, (916) 775-1379



The following are included as attachments:
IDF Charts of Rainfall Intensity

If there are any questions or concerns regarding the recommendations please contact me at (530) 740-4830 or by e-mail at Gurdeep_Bhattal@dot.ca.gov.

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT J

Materials Recommendation

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: MR. DAVID SIMMONS, PE
Design Branch S06

Date: November 9, 2010

File: 03-SAC-160
PM 24.2/31.9
03- 2F160

From: JOSEPH F. PETERSON
District Materials Engineer
North Region – Materials Laboratory

Subject: Structural Section Recommendation

As requested in your memorandum to Joe Peterson dated September 15, 2010 a structural section recommendation has been made for the above referenced project. The following assumptions have been made:

R-Value = 5 (Historical Data)
TI_{10} = 8.0 (from Traffic Data)
TI_{20} = 9.0 (from Traffic Data)
TI_{40} = 9.5 (from Traffic Data)

STRUCTURAL SECTION RECOMMENDATIONS

Mainline and Shoulder – New Structural Section **TI_{10} = 8.0**

0.20' RHMA-G
Paving Grid (Class 1)
0.20' HMA-A
0.75' AB (Class 2)
Geotextile Reinforcement
0.75' AB (Class 2)
Geotextile Reinforcement
1.90' Total

Mainline and Shoulder – New Structural Section **$TI_{20} = 9.0$**

0.20' RHMA-G
Paving Grid (Class 1)
0.25' HMA-A
0.75' AB (Class 2)
Geotextile Reinforcement
1.00' AB (Class 2)
Geotextile Reinforcement
2.20' Total

Mainline and Shoulder – New Structural Section **$TI_{40} = 9.5$**

0.20' RHMA-G
Paving Grid (Class 1)
0.30' HMA-A
0.80' AB (Class 2)
Geotextile Reinforcement
1.00' AB (Class 2)
Geotextile Reinforcement
2.30' Total

Note: Geotextile reinforcement shall wrap bottom layer of AB. All seams shall overlap a minimum of four feet.

MATERIALS SPECIFICATIONS

Rubberized Hot Mix Asphalt –Type G (RHMA-G) - shall conform to section 39 of the Standard Specifications and the Special Provisions.

Hot Mix Asphalt –Type A (HMA-A) - shall conform to section 39 of the Standard Specifications and the Special Provisions.

Aggregate Base (AB) – Class 2 – shall conform to section 26 of the Standard Specifications.

Paving Grid – Class 1 - shall conform to section 88 of the Standard Specifications.

Geotextile Reinforcement - shall conform to section 88 of the Standard Specifications.

Asphalt Binder – Asphalt binder used for RHMA-G and HMA-A shall be grade PG 64-16 and shall conform to sections 39 and 92 of the Standard Specifications.

Paint Binder – shall conform to sections 39, 92 and 94 of the Standard Specifications.

If you have any questions please contact Julia Rockenstein at (530) 741-5176 or myself at (530) 741-5378.

c: File

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT K

Landscape Architecture Assessment Sheet and Visual Impact Assessment

NORTH REGION
LANDSCAPE ARCHITECTURE ASSESSMENT SHEET
03-LAND-0002 (Rev. 3/03)

TO: David Simmons **FROM:** David Moffatt **Unit/Senior TE Name:** Oscar Vaquez **Project Manager:** W. Bajwa	**CO:**Sacramento **DISTRICT:** 03 **DATE:** 11-1-10 **EA:** 0X0004	**RTE:**160	**KP:**	**PM:**23.0/33.0
PROJECT SEPARATION: ☒ Landscape as part of roadway work EA ☐ Landscape under separate EA (Follow-up)	**PROJECT:** Delta Conveyance **TYPE:** Roadway Improvements **PROJECT MILESTONE:**			

PROJECT DESCRIPTION: The Office of Design South is currently preparing the PSR for the above referenced project. This project consists of five locations, which will consist of realignment of state route 160 to accommodate for Department of Water Resources (DWR) future project. The following post miles are for the five locations: Location 1 (PM 31.9), Location 2 (PM 29.5), Location 3 (PM 26.8), and Location 4 (PM 25.1). The desired construction year for this project is 2013.

AREA (M2) FOR HIGHWAY PLANTING: _____
AREA (M2) FOR EROSION CONTROL: _____
PLANT COUNT FOR MITIGATION PLANTING: _____

LANDSCAPE FREEWAY STATUS:	☐ Yes	☒ No	
HIGHWAY PLANTING IS:	☐ Warranted	☒ Not Warranted	
SCENIC HIGHWAY STATUS:	☒ Officially Designated	☐ Eligible	☐ Not Designated
REVEGETATION REQUIRED?	☒ Permit Required	☒ Offset of Visual Impact	☐ Other (Forest Service, BLM, etc.)

BIOLOGIST CONTACT: _____
DATE OF CONTACT: _____
REVEG. SPECIALIST CONTACT:

ADJACENCY TO BILLBOARDS:
☐ Project area is adjacent to outdoor advertising. ☒ Project area is not adjacent to outdoor advertising.

WATER AND POWER AVAILABILITY: Unknown at this time.

IS THERE (E) IRRIGATION THAT WILL BE IMPACTED BY THIS PROJECT: ☐ Yes ☒ No

DESIGN FOR MAINTENANCE SAFETY: Unknown at this time.

CONTEXT SENSITIVITY:
☒ It is determined that the project will involve consideration of highway aesthetics and will require further evaluations pertaining to specific roadside enhancements.

☐ No foreseen issues with highway aesthetics ☐ Other _____

COOPERATIVE MAINTENANCE AGREEMENTS:

Project may involve additional tasks indicated

☒ Visual Simulation	☒ Erosion Control	☒ SWPPP/NPDES
☒ Highway Planting	☒ Field Visit	☒ Context Sensitive Solutions/Aesthetics
☒ Contour Grading	☒ Cost Estimate	☐ Landscape Evaluation

NORTH REGION
LANDSCAPE ARCHITECTURE ASSESSMENT SHEET
03-LAND-0002 (Rev. 3/03)

COST INFORMATION: ***See Estimate Below.***	
☒ Highway Planting, Irrigation, and/or Mitigation	$
☒ __-year Plant Establishment	$
☒ Erosion Control	$
☒ Slope Protection	$
☒ Aesthetic Treatment	$ /m²
	TOTAL $

OTHER RELATED INFORMATION:
☐ Landscape Architecture Resource Estimate:

ROADSIDE VEGETATION MANAGEMENT TREATMENT NEEDS:
☐ Extended Gore Areas
☒ Guardrails and Signs
☐ Medians
☒ Road Edge
☒ Side Slopes/Embankment Slopes
(See: http://www.dot.ca.gov/hq/LandArch/roadside/index.htm for potential treatment measures)

PREPARED BY: David R. Moffat DATE: 4/3/11 CONCURRED BY: [signature] (Project Manager) DATE: 11/4/11

APPROVED BY: [signature] DATE: Nov. 4, 2011
(Landscape Architecture or Engineering Services Branch Chief)

Delta Conveyance - In-River Intake

Alternative 1

		Unit	Location	Unit Cost	Qty	
Item	Erosion Control Permanent BMP's - fiber rolls - compost blanket	Acre	1	$275,000	LS	$275,000.00
			2	$430,000	LS	$430,000.00
			3	$225,000	LS	$225,000.00
			4	$250,000	LS	$250,000.00
	*Vegetation Screening	Acre	1	$50,000	4.0	$200,000.00
			2	$50,000	4.0	$200,000.00
			3	$50,000	4.0	$200,000.00
			4	$50,000	4.0	$200,000.00
	***Storm Water Treatment	LS	1	$100,000	LS	$100,000.00
			2	$100,000	LS	$100,000.00
			3	$100,000	LS	$100,000.00
			4	$100,000	LS	$100,000.00
	*Aesthetics - concrete stain - concrete forming - design elements	LS	1	$100,000	LS	$100,000.00
			2	$100,000	LS	$100,000.00
			3	$100,000	LS	$100,000.00
			4	$100,000	LS	$100,000.00
	**Mitigation Planting	Acre	1	$50,000	2.7	$135,000.00
			2	$50,000	3.0	$150,000.00
			3	$50,000	2.0	$100,000.00
			4	$50,000	3.5	$175,000.00
		TOTALS	1			**$810,000.00**
			2			**$980,000.00**
			3			**$725,000.00**
			4			**$825,000.00**

GRAND TOTAL				**$3,340,000.00**

* Required to maintain State Scenic Hwy status. DWR should be responsible.
** Assuming mitigation will be required due to impacts to riparian vegetation - on-site, water side
*** Assuming treatment will be required - Biostrips and Bioswales.

Delta Conveyance - In-River Intake

Alternative 2 - estimate based on percentage difference in total embankment of Alt. 1.

		Unit	Location	Unit Cost	Qty	
Item	Erosion Control Permanent BMP's - fiber rolls - compost blanket	LS	1	$306,000	LS	$306,000.00
			2	$253,700	LS	$253,000.00
			3	$155,000	LS	$155,000.00
			4	$230,000	LS	$230,000.00
	*Vegetation Screening	Acre	1	$50,000	4.4	$220,000.00
			2	$50,000	2.4	$120,000.00
			3	$50,000	2.8	$140,000.00
			4	$50,000	3.7	$185,000.00
	***Storm Water Treatment	LS	1	$100,000	LS	$110,000.00
			2	$100,000	LS	$59,000.00
			3	$100,000	LS	$69,000.00
			4	$100,000	LS	$92,000.00
	*Aesthetics - concrete stain - concrete forming - design elements	LS	1	$100,000	LS	$100,000.00
			2	$100,000	LS	$100,000.00
			3	$100,000	LS	$100,000.00
			4	$100,000	LS	$100,000.00
	**Mitigation Planting	Acre	1	$50,000	3.3	$148,500.00
			2	$50,000	1.8	$88,500.00
			3	$50,000	1.4	$69,000.00
			4	$50,000	3.2	$161,000.00
		TOTALS	1			**$884,500.00**
			2			**$620,500.00**
			3			**$533,000.00**
			4			**$768,000.00**
			GRAND TOTAL			**$2,806,000.00**

* Required to maintain State Scenic Hwy status. DWR should be responsible.
** Assuming mitigation will be required due to impacts to riparian vegetation - on-site, water side
*** Assuming treatment will be required - Biostrips and Bioswales.

Resources Requested

Resources by WBS Code (Landscape Architecture)		
WBS Activity	**Sac 160_0X000 - Delta Conveyance Project**	**Hrs needed**
100	**PROJECT MANAGEMENT**	
100.10	Project Management - PA & ED Component	40
100.15	Project Management - PS&E Component	40
160	**PERFORM PRELIMINARY ENGINEERING STUDIES & PREPARE PROJECT REPORT**	
160.05	Review and Update Project Information	40

NORTH REGION
LANDSCAPE ARCHITECTURE ASSESSMENT SHEET
03-LAND-0002 (Rev. 3/03)

160.10.30	Develop Highway Planting Design Concepts (includes mitigation, replacement and new planting, LAAS)	80
160.15.05	Prepare Cost Estimate for Alternatives	20
160.15.25	Circulate, Review, & Approve Draft Project Report	8
165	**PERFORM ENVIRONMENTAL STUDIES & PREPARE DRAFT ENVIRONMENTAL DOCUMENT (DED)**	
165.05.05	Review Project Information	40
165.10.20	Perform Visual Impact Analysis	200
175	**CIRCULATE DED & SELECT PREFERRED PROJECT ALTERNATIVE**	
175.10.15	Prepare Displays for Public Viewing	120
185	**PREPARE BASE MAPS and PLAN SHEETS**	
185.05.10	Update Project Information (update of Landscape scope and costs for PE when requested)	20
185.15	Perform Preliminary Design	220
205	**OBTAIN PERMITS, AGREEMENTS & ROUTE ADOPTIONS**	
205.10	Obtain Permits (includes preparation of attachments by Landscape to assist Enviro in obtaining permits)	120
230	**PREPARE DRAFT PS&E**	
230.05.35	Prepare Contour Grading Plans	40
230.10	Prepare Draft Highway Planting Plans	200
230.35.10	Develop Highway Planting Specs	40
230.35.40	Develop Erosion Control Specs	40
230.40.10	Calculate Highway Planting Quantities and Estimate	20
230.40.40	Calculate Erosion Control Quantities and Estimate	20
230.60	Review and Update Project Info. for PS&E Package (Constructability Review and Storm Water Data Report Review)	20
235	**MITIGATE ENVIRONMENTAL IMPACTS & CLEAN-UP HAZARDOUS WASTE**	
235.05.15	Perform Biological Mitigation (problem with this is that we can only charge to this during phase 1 of EA)	80
255	**CIRCULATE, REVIEW & PREPARE FINAL DISTRICT PS&E PACKAGE**	
255.10.10	Update Highway Planting PS&E	120
270	**PERFORM CONSTRUCTION ENGINEERING & GENERAL CONTRACT ADMINISTRATION**	
270.20.50	Provide Technical Support	120
285	**PREPARE and ADMINISTER CONTRACT CHANGE ORDERS**	
285.10	Provide Functional Support	40
295	**ACCEPT CONTRACT, PREPARE FINAL CONSTRUCTION ESTIMATE, AND PREPARE FINAL REPORT**	
295.35.05	Revegetation Field Work	280
	Total Hours	**1928**

COMMENTS:

1. Given that the project is located on a State Designated Scenic Highway, a higher level of analysis will be required to assure that any roadway improvements do not degrade the route in order to maintain this designation. This will require that the consultant conducting the environmental evaluation take this into account.

2. All disturbed areas shall utilize temporary erosion control measures during construction.

3. All areas disturbed during construction shall receive permanent erosion control seeding measures. All finished slopes and contour graded areas shall be hydroseeded with a permanent seed mix composed of native plant species indigenous to the area.

4. In addition to erosion control seeding, selected areas will be revegetated with containerized live plants.

5. Where appropriate, disturbed soil areas shall incorporate compost to a depth of 8-16 inches as an erosion control measure. Incorporation of compost aids in the rehabilitation of soils as a growing medium.

6. Select areas shall be contour graded in order to integrate roadside areas and newly constructed drainage facilities into the surrounding natural environment. Contour grading shall also be used to deter unwanted off-shoulder parking in select areas.

7. All small trees, tree limbs, shrubs and other woody debris generated during clearing and grubbing operations shall be chipped and stockpiled for use as erosion control.

8. Topsoils (Duff) shall be removed, stockpiled and replaced to areas designated on plans. Where feasible, topsoils shall be incorporated back into finished grade as a supplemental erosion control measure.

9. All concrete structures including curb and gutters, existing retaining walls, and placed rock shall be stained in order to integrate structures into surrounding natural setting.

03-Sac-160
03 – 2F160
PM: 24.2-31.9

ATTACHMENT L

Programming Sheet/Resources Assigned to Project

PROGRAMMING SHEET - 2010/2011

EA: 03-2f160
Proj Name: State Route 160 DWR Pumping Station

Project Manager: Jess Avila
Co-Rte-PM: SAC-160- 023.8/ 031.9

Date: 03/21/2011
Type: STIP

PROJECT SCHEDULE

MILESTONE		DATE (STATUS)
Begin Environmental Document	M020	07/15/2011 (T)
Begin Project Report	M040	05/01/2011 (T)
Circulate Environmental Document (DED)	M120	01/15/2012 (T)
Project Approval & Environmental Document (PA&ED)	M200	01/15/2013 (T)
District Submits Bridge Site Data to Structures	M221	04/01/2013 (T)
Right of Way Maps	M224	01/15/2013 (T)
Regular Right of Way	M225	01/15/2014 (T)
District Plans, Specifications & Estimates to DOE	M377	07/01/2015 (T)
Draft Structures Plans, Specifications & Estimates	M378	06/01/2015 (T)
District Plans, Specifications & Estimates (PS&E)	M380	10/01/2015 (T)
Right of Way Certification	M410	01/15/2016 (T)
Ready to List (RTL)	M460	01/15/2016 (T)
Headquarters Advertise (HQ AD)	M480	03/01/2016 (T)
Approve Construction Contract	M500	06/01/2016 (T)
Contract Acceptance (CCA)	M600	01/15/2020 (T)
End Project	M800	01/15/2022 (T)

ESTIMATE	DATE	AMOUNT
ROADWAY	11/15/10	$ 90000
BRIDGE	11/15/10	$ 5000
Subtotal Const		$ 95000
RIGHT OF WAY		~~$ 0~~ 30,000
MITIGATION		$ 0
Subtotal RW		~~$ 0~~ 30,000
GRAND TOTAL		$ 95000

EXISTING PROGRAMMING	
PAED	$
PS&E	$
RW - Sup	$
RW - Cap	$
Const - Sup	$
Const - Cap	$

*Does not apply to RW Capital + Not Escalated ++ Only Escalated to 1 year into Future

PROJECT COSTS BY SB45 CATEGORY

CAPITAL COST ESTIMATE (Escalation Factor)	Prior Yrs+	10/11+	11/12 (3.5%)	12/13 (3.5%)	13/14 (3.5%)	14/15 (3.5%)	Future++ (3.5%)	Total	
Right of Way								$ 0	
Construction							112830	$ 112,830	
						CAPITAL COSTS TOTAL		$ 112,830	
SUPPORT COSTS (Escalation Factor)			(1.5%)	(1.5%)	(1.5%)	(1.5%)	(1.5%)		Sup/Cap
PAED		178	877	76				$ 1,131	1.00%
PS&E			587	1118	981	618	886	$ 4,189	3.71%
Right of Way				296	172	242	506	$ 1,217	1.08%
Construction							9314	$ 9,314	8.25%
						SUPPORT COSTS TOTAL		$15,851	14.05%
							TOTAL PROJECT COSTS	$ 128,681	

PROJECT SUPPORT IN PYS

	Prior Yrs	10/11	11/12	12/13	13/14	14/15	Future	Total	PY %
Environmental	0.00	0.02	0.88	0.15	0.07	0.05	0.22	1.39	1.35%
Design	0.00	0.41	3.42	3.44	2.91	1.61	1.67	13.46	13.11%
Engineering Services	0.00	0.07	0.80	0.53	0.63	0.36	1.89	4.28	4.17%
Surveys	0.00	0.24	2.38	3.46	0.48	0.20	3.02	9.78	9.52%
Right of Way	0.00	0.04	0.39	0.23	1.06	1.94	2.12	5.78	5.63%
Traffic	0.00	0.20	0.81	0.57	0.78	0.43	0.93	3.72	3.62%
Construction	0.00	0.00	0.01	0.02	0.03	0.02	50.24	50.32	49.00%
Project Management	0.00	0.04	0.13	0.10	0.13	0.13	0.73	1.26	1.23%
District Units*	0.00	0.06	0.29	0.03	0.02	0.01	0.14	0.55	0.54%
Subtotal Dist/Region Resources	0.00	1.08	9.11	8.53	6.11	4.75	60.96	90.54	*88.17%*
59-DES Project Development	0.00	0.00	0.01	0.19	0.69	0.63	1.71	3.23	3.15%
59-DES Structures Foundation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
59-Office Engineer	0.00	0.00	0.00	0.00	0.00	0.00	1.17	1.17	1.14%
59-DES Project Management	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05%
59-DES Construction	0.00	0.01	0.02	0.02	0.04	0.04	7.57	7.70	7.50%
59-DES Other Units**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Subtotal DES Resources	0.00	0.01	0.03	0.21	0.73	0.67	10.50	12.15	*11.83%*
TOTAL PYs	**0.00**	**1.09**	**9.14**	**8.74**	**6.84**	**5.42**	**71.46**	**102.69**	

*Admin, Plng, Maintenance
**DES Admin, DES Plng, DES Maintenance
HRS/PYS = 1758
Comments:

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY
EDMUND G. BROWN JR., Governor

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

January 27, 2011

Department of Transportation, MS-65
1727 30th Street
Sacramento, California 95816

Attention: Ehite Gebre
Acquisition Analyst

DWR Agreement Number: 4600009106

Dear Ms Gebre:

Enclosed for your records is one fully executed copy of subject agreement mentioned above. To ensure **prompt payment** of your billing, please **reference** the contract number identified above when submitting invoices.

Inquiries concerning the services to be performed under this agreement should be referred to Gordon Enas at (916) 653-7589.

Sincerely,

Stacey Cunningham

Stacey Cunningham
Contract Specialist
Contract Services Office
(916) 653-6097

Enclosure

STATE OF CALIFORNIA
STANDARD AGREEMENT
STD 213 (Rev 06/03)

Caltrans 03A1817

AGREEMENT NUMBER
4600009106

REGISTRATION NUMBER
eP 1123475

1. This Agreement is entered into between the State Agency and the Contractor named below:

STATE AGENCY'S NAME
Department of Water Resources

CONTRACTOR'S NAME
California Department of Transportation

2. The term of this Agreement is: July 1, 2010 through June 30, 2011
This Agreement shall not become effective until approved by the Department of General Services.

3. The maximum amount of this Agreement is: $ 421,976.00
Four Hundred Twenty One Thousand Nine Hundred Seventy Six Dollars Zero Cents.

4. The parties agree to comply with the terms and conditions of the following exhibits which are by this reference made a part of the Agreement.

Exhibit A – Scope of Work	10 pages
Exhibit B – Budget Detail and Payment Provisions	2 pages
Attachment 1 – Cost Proposal	2 pages
Exhibit C* – General Terms and Conditions	GIA 610
Exhibit D – Special Terms and Conditions for the Department of Water Resources, (Interagency Agreements), DWR 9547 (Rev. 01/09)	2 pages
Exhibit E – Additional Provisions	1 page
Attachment 1 – Standard Contract Provisions Regarding Political Reform Act Compliance	2 Pages
Attachment 2 – Protection of Confidential and Sensitive information	2 pages
Attachment 3 – Non Disclosure Certificate	1 page

Items shown with an Asterisk (*), are hereby incorporated by reference and made part of this agreement as if attached hereto. These documents can be viewed at www.ols.dgs.ca.gov/Standard+Language

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

CONTRACTOR

CONTRACTOR'S NAME *(if other than an individual, state whether a corporation, partnership, etc.)*
California Department of Transportation

BY *(Authorized Signature)* — DATE SIGNED *(Do not type)*: 1-7-11

PRINTED NAME AND TITLE OF PERSON SIGNING
Patricia Gamoning, Contract Officer

ADDRESS
1727 30th Street, Ms 65, Sacramento, California 95816

STATE OF CALIFORNIA

AGENCY NAME
Department of Water Resources

BY *(Authorized Signature)* — DATE SIGNED *(Do not type)*: 1/11/11

PRINTED NAME AND TITLE OF PERSON SIGNING
Richard Sanchez, Chief, Division of Engineering

ADDRESS
1416 Ninth Street, Room 406-8, Sacramento, California 95814

Approved as to legal form and sufficiency
Asst Chief Counsel DWR

California Department of General Services Use Only

APPROVED
JAN 20 2011
DEPT OF GENERAL SERVICES

Scope of Work

Department of Water Resources Delta Habitat Conservation and Conveyance Program-State Route 160

1. The Department of Transportation is hereinafter referred to as Caltrans.

   Caltrans agrees to provide the following services:

   California Department of Transportation, District 3 staff, will provide consultant services for Department of Water Resources (DWR) for the realignment of State Route (SR) 160 between Courtland and Freeport in South Sacramento County as part of the Delta Habitat Conservation and Conveyance Program (DHCCP).

   A signed Project Study Report (PSR), including all back up information, will be the end product of this phase of the agreement. The PSR will analyze and develop project scope, cost and schedule for re-alignment of SR 160 at four pump intake locations along Sacramento River and one undercrossing near Courtland. The exact locations will be determined as part of the scope document.

   The parties may amend this agreement to provide that Caltrans will prepare a Project Report after the completion of the PSR.

2. The services shall be provided during time frame i.e., working hours, Monday through Friday, except holidays. The parties may amend this agreement as permitted by law.

3. The DWR project representative during the term of this agreement will be:

   Department of Water Resources
   Name: Richard Sanchez
   Address: 1416 9th Street, Room 406-8
   Sacramento, California 95814
   Phone: (916) 653-3927
   Fax: (916) 657-2467

   Contract Managers for all administrative purposes for this agreement are:

Department of Water Resources	**Department of Transportation (Caltrans)**
Name: Gordon Enas	Name: Winder Bajwa
Address: 1416 Ninth Street, Room 510-3	Address: 703 B Street
Sacramento, CA 94236	Marysville, CA 95901
Phone: (916) 653-7589	Phone: (530) 741-4432
Fax: (916) 653-7348	Fax: (530) 741-4390
E-mail: enas@water.ca.gov	

   Either party may change their contract manager upon advance notice to the other party.

4. Approved PSR will be submitted to DWR no later than December 1, 2010.

5. The following Work Breakdown System (WBS) will be used to develop the PSR.

6. 100 Project Management:
The services provided include the initiation and planning of the project, and the execution, control, and close out of the project.

100.05 Project Management – Project Initiation Document (PID) Component
Includes the management of the PID component from initiation through completion. The services provided include the initiation and planning of the project, and the execution, control, and close out of the PID component.

100.05.05 Project Initiation and Planning
Includes the management of the PID component from initiation through completion. The services provided include the initiation and planning of the project, and the execution, control, and close out of the component.

Sub-Tasks:
- Establish expenditure authorization (EA) for Phase K.
- Develop charter for PID. This document should identify the purpose and need for the project, the type of PID to be developed, possible funding source(s), constraints, and assumptions. It should incorporate by reference any agreements with the sponsors (local agencies, maintenance, etc.).
- Enter project into project management database system(s) (XPM, PMCS, etc.).
- Develop Workplan (resourced schedule). Includes the projects scope, cost, and schedule elements.
- Develop Communication Management Plan.
- Develop Risk Management Plan and Risk Register.
- Work agreements for staff resources for the PID component.
- Scope of work for procurement of A&E contracts/agreements for the PID component.

End Product:
Initial Project Management Plan (detailed for PID component, summary for the remaining project components).

100.05.10 PID Component Execution and Control
The process of coordinating people and other resources to carry out the plan, and ensuring that the PID component objectives are being met by monitoring progress and taking corrective action when necessary.

Sub-Tasks:
- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during PID component execution.
- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Updating Communication Management Plan.
- Updating Risk Management Plan and Risk Register.

End Products:
Updated Project Management Plan
Project Records, using Uniform File System

100.05.15 PID Component Close Out
The process of formally bringing the PID component to an end

Sub-tasks:

- Finalize any contracts or agreements that are completed.
- Sponsor, team, and stakeholder evaluations of the PID component.
- PID component close out report.
- Close PID component expenditure authorization (EA).

End Products:
Cooperative Agreement Closeout
Lessons Learned
Archived Records
Updated "Project Performance Output Table" and "Asset Management Table"
Phase 'K' EA Suspension
Created "Project Performance Output Table" and "Asset Management Table".

100.05.20 Project Shelving (PID)
Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the PID phase.

100.05.35 Executed Interagency Agreement for PID Process
All work involved in preparing and obtaining approval of interagency agreements during the PID process. Includes projects, which are 100% State funded, jointly funded, locally funded, local sales tax measure, privately funded, and reimbursed. This task includes interagency agreements, which cover multi-phases, which may begin with but may not be limited to the PID phase. PID work covered includes WBS tasks in 150.

Sub-tasks:
- Prepare draft
- Obtain reviews
- Incorporate changes.
- Prepare transmittal memo.
- Execute Cooperative Agreement.
- Prepare and execute amendments.

End Product:
Approval of the interagency agreement(s)

7. 150 Develop Project Initiation Document (PID):
Work involved in the preparation, review, and approval of a Project Initiation Document, PSR. This may includes minor survey effort directly related to PID

150.05 Transportation Problem Definition and Site Assessment
This activity includes three major tasks:
- Compiling and reviewing existing background information that may impact the alternatives or the scope of the alternatives under consideration.
- Developing project constraints and information required to determine the extent of the existing problem and future needs. This should include any necessary discussions with internal and external stakeholders.
- Analyzing the existing problem and future requirement to determine the project's need and purpose.

End Product:

- Purpose and Need Statement.
- Adequate information should exist to begin developing alternatives.

150.05.05 Review of Existing Reports Studies and Mapping
This includes Planning documents (such as Transportation Corridor Report, Regional Transportation Improvement Program, Regional Transportation Program, Congestion Management Plan Tribal Transportation Plan), As-builts, base mapping, existing surveys and R/W maps, TASAS and Pavement Management System (PMS) adjacent projects under development. Initial field reviews are also included.

150.05.10 Geological Hazards Review
Normally this activity is limited to a review of the existing studies and a field review of the area.

150.05.15 Utility Search
Normally this activity is limited to a review of the existing plans/As-builts and a field review of the area.

150.05.20 Environmental Constraints Identification
Normally this activity is limited to a review of the existing studies and a field review of the area. However, project specific circumstances may indicate the need/advisability of more detailed investigations. The purpose of this activity is to identify and delineate any environmental resources or issues that might affect initial alternative(s) selection. Preparation of a base environmental constraints map is recommended.

150.05.25 Traffic Forecasts/Modeling
Analyze travel-demand model data using Regional Transportation Planning Agencies (RTPA) traffic models when available. Prepare future traffic projections for intersections, highway mainlines and ramps for project level documents. Prepare traffic indices and design designations such as traffic index and equivalent single-axle load.

150.05.30 Surveys and Maps for PID
When performing work under this element for the PID process 150.05.30.05 should be charged. Primary efforts are limited to compilation and delivery of existing survey and boundary information.

When requested to provide accelerated survey or right of way engineering products, products which work is normally performed during a future project phase, 150.05.30.10 should be charged.

150.05.30.05 Regular Surveys and Maps for PID
Minimal field and office survey activities to supplement products from 150.05.05 and 150.05.15. This code is not intended for performing a full engineering survey of a whole project during the K phase.

150.05.35 Problem Definition
Analyzing the available information to resolve the project's need and purpose and general scope. In the case of a highway project this would include determining the existing and future Level of Service (LOS) in the no build scenario, a corridor analysis to determine deliverable volumes, determining the general perimeters such as the required number of lanes, and analyzing traffic accident history.

150.05.45 As-Built Centerline and Existing Right of Way

Revie to he existing data, and prelir ary surveys as necessary, ocate existing facility w th
center on s and right of way lines. Lc e existing record informati such as plans, As-builts, line
survey nes and mapping, etc. Evalway data. Minimal surveys as cessary to locate right of y file
and ce erline. ente

End P lucts: roc
• A Design Software project file and CADD drawing file contai preliminary sig
center an and/or right of way line lc ions based on record data d field surveys. line
• Inclute fn into District Centerline A rment Log using appropria ormat for district. sio

150.1(itial Alternatives Develo ent 0 In
This achirity includes identifying all ential alternatives and rea ig consensus with ctiv
interresxternal stakeholders on thy ternatives that will be add sed in the PID. This activital/e
includo bestablishing the study limit the various alternatives t analyzed in the PID. es

End p luct: roc
Gener be scope and study limits of ti lternatives determined to carried forward for further al s
study.terese alternatives are now rt, y for further analysis to d mine project features, cos Th
and cc effectiveness. ost

150.1(5 Public / Local Agency I ut 0.0
Includ out is not limited to: es
• Deve ment of Community Actio an elop
• Initia calformation or preliminary S ing Meetings w/public & lc agencies l int
• Read ig consensus on which alt atives to address in the P chir

150.1 5 Concept Alternatives D elopment 0.1
Develed nent of the basic strategy ons to meet the project ne and purpose. Including opn
develdinaig horizontal & vertical alig ent, cross sections, prelim ry staging plans, strip opir
maps/iewht of way requirements, re ilitation strategies and re s by FHWA and for all rig
altern es under considerations. ativ

150.1 lternatives Analysis 5 A
This a of ity is required to develop necessary scope and cos each alternative to be ctiv
presed fod in the PID. Costs develo in this activity will be use r programming purposes; nte
consey alntly, the analysis should f sufficient detail to identif l potential costs. Also que
includy oin this activity are tasks re he ed to assess the adequac f the alternatives to meet ed
projec need and purpose. t's

150.1 5 Right of Way Data She 5.0
Includ anassessing R/W requireme obtaining public records, l preparing right of way es
cost e nates and Cost Estimate M s stin

End P lucts: Proc
Right Way Data Sheets of \
Cost Et dmate Maps (for inclusion i e Right of Way Data She eliverable.) Esti

150.1 0 Utility Relocation Requ ments Assessment 5.1
Identiestig utility needs, inspecting lities and preparing utility mate for inclusion in the fyin
Right Way Data Sheets. of \

150.1 0 District Preliminary Ge chnical Report (DPGR) 5.2
This tinal includes all efforts require o prepare a District Prelim y Geotechnical Report ask
(DPGs o The effort required to prep a DPGR typically consis f field reviews, R).

researching existing files, literature reviews and information gathering, such as proposed plans/alternatives and location history. Sometimes limited subsurface exploration is required to provide sufficient information to produce a DPGR. The subsurface exploration can include, but isn't limited to, test borings, soundings, and/or geophysics. A typical DPGR consists of identifying the geological conditions of the proposed alternatives, existing conditions, constructability issues, and preliminary information such as cut and fill slope ratios for project cost estimating purposes.

150.15.25 Preliminary Materials Report
Includes initial deflection study, corrosion study, and identification of need for material sites.

150.15.30 Structures Advance Planning Study (APS)
This task includes all efforts required to develop, review, approve and distribute Structures Advance Planning Studies. An APS is required to identify the structures scope of work and preliminary cost. The APS is included in the Project Initiation Document.
The activities include, but are not limited to:
- Prepare Preliminary Design
- Prepare Preliminary Plan Sheets
- Prepare Structures Preliminary Geotechnical Report (SPGR)

The SPGR is used to document existing foundation conditions, make preliminary foundation recommendations, and identify the need for additional investigations and studies. Sometimes limited subsurface exploration is required to provide sufficient information to produce a SPGR. The subsurface exploration can include, but isn't limited to, test borings, soundings, and/or geophysics. The SPGR shall provide, but not be limited to, the following:
- Project Location
- Summary of Site Geology and Subsurface Conditions
- Scour Evaluation
- Corrosion Evaluation
- Preliminary seismic data and recommendations
- As-Built Foundation Data
- Preliminary Foundation Recommendations
- Additional Field Work and Laboratory Testing
- Prepare Structures Preliminary Hydraulics Report (PHR)
- Prepare Structures Preliminary Architectural and Aesthetics Report (PAAR)
- Prepare Structures Preliminary Maintenance Report (PMR)
- Prepare Preliminary Quantities
- Prepare Preliminary Estimate
- Prepare Structures Advance Planning Study package.
- Perform Constructability Review (CR) of the APS package.
- Obtain APS approval

150.15.35 Multimodal Review
This review should address temporary construction and permanent impacts as well as possible improvements to:
- Pedestrian facilities
- Bicycle facilities
- Transit facilities
- Park and Rides
- Equestrian Facilities
- Weight/Inspection Facilities
- Rest Area Facilities

150.15.40 Hydraulic Review

includes review and inspection of existing facilities to determine the need to upgrade or replace the existing drainage system (includes culvert inspection study).

150.15.45 Traffic Capacity Analysis
Includes the use macroscopic and/or micro-simulation modeling, as appropriate, to perform traffic capacity analysis on existing and future year project specific State highways. Includes integrating, as appropriate, ramp metering, HOV lanes and intelligent transportation system needs.

150.15.50 Traffic Studies
These studies include:
- Prepare preliminary traffic design
- Perform traffic operational and safety analysis
- Traffic system and signal system review
- Perform Skid Tests

150.15.55 Construction Estimates
The Construction Estimates are used to program the project. The estimates include (and may include other items depending upon the project features):
- Adequate scoping for each alternative
- Worst case scenario
- Reconstruction of existing features
- Right of Way costs, including utility relocation
- Mitigation costs for hazardous materials and other environmental impacts
- Existing and forecasted traffic
- Geotechnical design, especially foundation and slope stability features
- Materials
- Pavement structural sections design
- Noise barriers
- Retaining walls
- Major storm drains
- Proposed Structures
- Traffic handling and traffic management
- Recycling

150.15.60 Preliminary Transportation Management Plan
This plan includes:
- Review and approval of TMP Data Sheet
- Prepare itemized estimate of proposed TMP strategies and their respective costs for the Project Initiation Document
- Identify TMP elements that need to be in place prior to start of construction as stage construction or first order of work for CTC package
- Form and meet with TMP team, which may include District TMP Manager, District Traffic Manager (DTM), Project Engineer (PE), and the Maintenance representative.
- Coordinate lane closures for multiple projects in the same area to determine impact on this project
- Coordinate major closures with neighboring districts, H, and local agencies to determine impact on this project
- Update TMP/lane closure database

150.15.99 Other Alternatives Analysis Products
All other work, during the Alternatives Analysis efforts, not defined or covered in other 150.15 elements.

150.20 Preliminary Environmental Analysis Report (PEAR)
The Preliminary Environmental Analysis Report (PEAR) identifies the potential environmental impacts of each alternative, as well as potential mitigation costs. Although existing data will most frequently be used in the preparation of this report, project specific circumstances may indicate the need for or advisability of conducting more detailed investigations. Costs developed in this activity will be used for programming purposes; consequently, the analysis should be of sufficient detail to identify all potential costs.

150.20.05 Initial Noise Study

150.20.10 Hazardous Waste Initial Site Assessments/Investigations

End Product:
Hazardous waste Initial Site Assessment (ISA). An ISA is required for all projects. This information is required in order to complete the PEAR and PID.

150.20.15 Scenic Resource and Landscape Architecture Review
This task includes two subtasks: a Scenic Resource Review and a Landscape Architectural Review.
The Scenic Resource Review looks at the proposed project to determine if scenic resources exist within the project limits, and whether these resources will be impacted by the proposal. For projects on the State Highway System, the following information is collected:
- Verification of information from the RTP stage;
- Identification of possible scenic resources and the project's potential visual impact(s);
- Identification of possible mitigation measures and preliminary costs to be included in the PSR estimate (e.g., special grading requirements, architectural features on bridges and walls, urban street amenities, landscape treatment, right-of way requirements)
- Identification of Officially Designated State Scenic Highways in the project area
- Public input is solicited during this phase to address local concerns and integrate appropriate design features through a 'context sensitive solutions' approach per Director's Policy DP-22.
- For projects off the State Highway System, a Preliminary Environmental Study (PES) form is completed.

The Landscape Architectural Review typically includes recommendations regarding:
- Design strategies that integrate the project with the surrounding environment.
- Erosion control, slope design, and Storm Water Data Report recommendations.
- Replacement Highway Planting and Mitigation Planting requirements
- Integration with the Comprehensive Corridor Plan, if available
- Traveler and Worker Safety
- Preservation of Historic Period Landscapes

150.20.20 Initial NEPA/404 Coordination
Includes Pre-Consultation with appropriate resource agencies in order to reach consensus on need and purpose, avoidance alternatives, and feasible alternatives.

150.20.30 Initial Records and Literature Search for Cultural Resources

150.20.40 Initial Community Impact Analysis Land Use and Growth Studies

150.20.45 Initial Air Quality Study

150.20.50 Initial Water Quality Studies

150.20.55 Initial Floodplain Study

150.20.60 PEAR Preparation
Prepare Preliminary Environmental Analysis Report (PEAR) or a Categorical Exemption/ Categorical Exclusion (CE/CE) for qualifying projects where the PID is combined with project report/environmental document.

150.20.65 Initial Paleontology Study

150.20.70 Initial Native American Coordination

150.20.99 Other PEAR Products
All other work, during the PEAR efforts, not defined or covered in other 150.20 elements.

150.25 Approved PID (PSR, PSSR, etc.)
This activity includes all tasks required to develop the PID text and exhibits, as well as the effort required to circulate, review and update the PID (includes appropriate "constructability review" for project initiation component). This activity also includes development and approval of any required design exceptions and /or a FHWA access modification request. It also includes the development and approval of any supplemental PIDs.

150.25.05 Draft PID

150.25.10 Approved Exceptions to Design Standards Development

150.25.15 Approved Access Modification Request

150.25.20 PID Circulation Review and Approval
This includes the PSSR Scoping Team field review and appropriate constructability review.

150.25.25 Storm Water Data Report

150.25.30 Draft Project Report as part of a PSSR/PR Programming Document
If this project uses a combined PR/PSSR and only has Categorical Exemption/Exclusion required, the draft Project Report is itself the Final Project Report, and WBS 180 should not be used. This activity includes all tasks required to develop the text, exhibits and cost estimate required for a Draft Project Report. This activity includes development and approval of any design exceptions.

150.25.30.05 Cost Estimates for Alternatives

150.25.30.10 Fact Sheet for Exceptions to Design Standards

150.25.30.15 Approved Exceptions to Encroachment Policy

150.25.30.20 Draft Project Report as part of a PSSR/PR Programming Document

150.25.30.25 Draft Project Report Circulation Review & Approval

150.25.99 Other Approved PID Products

150.35 Required Permits during Project Initiation Documents Development
This activity includes all work, **normally prior to approval of the combined PR/PSSR**, required in order to determine what permits may or may not be required.
Note: This does not include coordination with resource agencies covering the scoping and

NEPA/404 MOU process covered under activities 150.10.05, 150.20.20, 165.05.10, and 165.15.15.

150.40 Permits during Project Initiation Documents Development
All work involved in obtaining permits for combined PR/PSSR, including:
- Discussions and negotiations with the permitting agency.
- Preparation of the permit and attachments such as exhibits, maps, etc.
- Obtain funds for any required permit fee.
- Submit permit application.

150.40.50 Environmental Commitments Record
Prepare and/or update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements and Mitigation (PAM)) **for combined PR/PSSR projects**. In the case of a CE, transmit to Design for inclusion into the PS&E package. The ECR (which should be initiated/updated at WBS 150.40.50, 165.10.75, 180.15.20, 235.05.15, 235.40, 255.15, 255.40, 260.75, 270.70, 295.35, and 295.40) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

150.45 Base Maps and Plan Sheets for Project Initiation Documents
Work involved in the preparation of exhibits, geometric base maps and functional base plan sheets required for the PID development efforts.

EXHIBIT B
BUDGET DETAIL AND PAYMENT PROVISIONS
INTERAGENCY AGREEMENTS

A. INVOICING AND PAYMENT

Contractor shall submit three copies of the invoice to the State only after receiving written notice of satisfactory completion or acceptance of work by the DWR Contract Manager. **The State will not accept an invoice for work that has not been approved and will return the invoice as a disputed invoice to the Contractor.**

Invoices shall be submitted no more often than monthly, in arrears, bearing the contract number.

Submit two copies of each invoice to the Contract Manager at the following address:

Department of Water Resources
Division of Engineering
Attn: Gordon Enas
1416 Ninth Street, Room 510-3
Sacramento, CA 94236

Submit simultaneously one additional copy of each invoice to the DWR Accounting Office at the following address in order to expedite approval and payment:

DWR Accounting Office
Contracts Payable Unit
P.O. Box 942836
Sacramento, California 94236-0001

Undisputed invoices shall be **paid** within 45 days of the date received by the Contract Manager and/or the Accounting Office, whichever date occurs later.

B. BUDGET CONTINGENCY CLAUSE

It is mutually agreed that if the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no further force and effect. In this event, the State shall have no liability to pay any funds whatsoever to Contractor or to furnish any other considerations under this Agreement and Contractor shall not be obligated to perform any provisions of this Agreement.

If funding for any fiscal year is reduced or deleted by the Budget Act for purposes of this program, the State shall have the option to either: cancel this Agreement with no liability occurring to the State, or offer an Agreement Amendment to Contractor to reflect the reduced amount.

C. ADVANCE PAYMENTS

Government Code section 11257 permits advance payments between departments to mitigate an adverse effect to the appropriation of the performing department. To ensure

sufficient funds are available to the Contractor to perform the contract requirements, Contractor may require payment in advance from the Department of Water Resources (DWR). At the start of the Interagency Agreement, Contractor will estimate the cost of approximately three (3) months or twenty-five percent (25%) of the Agreement amount for the fiscal period's worth of activities and will request immediate payment by DWR.

Upon execution of this Agreement, DWR shall remit to Contractor an amount not less than $0.00 as advance funding for work to be performed by Contractor. The total amount of this Agreement is $421,976.00.

The advance payment shall be retained in DWR's account. Contractor shall bill DWR monthly for actual costs incurred. DWR shall remit the total amount due within thirty (30) days of the date of the monthly invoice. Contractor shall not apply these billings against the advance and will hold the advance payment until the Agreement is completed or terminated. Any remaining charges shall then be applied against the advance, and any unused advance payment will be refunded.

D. INTERAGENCY RECEIVABLE RECOVERY PROCESS

Pursuant to Government Code (GC) section 11255, departments that provide services to another department may recover outstanding receivables by initiating a Transaction Request (TR) with the State Controller's Office (SCO) to transfer funds from the debtor department. This option shall be used on a limited basis and only when the following conditions are met: (1) the invoice was not paid by the requested due date, (2) non-payment provisions are included in the interagency agreement between the departments, (3) the invoice has not been disputed, and (4) a 30-day notice has been provided to the debtor department that a transfer of funds will be initiated for non-payment.

Budget Letter 10-10 (BL 10-10) issued on April 29, 2010 details the procedures and approval process to be followed in the event a Transaction Request is warranted. (*Budget Letter 10-10 hereby incorporated by reference and made part of this agreement as if attached hereto. This document can be viewed at http://www.dof.ca.gov/budgeting/budget_letters/.)* In this Agreement DWR and Contractor agree to abide by the requirements in BL 10-10.

DISTRICT 3
LEVEL OF EFFORT ESTIMATE

STATE ROUTE 160 - DELTA HABITAT CONSERVATION AND CONVEYANCE PROGRAM

WBS CODE	Task	Supervising TE	Senior Transp. Engr.-PM	Senior Transp. Engr.	Transportation Engr.-D	Transportation Engr.-C	Hydraulics Engineer	Traffic Engineer	Traffic Engr.-Electrical	Traffic Management (TMP)	Senior Envi. Planner	Env. Planner	Senior R/W Agent	R/W Agent	Senior Trans. Surveyor	Transportation Surveyor	Landscape Architect	Administrative Assistant	Clerical	SUB-TOTAL
100	**Perform Project Management**	8	141	20	0	0	0	0	0	0	2	0	4	0	2	0	0	116	7	300
100.05	Project Management - PID Component	1	2	2														2		7
100.05.05	Project Initiation and Planning	2	40	2							1		2		1			20	2	70
100.05.10	PID Component Execution and Control	2	65	10							1		2		1			40	2	123
100.05.15	PID Component Close Out	1	8	2														40	1	52
100.05.20	Project Shelving (PID)		2	2														10		14
100.05.35	Execute Interagency Agreement for PID Process	2	24	2														4	2	34
150	**Develop Project Initiation Document (PID)**	18	39	187	1345	524	75	252	55	104	68	322	61	212	27	154	43	1	9	3496
150.05	Transportation Problem Definition and Site Assessment	2	2	4	46	18	0	3	0	2	3	5	2	5	5	48	0	0	0	145
150.05.05	Review of Exisiting Reports Studies and Mapping			2	8															10
150.05.10	Geotechnical Hazards Review				2															2
150.05.15	Utility Search				5	2														7
150.05.20	Environmental Constraint Identification				2						2	4								8
150.05.25	Travel Forecasts/Modeling				4	4														8
150.05.30	Surveys and Maps for PID														1	20				21
150.05.30.05	Regular Surveys and Maps for PID				15	8										20				43
150.05.35	Problem Definition	2	2	2	2			2		2	1	1	1	1						16
150.05.45	As-Built Centerline and Exisiting Right of Way				8	4		1					1	4	4	8				30
150.10	Initial Alternatives Development	4	8	110	240	110	0	26	2	8	22	10	4	0	2	2	2	1	1	552
150.10.05	Public/Local Agency Input																			0
150.10.15	Concept Alternative Development	2	6	100	220	100		20	2	6	20	10	2		2	2	2	1	1	496
150.10.99	Other Initial Alternative Development	2	2	10	20	10		6		2	2		2							56
150.15	Alternative Analysis	0	0	20	768	262	42	190	42	85	14	30	44	206	20	100	6	0	2	1837
150.15.05	Right of Way Data Sheets			2	30	8							40	200	20	100			2	402
150.15.10	Utility Relocation Requirements Assessment			2	80	20			2											104
150.15.20	District Preliminary Geotechnical Report (DPGR)			2	60	30														92
150.15.25	Preliminary Materials Report			2	60	20	2				2	2					2			90
150.15.30	Structures Advanced Planning Study (APS)			1	80	20														101
150.15.35	Multimodal Review			2	8	4					4	8								26
150.15.40	Hydraulic Review			1	40	10	40										2			93
150.15.45	Traffic Capacity Analysis			2	90	20		20		15	2	10								159
150.15.50	Traffic Studies			3	100	10		80	20	20	2	10								245
150.10.75	Updated Materials Information				20	10														30
150.15.55	Construction Estimates			4	120	80											2			206
150.15.60	Preliminary Transportation Management Plan			3	40	10		80	20	40										193
150.15.99	Other Alternatives Analysis Products			2	40	20		10		10	4		4	6						96
150.20	Preliminary Environmental Analysis Report (PEAR)	0	1	10	31	7	27	0	0	2	18	265	0	0	0	0	24	0	2	382
150.20.10	Initial Noise Study			1							2	20								23

WBS CODE	Task	Supervising TE	Senior Transp. Engr.-PM	Senior Transp. Engr.	Transportation Engr.-D	Transportation Engr.-C	Hydraulics Engineer	Traffic Engineer	Traffic Engr.-Electrical	Traffic Management (TMP)	Senior Envi. Planner	Env. Planner	Senior R/W Agent	R/W Agent	Senior Trans. Surveyor	Transportation Surveyor	Landscape Architect	Administrative Assistant	Clerical	SUB-TOTAL
150.20.15	Scenic Resource and Landscape Architechture Review				2		2				2	30					20			56
150.20.20	Initial NEPA/404 Coordination			1	1						1	8								11
150.20.30	Initial Records and Literature Search for Cultural Resources			2	1						1	16								20
150.20.40	Initial Community Impact Analysis Land Use And Growth Studies			1	1						2	20								24
150.20.45	Initial Air Quality Studies			1	1					2	1	10								15
150.20.50	Initial Water Quality Studies			1	6		4				2	25								38
150.20.55	Initial Floodplain Study				10	5	20					20								55
150.20.60	PEAR Preparation				4		1					60								65
150.20.65	Initial Paleontology Study			1	1							20								22
150.20.70	Initial Native American Coordination			1	1							16								18
150.20.99	Other PEAR Products		1	1	3	2					2	20					4		2	35
150.25	Approved PID (PSR)	12	28	37	260	127	8	33	11	7	16	12	11	1	0	4	11	0	4	580
150.25.10	Approved Exception to Design Standards Development				45	12														57
150.25.15	Approved Access Modification Request				4	1														5
150.25.20	PID Circulation Review and Approval	2	1	4	10	8		1	1	1	1		1	1			1		1	33
150.25.25	Storm Water Data Report		1	2	40	20						2					2			67
150.25.30.05	Cost Estimate for Alternatives		1	4	60	40		10	10	6							2			133
150.25.30.10	Fact Sheet for Exceptions to Design Standards		1	1	20	10		1												33
150.25.30.15	Approved Exceptions to Encroachment Policy			1	2	2														5
150.25.99	Other Approved PID Products			1	3	2														6
150.40.50	Environmental Commitment Record										1	2							1	4
150.45	Base Maps and Plan Sheets for Project Initiation Documents				40	20	2	2								4	2			70
	Travel		4	4	16	12	4	4			4	8					4			60
	Meetings	10	20	20	20			15			10		10						2	107
	ESTIMATED TOTAL HOURS	26	180	207	1345	524	75	252	55	104	70	322	65	212	29	154	43	117	16	3796
	Average Hourly Rate (including OH, Benfits, etc)	$ 130	$ 130	$ 130	$ 117	$ 110	$ 117	$ 117	$ 117	$ 117	$ 110	$ 96	$ 90	$ 78	$ 130	$ 117	$ 117	$ 66	$ 55	
	ESTIMATED TOTAL COST	$3,380	$23,400	$26,910	$157,365	$57,640	$8,775	$29,484	$6,435	$12,168	$7,700	$30,912	$5,850	$16,536	$3,770	$18,018	$5,031	$7,722	$880	$421,976

EXHIBIT D - Special Terms and Conditions for Department of Water Resources (Interagency Agreements)

1. TERMINATION CLAUSE: Either State agency may terminate this Agreement upon thirty (30) days' advance written notice. The State agency providing the services shall be reimbursed for all reasonable expenses incurred up to the date of termination.

2. COMPUTER SOFTWARE: For contracts in which software usage is an essential element of performance under this Agreement, the Contractor certifies that it has appropriate systems and controls in place to ensure that state funds will not be used in the performance of this contract for the acquisition, operation or maintenance of computer software in violation of copyright laws.

3. SEVERABILITY: If any provision of this Agreement is held invalid or unenforceable by any court of final jurisdiction, it is the intent of the parties that all other provisions of this Agreement be constructed to remain fully valid, enforceable, and binding on the parties.

4. CONFLICT OF INTEREST:

   a. Current and Former State Employees: Contractor should be aware of the following provisions regarding current or former state employees. If Contractor has any questions on the status of any person rendering services or involved with the Agreement, the awarding agency must be contacted immediately for clarification.

      (1) Current State Employees: (PCC §10410)

         (a) No officer or employee shall engage in any employment, activity or enterprise from which the officer or employee receives compensation or has a financial interest and which is sponsored or funded by any state agency, unless the employment, activity or enterprise is required as a condition of regular state employment.

         (b) No officer or employee shall contract on his or her own behalf as an independent contractor with any state agency to provide goods or services.

      (2) Former State Employees: (PCC §10411)

         (a) For the two-year period from the date he or she left state employment, no former state officer or employee may enter into a contract in which he or she engaged in any of the negotiations, transactions, planning, arrangements or any part of the decision-making process relevant to the contract while employed in any capacity by any state agency.

         (b) For the twelve-month period from the date he or she left state employment, no former state officer or employee may enter into a contract with any state agency if he or she was employed by that state agency in a policy-making position in the same general subject area as the proposed contract within the 12-month period prior to his or her leaving state service.

b. Penalty for Violation:

(a) If the Contractor violates any provisions of above paragraphs, such action by Contractor shall render this Agreement void. (PCC §10420)

c. Members of Boards and Commissions:

(a) Members of boards and commissions are exempt from this section if they do not receive payment other than payment of each meeting of the board or commission, payment for preparatory time and payment for per diem. (PCC §10430 (e)

d. Representational Conflicts of Interest:

The Contractor must disclose to the DWR Program Manager any activities by contractor or subcontractor personnel involving representation of parties, or provision of consultation services to parties, who are adversarial to DWR. DWR may immediately terminate this contract if the contractor fails to disclose the information required by this section. DWR may immediately terminate this contract if any conflicts of interest cannot be reconciled with the performance of services under this contract.

e. Financial Interest in Contracts:

Contractor should also be aware of the following provisions of Government Code §1090:

"Members of the Legislature, state, county district, judicial district, and city officers or employees shall not be financially interested in any contract made by them in their official capacity, or by any body or board of which they are members. Nor shall state, county, district, judicial district, and city officers or employees be purchasers at any sale or vendors at any purchase made by them in their official capacity."

f. Prohibition for Consulting Services Contracts:

For consulting services contracts (see PCC §10335.5), the Contractor and any subcontractors (except for subcontractors who provide services amounting to 10 percent or less of the contract price) may not submit a bid/SOQ, or be awarded a contract, for the provision of services, procurement of goods or supplies or any other related action which is required, suggested, or otherwise deemed appropriate in the end product of such a consulting services contract (see PCC §10365.5).

EXHIBIT E
ADDITIONAL PROVISIONS

1. POLITICAL REFORM ACT: Contractor shall comply with the language stated in the Standard Contract Provisions Concerning the Political Reform Act, Exhibit E, Attachment 1. Contractor shall file a Statement of Economic Interests (Fair Political Practices Commission Form 700) upon assuming office, annually, and within 30 days after leaving office.

2. PROTECTION OF CONFIDENTIAL AND SENSITIVE INFORMATION: This shall apply to all Contractors whose terms with the Department require or permit access to Confidential or Sensitive Information in conducting business with the Department or performing duties under a Contract with the Department. Contractor shall impose all the requirements of this provision on all of its officers, employees, and Affiliates with access to Confidential and/or Sensitive Information in accordance with Attachment 2. Also a Nondisclosure Certificate, Attachment 3, must be signed by all personnel with access to Confidential and Sensitive Information and submitted to the Department prior to being allowed such access.

California Department of Water Resources

Standard Contract Provisions Regarding Political Reform Act Compliance

1. POLITICAL REFORM ACT REQUIREMENTS:

   a. Form 700 Disclosure: The Department of Water Resources (DWR) considers that the Contractor, subcontractor(s), and/or their key staff may be a consultant, i.e., a public official, within the meaning of the Political Reform Act, specifically Government Code §82048 and Title 2, California Code of Regulations §18701. Accordingly, as specified by DWR, such persons shall complete and submit to the DWR Personnel Officer a Form 700, Statement of Economic Interests, within 30 days of the earlier of the date work commences or the effective date of this agreement, updated both annually and when changes in key staff or duties occur. The financial interests disclosed shall be for Disclosure Category 1. Contractors may access the Form 700 on the Fair Political Practices Commission website at www.fppc.ca.gov. Any questions regarding completion of the Form 700 should be addressed to the FPPC at its website or at (866) 275-3772 (866/ASK-FPPC). A leaving office statement must also be filed upon completion of all contract assignments.

   b. Financial Conflict of Interest Prohibition: Contractor must review the Form 700s filed by its key staff and subcontractors and determine whether, in the light of the interests disclosed, performance under the contract could violate Government Code §87100. Contractor shall notify DWR immediately of any potentially disqualifying conflict of interest. Government Code §87100 provides:

      > "No public official at any level of state or local government shall make, participate in making or in any way attempt to use his official position to influence a governmental decision in which he knows or has reason to know he has a financial interest."

   c. Consequences of Failure to Comply with Political Reform Act Requirements: Any one of the following shall constitute a breach of this Contract and shall be grounds for immediate termination of this Contract:

      (1) Failure to complete and submit all required Form 700s within the 30-day period as required in paragraph A above, or respond to any request from the DWR Personnel Officer for additional information regarding any such Form 700s;

(2) Failure to notify DWR of a potentially disqualifying conflict of interest;

(3) The determination by DWR or the Contractor that any individual, who is a contractor, subcontractor, and/or a key member of their staff, has a financial interest that could result in a violation of Government Code §87100 provided, however, that DWR may opt to waive such breach if Contractor replaces any such individual within two working days after a determination of such financial interest.

Protection of Confidential and Sensitive Information

1. For purposes of this Exhibit, "Contractor" means any contractor or researcher, including a Non-State Entity contractor or researcher, receiving funds from, doing business with, conducting research for, or performing services for the Department of Water Resources ("Department") pursuant to a contract, purchase order, research agreement, grant or loan agreement, joint powers agreement, public works contract, or other contractual vehicle (collectively "Contract"). The term "Contractor" also includes Contractor's officers and employees and Affiliates. For purposes of this Exhibit, the term "Affiliate" means a person or entity forming a partnership, joint venture, subcontract, sales contract, or other legal relationship with Contractor to carry out the terms of the Contract.

2. This Exhibit shall apply to all Contractors the terms of whose Contracts with the Department require or permit access to Confidential or Sensitive Information in conducting business with the Department or performing duties under a Contract with the Department.

3. Contractor shall impose all the requirements of this Exhibit on all of its officers, employees and Affiliates with access to Confidential and/or Sensitive Information.

4. For purposes of this Exhibit, "Non-State Entity" shall mean a business, organization or individual that is not a State entity, but requires access to State information assets in conducting business with the State. This definition includes, but is not limited to, researchers, vendors, consultants, and their subcontractors, officers, employees, and entities associated with federal and local governments and other states.

5. For purposes of this Exhibit, "Confidential Information" means information, the disclosure of which is restricted or prohibited by any provision of State or federal law or which is treated as privileged or confidential under such laws. Such Confidential Information includes, but is not limited to, information that is exempt from disclosure under the California Public Records Act (Government Code sections 6250-6255), public social services client information described in California Welfare and Institutions code section 10850, and "personal information" about individuals as defined in California Civil Code Section 1798.3 of the Information Practices Act (IPA) if the disclosure of the "personal information" is not otherwise allowed by the IPA. Such Confidential Information may also include financial, statistical, personal, technical, and other data and information relating to operation of the Department.

6. For purposes of this Exhibit, "Sensitive Information" means information that requires special precautions to protect it from unauthorized modification or deletion. Sensitive information may be either public records or Confidential Information. Examples include statistical reports, financial reports, and logon procedures.

7. Contractor shall take all necessary measures to protect Confidential or Sensitive Information to which it or its Affiliates gain access from unauthorized access (accidental or intentional), modification, destruction, or disclosure. These measures may include, but are not limited to: password protection of electronic data, encrypted transmission of electronic data, and secure mailing and locked storage of paper and taped copies. Such measures may also include establishment of secure workstations and maintenance of a secure workstation access log.

Contractors shall also apply appropriate security patches and upgrades and keep virus software up-to-date on all systems on which Confidential or Sensitive Information may be used.

8. Contractors shall ensure that all media, including electronic media, containing Confidential or Sensitive Information, to which they are given access are protected at the level of the most confidential or sensitive piece of data on the media.

9. Contractor and Affiliate personnel allowed access to Confidential and Sensitive Information shall be limited to those persons with a demonstrable business need for such access. Contractor shall maintain a current listing of all Contractor and Affiliate personnel with access to Confidential and Sensitive Information.

10. Contractor shall notify Department promptly if a security breach involving Confidential or Sensitive Information occurs or if Contractor becomes legally compelled to disclose any Confidential Information.

11. Contractor shall comply with all State policies and laws regarding use of information resources and data, including, but not limited to, California Government Code section 11019.9 and Civil Code sections 1798 et seq. regarding the collection, maintenance and disclosure of personal and confidential information about individuals.

12. If Contractor obtains access to Confidential Information containing personal identifiers, such as name, social security number, address, date of birth, race/ethnicity and gender of individuals, Contractor shall substitute non-personal identifiers as soon as possible.

13. All data, reports, information, inventions, improvements and discoveries used, compiled, developed, processed, stored or created by Contractor or Contractor's Affiliates using Confidential and/or Sensitive Information shall be treated as Confidential and/or Sensitive Information by the Contractor and Contractor's Affiliates. No such data, reports, information, inventions, improvements or discoveries shall be released, published or made available to any person (except to the Department) without prior written approval from the Department.

14. At or before the termination date of the Contract, Contractor shall either (a) destroy all Confidential and Sensitive Information in accordance with approved methods of confidential destruction; or (b) return all Confidential and Sensitive Information to the Department; or (c) if required by law to retain such information beyond the termination date of the contract, provide for the Department's review and approval a written description of (i) applicable statutory or other retention requirements; (ii) provision for confidential retention in accordance such requirements and the terms of this Exhibit and (iii) provision for eventual destruction in accordance with all applicable provisions of State and federal law using approved methods of confidential destruction.

15. Contractor shall cooperate with the Department's Information Security Officer or his designee in carrying out the responsibilities set forth in this Exhibit.

16. Failure to adhere to these requirements may be grounds for termination of the Contract and for imposition of civil and criminal penalties.

NON-DISCLOSURE CERTIFICATE

I hereby certify my understanding that access to Confidential and Sensitive Information is provided to me pursuant to the terms and restrictions of the **Protection of Confidential and Sensitive Information,** Exhibit E, Attachment 2 of Contract #. 4600009106 between California Department of Transportation and the California Department of Water Resources. I hereby agree to be bound by those terms and restrictions. I understand that all Confidential and Sensitive Information, as defined in the **Protection of Confidential and Sensitive Information**, and any notes or other memoranda, or any other form of information, electronic or otherwise that copies or discloses Confidential Information, shall not be disclosed to anyone other than in accordance with the **Exhibit E, Attachment 2**. I acknowledge that a violation of this certificate may result in termination of the Contract and/or imposition of civil or criminal penalties.

Signed: Sukhwinder Bajwa

Typed Name and Title: Sukhwinder Bajwa, Project Manager

Representing (give name of Contractor/Affiliate): Caltrans

Date: 1-11-2011