ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT
SBD 15 REHAB (EA 08-0K122)

Resolution SHOPP-P-1819-04B
(will be completed by CTC)

1. FUNDING PROGRAM

- ☐ Active Transportation Program
- ☐ Local Partnership Program (Competitive)
- ☐ Solutions for Congested Corridors Program
- ☒ State Highway Operation and Protection Program
- ☐ Trade Corridor Enhancement Program

2. PARTIES AND DATE

2.1 This Project Baseline Agreement (Agreement) for the *SBD 15 REHAB (EA 08-0K122)*, effective on, OCTOBER 17, 2018 (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, *Caltrans*, and the Implementing Agency, *Caltrans*, sometimes collectively referred to as the "Parties".

3. RECITAL

3.2 Whereas at its March 22, 2018 meeting the Commission approved the State Highway Operation and Protection Program, and included in this program of projects the *SBD 15 REHAB (EA 08-0K122)*, the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as Exhibit A and the Project Report attached hereto as Exhibit B, as the baseline for project monitoring by the Commission.

3.3 The undersigned Project Applicant certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

4. GENERAL PROVISIONS

The Project Applicant, Implementing Agency, and Caltrans agree to abide by the following provisions:

4.1 To meet the requirements of the Road Repair and Accountability Act of 2017 (Senate Bill [SB] 1, Chapter 5, Statutes of 2017) which provides the first significant, stable, and on-going increase in state transportation funding in more than two decades.

4.2 To adhere, as applicable, to the provisions of the Commission:

- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Active Transportation Program", dated
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Local Partnership Program", dated
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated
- ☒ Resolution G-18-13, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated March 22, 2018
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated

4.3 All signatories agree to adhere to the Commission's State Highway Operation and Protection Program, Guidelines. Any conflict between the programs will be resolved at the discretion of the Commission.

4.4 All signatories agree to adhere to the Commission's SB 1 Accountability and Transparency Guidelines and policies, and program and project amendment processes.

4.5 Caltrans agrees to secure funds for any additional costs of the project.

4.6 Caltrans agrees to report on a quarterly basis; after July 2019, reports will be on a semi-annual basis on the progress made toward the implementation of the project, including scope, cost, schedule, outcomes, and anticipated benefits.

4.7 Caltrans agrees to prepare program progress reports on a quarterly basis; after July 2019, reports will be on a semi-annual basis and include information appropriate to assess the current state of the overall program and the current status of each project identified in the program report.

4.8 Caltrans agrees to submit a timely Completion Report and Final Delivery Report as specified in the Commission's SB 1 Accountability and Transparency Guidelines.

4.9 All signatories agree to maintain and make available to the Commission and/or its designated representative, all work related documents, including without limitation engineering, financial and other data, and methodologies and assumptions used in the determination of project benefits during the course of the project, and retain those records for four years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.

4.10 The Transportation Inspector General of the Independent Office of Audits and Investigations has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Project Applicant, the Implementing Agency, and any consultant or sub-consultants at any time during the course of the project and for four years from the date of the final closeout of the project, therefore all project records shall be maintained and made available at the time of request. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

5. SPECIFIC PROVISIONS AND CONDITIONS

5.1 Project Schedule and Cost
See Project Programming Request Form, attached as Exhibit A.

5.2 Project Scope
See Project Report or equivalent, attached as Exhibit B. At a minimum, the attachment shall include the cover page, evidence of approval, executive summary, and a link to or electronic copy of the full document.

5.3 Other Project Specific Provisions and Conditions

Attachments:

Exhibit A: Project Programming Request Form
Exhibit B: Project Report

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

SBD 15 REHAB (EA 0K122)

Resolution SHOPP-P-1819-04B

John Bulinski — Date 08/08/18

District Director

California Department of Transportation
(Project Applicant/ Implementing Agency)

Laurie Berman — Date 9-28-18

Director

California Department of Transportation

Susan Bransen — Date 10/26/18

Executive Director

California Transportation Commission

Baseline agreement information was extracted from Caltrans' project data systems. Project description, funding and performance measures are from CTIPS. Project delivery milestones are from PRSM. All information is current and accurate.

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

BASELINE AGREEMENT | **Date:** 09/19/18 01:11:30 PM

District	EA	Project ID	PPNO	Project Manager
08	0K122	0815000244	3003U	RADHAKRISHNAN, RAGHURAM

County	Route	Begin Postmile	End Postmile	Implementing Agency	
SBD	15	R 28.6	37.5	PA&ED	Caltrans
				PS&E	Caltrans
				Right of Way	Caltrans
				Construction	Caltrans

Project Nickname

SBD 15 REHAB (G-13)

Location/Description

In Hesperia and Victorville, from Oak Hill Road to south of Bear Valley Road. Rehabilitate roadway. (G13 Contingency)

Legislative Districts

Assembly:	33	Senate:	21	Congressional:	08

PERFORMANCE MEASURES

	Primary Asset	Good	Fair	Poor	New	Total	Units
Existing Condition	Pavement	43	16			59	Lane-miles
Programmed Condition	Pavement	59				59	Lane-miles

Project Milestone	Actual	Planned
Project Approval and Environmental Document Milestone	05/17/18	
Right of Way Certification Milestone		11/04/19
Ready to List for Advertisement Milestone		02/03/20
Begin Construction Milestone (Approve Contract)		10/29/20

FUNDING (Allocated amounts are shaded)

Component	Fiscal Year	SHOPP					Total
PA&ED	17/18	900					900
PS&E	18/19	5,300					5,300
RW Support	18/19	210					210
Const Support	19/20	11,700					11,700
RW Capital	19/20	10					10
Const Capital	19/20	159,029					159,029
Total		177,149					177,149

08-SBd-15-PM R28.6/37.5
EA 0K1220 PN 0815000244
Planning Program No. 3003U
Program Code 201.122-HA22
May 2018

SUPPLEMENTAL
PROJECT SCOPE SUMMARY REPORT
(Roadway Rehabilitation)
For
Project Approval

On Interstate 15

Between Oak Hill Road Overcrossing

And 0.1 mile south of Bear Valley Road Overcrossing

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

REBECCA GUIRADO
Deputy District Director, Right of Way

APPROVAL RECOMMENDED:

RAGHURAM RADHAKRISHNAN
Project Manager

DAVID BRICKER
Deputy District Director, Environmental Planning

CHRISTY CONNORS
Deputy District Director, Design

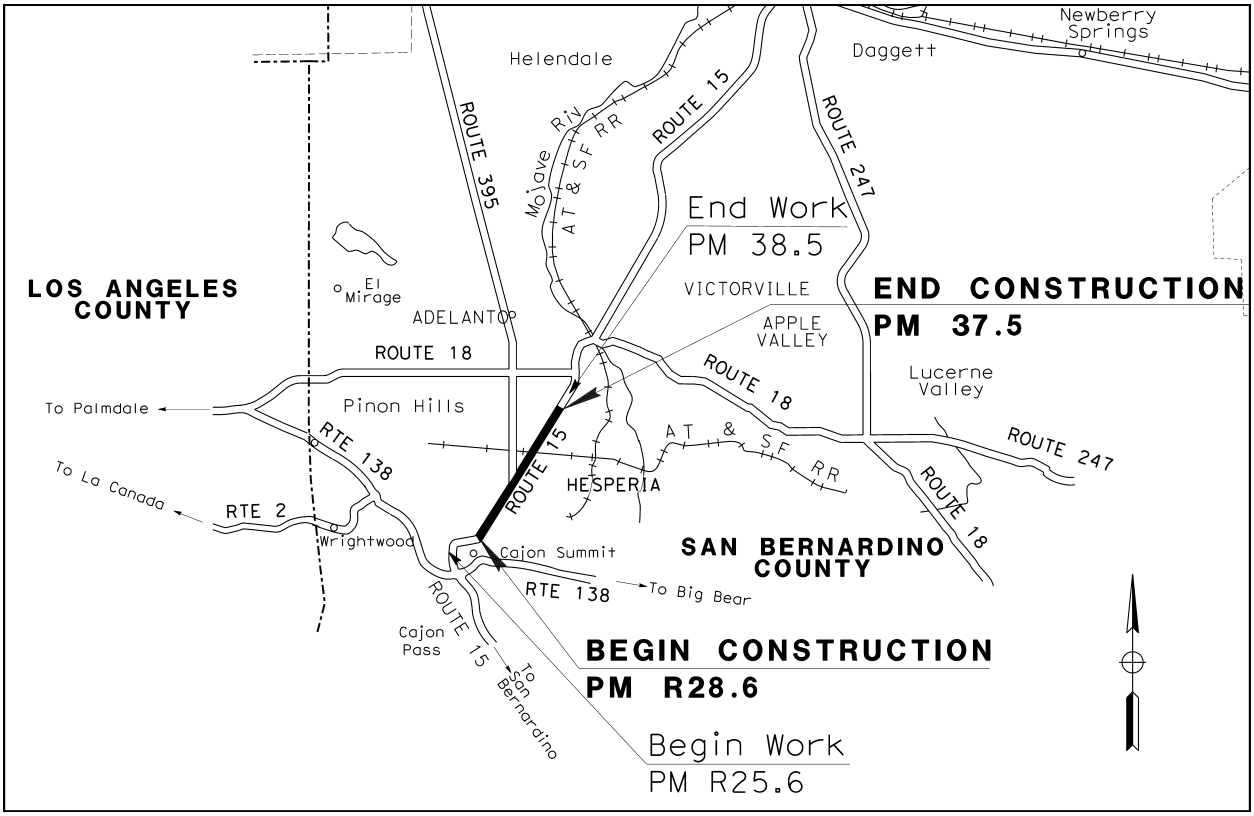
CATALINO A. PINING III
Deputy District Director, Traffic Operations

APPROVED:

JOHN BULINSKI
District Director

5/17/18
Date

Vicinity Map



On Interstate 15, PM R28.6 to 37.5, between Oak Hill Road Overcrossing and 0.1 mile south of Bear Valley Road Overcrossing, in the Cities of Victorville and Hesperia, in San Bernardino County.

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

04/25/18

HOON PARK
Registered Civil Engineer

Date

CONCURRED BY:

04/25/18

MUSTAPHA RAOUF
Office Chief
Design A

Date

1. INTRODUCTION

This Supplemental Project Scope Summary Report (SPSSR) for roadway rehabilitation has been prepared to document a change in scope, cost, schedule, and limits since the approval of the original PSSR (EA 0K120), dated June 22, 2015 (Attachment F, PSSR signed cover sheet).

Due to funding constraints, it was determined that the original scope will be constructed in three segments under different projects: EAs 0K121, 0K122, and 0K123. This SPSSR (0K122) proposes to implement roadway rehabilitation for Segment 2, on Interstate 15 (I-15) between Oak Hill Road Overcrossing and 0.1 mile south of Bear Valley Road Overcrossing, in the Cities of Hesperia and Victorville, in San Bernardino County (Attachment A, Location Map).

The project was scoped during the planning phase as pavement Resurfacing and Restoration (2R) criteria. However, during the Project Approval and Environmental Document (PA&ED) phase, the project development team determined that the project did not meet the 2R criteria; the project was re-scoped to pavement Resurfacing, Restoration, and Rehabilitation (3R), in accordance with Design Information Bulletin 79-03.

Project Description:

Project Limits	08-SBd-15 PM R28.6/37.5	
Number of Build Alternatives	1 Build Alternative	
	Current Cost Estimate:	Escalated Cost Estimate:
Capital Outlay Support	N/A	$18,400,000
Capital Outlay Construction	$134,898,000	$159,029,000
Capital Outlay Right of Way	N/A	$10,000
Funding Source	State Highway Operations & Protection Program (SHOPP), HA22 Pavement Rehabilitation Program Code 201.122	
Funding Year	2019/2020	
Type of Facility	6-8 Lane Freeway	
SHOPP Project Output	59 Lane Miles	
Environmental Determination or Document	Categorical Exemption/Categorical Exclusion (CE/CE)	
Legal Description	In San Bernardino County, In Hesperia From Oak Hill Road Overcrossing to 0.1 mile south of Bear Valley Road Overcrossing	
Project Development Category	Category 5	

2. RECOMMENDATION

It is recommended that this SPSSR be approved and authorization be granted to proceed with the Plans, Specifications and Estimate (PS&E) phase.

3. PURPOSE AND NEED

Purpose:

To restore the structural integrity and ride quality of mainline and ramp pavements by rehabilitating the existing Portland Cement Concrete (PCC) and Asphalt Concrete (AC) pavements as appropriate. The proposed pavement rehabilitation strategies will reduce maintenance frequency and costs, improve ride quality, and increase the service life of the pavement.

Need:

The 2011 Pavement Condition Survey Inventory (PCS) data and the 2015 pavement condition report using Pavement Management (PaveM) tools indicate that the pavement within the project limits exhibits extensive cracking, faulting, and general poor ride quality.

4. EXISTING FACILITY, DEFICIENCIES AND TRAFFIC DATA

4A. Roadway Geometric Information

		Existing	Proposed	Minimum RRR Standards
Facility Location		PM R28.6/37.5	PM R28.6/37.5	
Minimum Curve Radius	Radius (ft)	5,940	5,940	2100
Through Traffic Lanes	Number of Lanes	6-8	6-8	N/A
	Lane Width (ft)	12	12	12
	Type (Flexible, Rigid, or Composite)	Rigid/Flexible	Rigid	N/A
Paved Shoulder Width	Left (ft)	10	10	10
	Right (ft)	10	10	10
Median Width	(ft)	44	44	36
Shoulder is a Bicycle Lane	(Y/N) - Width (ft)	N	N/A	N/A
Other Bicycle Lane Width	Width (ft)	N/A	N/A	N/A
Bicycle Route	(Y/N)	N	N/A	N/A
Facilities Adjacent to the Roadbed	Code-Width (ft)	N/A	N/A	N/A

4B. Condition of Existing Facility

1) Traveled Way Data

Pavement Management System (PMS) Category (1-29) 7
Priority Classification (.1-.4) .2

International Roughness Index (IRI) 55 - 115

*Rigid Pavement: *Flexible Pavement: Yes
* From latest PMS-Pavement Condition Inventory Survey Data & Pavement Condition Detail Report (PaveM).

3rd Stage Cracking %	N/A	Alligator B Cracking %	11
Faulting	N/A	Patching %	100
Joint Spalls	N/A	Rutting	No
Pumping	N/A	Bleeding	No
Corner Breaks %	N/A	Raveling	No

Locations(s) of subsurface or ponded surface-water problem: None

The 2011 PCS does not indicate subsurface or ponded surface-water problem on existing pavement.

Deflection studies might be required during the PS&E phase.

2) Shoulder Data

Condition:

Shoulder pavement condition presents visible damage. Cracks, depression, and other types of distress are visible evidence of pavement wear.

Deficiencies

The existing AC shoulder has deteriorated and will require measures to extend the life of the pavement.

3) Pedestrian Facility Data

Facility Type and Location(s) **PM R28.6/37.5**	**Meets ADA Standards?** *(Yes or No for each listed location)*	**If Facility does not meet ADA Standards, what feature(s) are not ADA compliant?** (*List features per location)*	**Status of Each Noncompliant Location** Use the following statements, as appropriate: • *Will be corrected as part of this project;* • *Will not be corrected to full standard. An Exception to Accessibility Design Standards has been approved.*
Curb Ramps			
Joshua Street	N/A	N/A	N/A
Main Street	No	Does not meet ADA Standard Plan A88A or A88B	Will be corrected as part of this project
Crosswalks			
Others			

4) Bicycle Path Data

There is no bicycle path within the project limits.

4C. Structures Information

Structures	Width Between Curbs			Replace Bridge Railings	Vertical Clearance			Work Identified in STRAIN	Replace Bridge Approach Rail	Replace Bridge Approach Slab	
Name Number	Exist (ft)	RRR Std (ft)	Prop (ft)	(Y/N)	Exist (ft)	RRR Std (ft)	Prop (ft)	(Y/N)	(Y/N)	(Y/N)	#
Ranchero Rd OC/ 54-1285	139	40	139	N	18.1	16	18.1	N	N	N	N
W Hesperia OH/ 54-0664L	66	66	66	Y	25	23	25	N	N	N	N
W Hesperia OH/ 54-0664R	66	66	66	Y	25	23	25	N	N	N	N
N15-N395 Connector OC/ 54-0665G	28	40	28	N	16.2	16	16.2	N	N	N	N
Joshua St OC/ 54-0666	34	40	34	N	16.4	16	16.4	N	N	N	N
Main St OC/ 54-1273	92	40	92	N	17.8	16	17.8	N	N	N	N
California Aqueduct/ 54-0828	N/A	N/A	N/A	N	N/A	N/A	N/A	N	N	N	N

The bridge width of northbound I-15 to northbound United States Route 395 (US-395) Connector Overcrossing (Bridge No. 54-0665G) is nonstandard. During the PA&ED phase, the scoping meeting with Division of Engineering Services reveals that there will be a program to replace the subject bridge. The Joshua Street Overcrossing (Bridge No. 54-0666) has a nonstandard bridge width. The widening of the bridge requires comprehensive and extensive construction work, which is beyond the 3R scope.

4D. Traffic Data

Traffic Data Information					
	Year 2018	**Year 2020**	**Year 2023**	**Year 2040**	**Year 2060**
Annual Average Daily Traffic (AADT)	125,200	133,500	146,900	240,800	342,000
2-way Peak Hour Volume (PHV)	9,850	10,400	11,280	17,440	24,780
One-way PHV	5,320	5,610	6,090	9,420	13,3780
Directional Split	54%	54%	54%	54%	54%
Truck % in ADT	21%	21%	21%	21%	21%
Truck % in DHV	11%	11%	11%	11%	11%

Traffic Indices are based on Construction Completion Acceptance (CCA) Year 2023				
Traffic Index Year	**Inside Lane**		**2 Outside Lanes**	
	Mainline	**Shoulder**	**Mainline**	**Shoulder**
1 Year (ESAL)	2,128,608	42,572	8,514,434	170,289
1 Year TI	**10.0**	**6.0**	**11.5**	**7.5**
5 Year (ESAL)	13,476,554	269,531	53,906,214	1,078,124
5 Year TI	**12.5**	**7.5**	**14.5**	**9.0**
10 Year (ESAL)	21,286,085	425,722	85,144,339	1,702,887
10 Year TI	**13.0**	**8.0**	**15.5**	**9.5**
20 Year (ESAL)	53,906,214	1,078,124	215,624,857	4,312,497
20 Year TI	**14.5**	**9.0**	**17.0**	**10.5**
40 Year (ESAL)	150,448,863	3,008,977	601,795,452	12,035,909
40 Year TI	**16.5**	**10.5**	**19.5**	**12.0**

ADT* Ramp Traffic Data Information							
Description	**Ramp**		**Year 2018**	**Year 2020**	**Year 2040**	**Year 2060**	**Recommended Truck TI Classification****
Oak Hill Rd	**NB**	**Off**	10,100	10,700	19,400	27,500	Light
		On	N/A	N/A	N/A	N/A	N/A
	SB	**Off**	N/A	N/A	N/A	N/A	N/A
		On	8,700	9,300	16,700	23,800	Light
Ranchero Rd	**NB**	**Off**	9,600	10,200	18,500	26,200	Light
		On	9,600	10,200	18,500	26,200	Light
	SB	**Off**	9,600	10,200	18,500	26,200	Light
		On	9,600	10,200	18,500	26,200	Light
US-395	**NB**	**Off**	16,400	17,500	31,600	44,900	Heavy
	SB	**On**	15,200	16,200	29,200	41,500	Heavy
Joshua St	**NB**	**On**	1,000	1,100	1,900	2,800	Heavy
	SB	**Off**	1,200	1,300	2,400	3,400	Heavy
Main St	**NB**	**Off**	13,600	14,500	26,200	37,300	Medium
		On	6,800 / 600	7,200 / 600	13,100 / 1,100	18,600 / 1,600	Medium
	SB	**Off**	8,000	8,600	15,400	21,900	Medium
		On	4,200 / 7,400	4,500 / 7,900	8,100 / 14,300	11,500 / 20,300	Medium
Bear Valley Pkwy	**NB**	**Off**	22,500	24,000	43,200	61,400	Medium
		On	7,900	8,400	15,200	21,600	Medium
	SB	**Off**	8,000	8,500	15,400	21,800	Medium

ADT* Ramp Traffic Data Information							
Description	**Ramp**		**Year 2018**	**Year 2020**	**Year 2040**	**Year 2060**	**Recommended Truck TI Classification****
		On	9,900	10,600	19,100	27,100	Medium

*Only Ramp ADT traffic volumes are available. Source of Ramp ADT's from SCAG model and Caltrans Traffic Operations.

Note: N/A = Not Available. (Ramp/Loop Ramp)

****Table 613.5A**
Traffic Index (TI) Values for Ramps and Connectors

Ramp Truck Traffic Classification	Minimum Traffic Index (TI)	
	20–Yr Design Life	40–Yr Design Life (1)
Light	8.0	9.0
Medium	10.0	11.0
Heavy	12.0	14.0

**Due to the limited availability of ramp traffic data, we recommend using the Truck TI categories to determine TI values as per Table 613.5A of the Highway Design Manual.

Joint Field Review: March 22, 2018
Latest 3-Year Collision Data: January 1, 2014 to December 31, 2016

Table 1: Table 'B' Accident Rate

Location on I-15	ADT	Actual (per million vehicle mile for mainline, per million vehicle for ramp)			Average (per million vehicle mile for mainline, per million vehicle for ramp)		
		Fatal	F+I	Total	Fatal	F+I	Total
Mainline PM R28.6 - R29.78	124.1	0.006	0.25	0.89	0.006	0.17	0.49
Mainline PM 29.78 - 42.5	106.3	0.004	0.20	0.65	0.004	0.24	0.73
SB Off to Oak Hill Rd	1.0	0.000	0.00	0.91	0.01	0.33	0.98
NB Off to Ranchero Rd	10.0	0.000	0.29	0.73	0.01	0.33	0.98
SB On from Ranchero Rd	10.0	0.000	0.00	0.15	0.005	0.17	0.50
SB On from WB Ranchero Rd	10.0	0.000	0.15	0.44	0.011	0.17	0.62
NB On from Ranchero Rd	10.0	0.000	0.00	0.88	0.005	0.17	0.50
SB Off to Ranchero Rd	10.0	0.000	0.00	0	0.01	0.33	0.98
NB Off to US-395	13.0	0.070	0.21	0.7	0.004	0.23	0.66
SB On from US-395	13.0	0.070	0.14	0.21	0.002	0.11	0.32
NB On from Joshua & US-395	2.6	0.000	0.00	0.35	0.002	0.21	0.60
SB Off to Joshua & US-395	3.6	0.000	0.00	0.76	0.004	0.32	0.92
SB On from EB Main St	1.0	0.000	0.00	0	0.003	0.19	0.56
NB Off to Main St	9.1	0.000	0.30	1.6	0.004	0.32	0.92
NB On from EB Main St	1.0	0.000	0.00	0	0.003	0.23	0.71
SB On from WB Main St	9.0	0.000	0.20	0.51	0.003	0.23	0.71
SB Off to Main St	6.2	0.000	0.15	1.62	0.004	0.32	0.92
NB On from WB Main St	5.3	0.000	0.17	0.86	0.002	0.21	0.60

Note: Highlighted numbers reflect actual accident rate higher than average accident rate.

Table 1 indicates that the Actual Total Accident Rates and Actual Fatal + Injury Accident Rates are higher than the State Average Rate on mainline from post mile R28.6 to R29.78; and lower than the State Average Rate on mainline from post mile 29.78 to 37.5. Seven of eighteen Interchange (IC) ramps have Actual Total Accident Rates higher than State Average Rate; and three of eighteen IC ramps have Actual Fatal + Injury Accident Rates higher than the State Average.

Corrective Strategy:

The project development team recommended improvements to upgrade highway appurtenances and facilities are as follows:

1) Midwest Guardrail System (MGS) shall be placed at locations that have high embankments and where the side slopes are greater than or equal to 2:1 and the heights are greater than 12’ along the northbound I-15 approximately PM 31.2 up to the northbound I-15 and the northbound US-395 separation.

2) Signage shall be upgraded to Type XI Reflectivity per Traffic Operations Policy Directive 14-02.

4E. Materials

The Preliminary Materials Report (PMR) was completed on October 9, 2017, outlining pavement recommendations for this project. The PMR recommended pavement design life of 40-years. The currently proposed pavement sections are preliminary and meant for scoping and estimating purposes.

A Life Cycle Cost Analysis determined that Continuously Reinforced Concrete Pavement (CRCP) for the traveled ways and shoulders is the preferred alternative (Attachment E, Summary of the Life Cycle Cost Analysis). In addition, it was determined that flexible pavement is not a valid alternative since the mainline Traffic Index (TI) is greater than 15. The typical cross-sections for this project were prepared based on the PMR (Attachment B, Typical Cross Sections).

5. CORRIDOR AND SYSTEM COORDINATION

Interstate 15 is a major interstate goods-movement corridor, which links to the Los Angeles area. It is a primary link between major economic centers and geographic regions and is classified as a "High Emphasis" and "Gateway" route in the Interregional Road System (IRRS). It is part of the Federal Surface Transportation Assistance Act National Network for oversized trucks.

The proposed project is consistent with statewide, regional and local planning goals and will be coordinated, if any, with impacted governmental, regulatory and private agencies in the area to ensure consistency with specific local goals and objectives.

State Highway improvements within the project limits include the following:

PROJECT	LOCATION (PM)	CONSTRUCTION DATE	DESCRIPTION
ID: 0800020456 EA 0Q740	PM 15.4/30.8	06/01/2018	Pavement rehabilitation and individual slab replacement
ID: 0816000038 EA 1E311	PM 31.1/31.5	06/19/2018	Install MGS and end treatments
ID: 0818000107 EA 1H351	PM 28.6/28.7	08/30/2020	Culvert Lining
ID: 0818000030 EA 1J350	PM 0.0/186.2	10/31/2018	Replace pavement delineation to current 6" standard and pavement markers

6. ALTERNATIVES

Only one Build Alternative was considered and studied during the PA&ED phase.

6A. Rehabilitation Strategy:

The mainline and ramp pavements within project limits need rehabilitation work to increase safety, ride quality and service life while reducing costs of maintenance.

This alternative is scoped as a pavement 3R project and consists of the following:

1) Extend project's limits southerly by 1.7 miles to Oak Hill Road Overcrossing to provide concrete pavement continuity at the southern limit of the project.

2) Replace all mainline existing AC lanes of the traveled way, auxiliary lanes, and shoulders to 40-year rigid pavement design with CRCP.

3) Replace AC pavement from merge point of ramps to gore area with Jointed Plain Concrete Pavement (JPCP) Rapid Strength Concrete.

4) Cold plane and overlay existing AC ramps with Rubberized Hot Mix Asphalt-Gap Graded (RHMA-G) at the following locations.

    - Ranchero Road IC (PM 30.4)
    - Joshua Street IC (PM 32.3)
    - Main Street IC (PM 34.0)

5) Construct ramp termini with JPCP on I-15 southbound exit ramp at Joshua Street Overcrossing.

6) Upgrade existing nonstandard guardrails, construct vegetation control, reconstruct shoulder backing and dikes, and adjust drainage inlets.

7) Provide pavement edge treatments where required.

8) Install rumble strips on mainline shoulders.

9) Construct temporary pavement for bypass lanes at the median to accommodate stage construction. These bypass lanes will be paved with 1-year design life of Hot Mix Asphalt pavement and removed after construction. The selection of median barrier (Thrie Beam or concrete barrier) will be determined during the PS&E phase. Installation of the concrete median barrier was chosen for the project cost estimate.

10) Upgrade 12 curb ramps to Americans with Disabilities Act (ADA) standards at Main Street IC and sidewalks. Truck turn exhibits will be submitted during the PS&E using the Surface Transportation Assistance Act (STAA) truck turn template to ensure newly constructed curb ramps in compliance with Highway Design Manual.

11) Upgrade the existing nonstandard bridge railings, replace joint seals, and add paving notch extensions and approach slabs on West Hesperia Overheads (Bridge No. 54-0664L/R) (Attachment D, Advanced Planning Study).

12) Reconstruct drainage system and provide erosion control where required.

13) Modify existing concrete channel within clear recovery zone to be traversable by adding removable steel grates, or replacing the existing channel with underground drainage pipes.

14) Provide permanent best management practices to address National Pollutant Discharge Elimination System requirements. Improve the function of infiltration basins at Ranchero Road IC.

15) Replace existing cattle fence to 6' chain link fence.

6B. Design Exceptions:

Fact Sheet for exceptions to mandatory and advisory design standards will be prepared and circulated for approval during the PS&E phase. The following Design Standards Risk Assessment Matrix was identified during the PA&ED phase:

Design Standards Risk Assessment Matrix			
Alternative	**Standard (HDM index, DIB, TOPD, etc.)**	**Nonstandard feature and its risk of not being approved (low, medium, high)**	**Justification for the approval risk rating and additional data/studies needed for approval**
Build Alternative	Superelevation Rate (HDM Index 202.2)	Existing superelevation rates for three curves on I-15 are nonstandard. (Low)	A nonstandard superelevation rate will be maintained because using a standard superelevation rate would require more right of way acquisition and trigger environmental studies that will cause significant delays to the project. In addition, this requires the replacement of West Hesperia OHs, which is beyond 3R scope.
Build Alternative	Superelevation Rate (HDM Index 202.2)	Existing superelevation rates for 18 curves on the ramps are nonstandard. (Low)	The scope of work for the ramps includes cold plane and overlay only. A nonstandard superelevation rate will be maintained because using a standard superelevation rate would require the full reconstruction of the ramps, which will need more right of way acquisition and trigger environmental studies that will cause significant delays to the project.

Build Alternative	Shoulder Width (HDM Index 302.1)	Proposed inside shoulder width on the I-15 southbound at West Hesperia OH is 6.5 feet. (Low)	This project proposes to replace existing nonstandard bridge railings with Manual for Assessing Safety Hardware (MASH) compliant bridge railings. This results in 6.5 foot inside shoulder width from existing 8 foot inside shoulder width. However, a potential future project of adding express lanes at the median may correct inside shoulder width.
Build Alternative	Shoulder Width (HDM Index 302.1)	Proposed inside shoulder width on the I-15 northbound at West Hesperia OH is 6.5 feet. (Low)	This project proposes to replace existing nonstandard bridge railings with MASH compliant bridge railings. This results in 6.5 foot inside shoulder width from existing 8 foot inside shoulder width. However, a potential future project of adding express lanes at the median may correct inside shoulder width.
Build Alternative	Superelevation Transition (HDM Index 202.5 (1))	The existing superelevation transition on the I-15 southbound loop entrance ramp at Ranchero Rd IC is nonstandard. (Low)	The scope of work for the ramps includes cold plane and overlay only. A nonstandard superelevation transition will be maintained because using a standard superelevation transition would require the full reconstruction of the ramps, which will need more right of way acquisition and trigger environmental studies that will cause significant delays to the project. In addition, this requires the substantial modification of Ranchero Rd Overcrossing, which is beyond 3R scope.
Build Alternative	Superelevation Transition (HDM Index 202.5 (1))	The existing superelevation transition on the I-15 southbound loop entrance ramp at Main St IC is nonstandard. (Low)	The scope of work for the ramps includes cold plane and overlay only. A nonstandard superelevation transition will be maintained because using a standard superelevation transition would require the full reconstruction of the ramps, which will need more right of way acquisition and trigger environmental studies that will cause significant delays to the project. In addition, this requires the substantial modification of Main St Overcrossing, which is beyond 3R scope.
Build Alternative	Superelevation Transition (HDM Index 202.5 (1))	The existing superelevation transition on the I-15 northbound loop entrance ramp at Main St IC is nonstandard. (Low)	The scope of work for the ramps includes cold plane and overlay only. A nonstandard superelevation transition will be maintained because using a standard superelevation transition would require the full reconstruction of the ramps, which will need more right of way acquisition and trigger environmental studies that will cause significant delays to the project. In addition, this requires the substantial modification of Main St Overcrossing, which is beyond 3R scope.
Build Alternative	Superelevation Runoff (HDM Index 202.5 (2))	The existing superelevation runoff on the I-15 southbound loop entrance ramp at Ranchero Rd IC is nonstandard. (Low)	The scope of work for the ramps includes cold plane and overlay only. A nonstandard superelevation runoff will be maintained because using a standard superelevation runoff would require the full reconstruction of the ramps, which will need more right of way acquisition and trigger environmental studies that will cause significant delays to the project. In addition, this requires the substantial modification of Ranchero Rd Overcrossing, which is beyond 3R scope.

Build Alternative	Superelevation Runoff (HDM Index 202.5 (2))	The existing superelevation runoff on the I-15 southbound loop entrance ramp at Main St IC is nonstandard. (Low)	The scope of work for the ramps includes cold plane and overlay only. A nonstandard superelevation runoff will be maintained because using a standard superelevation runoff would require the full reconstruction of the ramps, which will need more right of way acquisition and trigger environmental studies that will cause significant delays to the project. In addition, this requires the substantial modification of Main St Overcrossing, which is beyond 3R scope.
Build Alternative	Superelevation Runoff (HDM Index 202.5 (2))	The existing superelevation transition on the I-15 northbound loop entrance ramp at Main St IC is nonstandard. (Low)	The scope of work for the ramps includes cold plane and overlay only. A nonstandard superelevation runoff will be maintained because using a standard superelevation runoff would require the full reconstruction of the ramps, which will need more right of way acquisition and trigger environmental studies that will cause significant delays to the project. In addition, this requires the substantial modification of Main St Overcrossing, which is beyond 3R scope.
Build Alternative	Side Slope (HDM Index 304.1)	The existing side slopes in the vicinity of Joshua St IC are nonstandard. (Low)	Constructing standard embankment slopes near the on and off ramps of Joshua St would require more right of way acquisition, and trigger environmental studies that will cause significant delays to the project.
Build Alternative	Side Slope (HDM Index 304.1)	The existing side slopes in the vicinity of Joshua St IC are nonstandard. (Low)	Constructing standard embankment slopes near the on and off ramps of Main St would require more right of way acquisition in commercial areas, affect existing drainage systems, and trigger environmental studies that will cause significant delays to the project. In addition, EA 1E311 will install MGS to mitigate the safety issue.
Build Alternative	Side Slope (HDM Index 304.1)	The existing side slopes in the vicinity of Joshua St IC are nonstandard. (Low)	Constructing standard embankment slopes at various freeway ramps would require substantial right of way acquisition, affect existing drainage systems, and trigger environmental studies that will cause significant delays to the project.
Build Alternative	Angle of Intersection (HDM Index 403.3)	On I-15 southbound exit ramp at Joshua St, the skew angle at the intersection of the ramp and Joshua St is nonstandard. (Low)	The angle of intersection between the I-15 southbound exit ramp and Joshua St is nonstandard. Adjusting the skew angle requires a realignment of the off ramp, which requires substantial environmental and traffic studies and will delay the project schedule.

Build Alternative	Angle of Intersection (HDM Index 403.3)	On I-15 northbound exit ramp at Joshua St, the skew angle at the intersection of the ramp and Joshua St is nonstandard. (Low)	The angle of intersection between the I-15 northbound entrance ramp and Joshua St is nonstandard. Adjusting the skew angle requires a realignment of the off ramp, which requires substantial environmental and traffic studies and will delay the project schedule.
Build Alternative	Median Cross Slopes (HDM Index 305.2)	The proposed median cross slopes along the I-15 mainline within the project limits are nonstandard. (Low)	Along I-15 mainline within project limits, the median cross slopes are proposed in the same plane as the adjacent traveled way to be compatible with a potential future project of adding express lanes. Constructing standard median cross slopes require substantial cost increase for the future project.

6C. Hazardous waste

An Initial Site Assessment Checklist (ISA) was completed on April 11, 2018. The determination for this project having the potential for hazardous waste involvement is "LOW RISK" (Attachment L, Initial Site Assessment).

6D. Air quality conformity:

Air quality conformity is not required, as the project is listed in Table 1 of the Carbon Monoxide Protocol or Table 2 of 40 CFR 93.126.

6E. Noise abatement decision report:

A Noise Abatement Decision Report is not required for this project. This is a Type III project per the Traffic Noise Analysis Protocol under 23 CFR 772.7, exempting the project from a Traffic Noise Analysis and consideration of noise abatement measures.

6F. Material and/or disposal site need and availability

The contractor will be responsible for disposing of materials removed from the roadway. Materials are readily available from commercial plants near or within the project limits.

6G. Highway planting and irrigation:

Highway planting and irrigation are not included in the scope of the project.

6H. Roadside design and management:

Thrie Beam and concrete barrier are the two options considered for the design of the median barrier. The replacement of bridge railings at West Hesperia Overheads is included in the scope of this project. The existing concrete channel within clear recovery zone will be mitigated by adding removable steel grates on top of the ditch or replacing the existing

channel with underground drainage pipes. The I-15 segment between Ranchero Road IC and West Hesperia Overheads shows signs of excessive erosion within the clear recovery zone due to the high volume of water coming from the Ranchero Road IC concrete channels. The mitigation method will require a comprehensive hydrology/hydraulics/drainage study during the PS&E phase.

6I. Stormwater compliance:

A Storm Water Data Report (SWDR) was prepared during the PA&ED phase and will be further developed during the PS&E phase to meet the demands of the Storm Water Management Plan in regards to documenting pollutant discharges and meeting permit requirements (Attachment K, Storm Water Data Report-signed cover sheet).

6J. Right of Way and utility Issues:

A Right of Way Data Sheet was completed on December 19, 2017, all work will be performed within existing State right of way (Attachment H, Right of Way Data Sheet).

6K. Railroad involvement:

This project proposes to upgrade the existing nonstandard bridge railings, replace joint seals, and add paving notch extensions and approach slabs on West Hesperia Overheads. It is anticipated that the railroad permit will not be required for the proposed scope of work.

6L. Salvaging and recycling of hardware and other non-renewable resources:

The contractor will be responsible for disposing of recycling hardware and other non-renewable resources.

6M. Prolonged temporary ramp closures:

Ramps will be closed for rehabilitation. It is proposed that one ramp will be closed at a time to minimize impacts to the surrounding communities. If it is determined during the PS&E or Construction phase that a ramp will be closed for more than 10 consecutive days, a Ramp Closure Study will be performed, which may require Environmental Document Re-Evaluation. The results of either or both, including any changes or additional avoidance, minimization and/or mitigation measures will be incorporated and implemented as required during the PS&E or Construction phase.

6N. Recycled materials:

Recycled materials (RHMA-G) will be used within the project.

6O. Local and regional input:

The traveling public will be directly impacted during the construction phase of this project. Letters to Cities of Victorville and Hesperia and the County of San Bernardino were issued on March 27, 2017. Public outreach methods will be developed during the PS&E and Construction phases.

The construction phase of this project is anticipated to result in some transportation delay, which will impact those traveling to businesses and recreation locations in the Victorville and Hesperia areas and beyond. The traveling public and emergency service providers will be informed of construction-related delays on I-15 in accordance with the Transportation Management Plan (TMP), which will be developed during the PS&E phase.

6P. What are the consequences of not doing this entire project?

Continuing deterioration of existing pavement would require additional maintenance expenditures and would increase the exposure of maintenance personnel to traffic.

6Q. Other Agencies Involved (Permits/Approvals from Fish and Game, Corps of Engineers, Coastal Commission, etc.):

The project will comply with the Department's Statewide National Pollutant Discharge Elimination System (NPDES) Storm Water Permit, Order No. 2012-0011-DWQ, NPDES Permit No. CAS000003, in addition to the responsibilities specified in the Department's Statewide Storm Water Management Plan (SWMP). The project will also comply with the requirements of the General NPDES Permit for Construction Activities, Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ & 2012-0006-DWQ, NPDES No. CAS000002 and any subsequent General Permit in effect at the time of project activity.

7. TRANSPORTATION MANAGEMENT

A preliminary TMP with a cost estimate was prepared during the PA&ED phase (Attachment I, Transportation Management Plan), which included the Public Information/Public Awareness Campaign, Incident Management, and Construction Zone Enhanced Enforcement Program.

8. ENVIRONMENTAL COMPLIANCE

The project is Categorically Exempt under Class 1 of the California Environmental Quality Act Guidelines. Under Caltrans' assumption of responsibility pursuant to 23 U.S.C. 326, this project has been determined eligible for a 23 CFR USC 326 Categorical Exclusion (CE) in compliance with the National Environmental Policy Act. The CE/CE was signed on April 23, 2018, (Attachment G, Categorical Exemption/Categorical Exclusion).

9. PROJECT ESTIMATE

See Attachment C, Preliminary Cost Estimate.

10. FUNDING/PROGRAMMING

Funding

It has been determined that this project is eligible for Federal-aid funding. Funding for this project is provided from the pavement rehabilitation program (Program Code: 20.10.201.122) in the State Highway and Operation Protection Program (SHOPP).

Programming

Fund Source	Programmed Funds				
201.122-HA-22	Prior	18/19	19/20	Escalated Estimate	Difference from Programmed
Component	In thousands of dollars ($1,000)				
PA&ED Support	900			1,190	+ 290[1]
PS&E Support		1,500		5,300	+ 3,800[2]
Right-of-Way Support		10		210	+ 200[2]
Construction Support			11,700	11,700	
Right-of-Way Capital		10		10	
Construction Capital			159,029	159,029	
Total	900	1,520	170,729	177,439	+ 4,290

[1] G-12 funds in the amount of $290,000 were allocated for PA&ED phase.
[2] The escalated estimates for PS&E and Right-of-Way supports are higher than the programmed amounts. A Project Change Request (PCR) to increase the funding was approved in March of 2018. The support-to-construction capital ratio is 11.6%.

A PCR will be prepared during the PS&E phase to reflect the program change from 2R to 3R. Currently, the program management database shows 2R criteria, however, this SPSSR is scoped in accordance with 3R guidance and standards.

11. DELIVERY SCHEDULE

Project Milestones		Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
BEGIN ENVIRONMENTAL	M020	02/01/2017	02/01/2017
PA&ED	M200	05/01/2018	
PS&E TO DOE	M377	07/03/2019	
DRAFT STRUCTURES PS&E	M378		
RIGHT OF WAY CERTIFICATION	M410	11/04/2019	
READY TO LIST	M460	02/03/2020	
HEADQUARTERS ADVERTISE	M480	05/26/2020	
AWARD	M495	09/11/2020	
APPROVE CONTRACT	M500	10/29/2020	
CONTRACT ACCEPTANCE	M600	05/10/2023	
END PROJECT	M800	04/26/2024	

12. RISKS

Project risks have been identified to include risks associated with right-of-way needs, environmental studies, traffic management, and construction. The risk register is included in this document (Attachment J, Risk Register).

13. EXTERNAL AGENCY COORDINATION

Federal Highway Administration (FHWA)

Pursuant to the current Joint Stewardship and Oversight Agreement (Agreement) between the California Department of Transportation (Caltrans) and Federal Highway Administration (FHWA), dated May 28, 2015, this project is considered to be a Delegated Project. However, should any future situation/circumstance that will potentially classify the project as a Project of Division Interest arises, Caltrans shall notify FHWA and reassess this project using the Project of Division Interest selection criteria outlined in the Agreement.

14. PROJECT REVIEWS

Field reviews were conducted during the PA&ED phase to investigate existing site conditions and roadway features related to the project scope.

A focus meeting was held on February 28, 2018 with the HQ project delivery coordinator, Project Manager, Design, and Traffic Operations to discuss potential design elements to reduce accidents where accident rates are higher than the state average.

DOD Design Coordinator	Luis Betancourt	Date:	03/23/2018
District Program Advisor	Mike Ristic	Date:	05/07/2018
Environmental Planning & Mgmt	Gabrielle Duff	Date:	04/11/2018
District Safety Review	Kevin Chen	Date:	03/27/2018
Design/FHWA Liaison/ADA	Sergio Avila	Date:	03/28/2018
District SHOPP Manager	Joe Fehrenkamp	Date:	04/05/2018
Project Management	Manual Farias	Date	03/16/2018
Operation Surveillance C	Theresa Sasis	Date:	04/03/2018
Independent Quality Assurance	Hamid Khorram	Date:	03/29/2018
Constructability	M. Sadique Hossain	Date:	03/28/2018
District Traffic Design, Safety	Oscar Alejandre	Date:	04/05/2018
Hydraulics/Storm Water Design	Alan Bisi	Date:	04/02/2018
Project Manager	Raghuram Radhakrishnan	Date:	04/06/2018
Maintenance Engineering	James Lan	Date:	03/15/2018
Landscape Architecture	Rose Bishop	Date:	03/29/2018
Safety	Jason Collado	Date:	04/05/2018
TMP	Al Afaneh	Date:	04/05/2018
Structure	Krishnakant Andurlekar	Date:	04/20/2018
Construction Safety	Hassan Juybari	Date:	03/19/2018
Right of Way Coordinator	Maria Lamere	Date:	03/15/2018

15. PROJECT PERSONNEL

NAME	Title & Branch	Phone Number
Raghuram Radhakrishnan	Project Manager, PPM	(909) 383-6288
Mustapha Raouf	Office Chief, Design "A"	(909) 383-6909
Hoon Park	Project Engineer, Design "A"	(909) 388-7307
Javed Grewal	Design Engineer, Design "A"	(909) 388-7016
Abdul Faytrouni	Design Engineer, Design "A"	(909) 806-3293
Maria LaMere	Project Coordinator, Right of Way	(909) 888-0397
Gabrielle Duff	Branch Chief, Environmental Studies "B"	(909) 383-6933
Parwaz Khasraw	Office Chief, Materials Engineering	(909) 806-3963
Susan Hess	Materials Engineer	(909) 806-3977
Trent E. Lenfestey	Right of Way Engineering	(909) 806-3977
Oscar Alejandre	Office Chief, Traffic Design	(909) 806-2529
Phil Vu	Traffic Design Engineer	(909) 383-4585
Krishnakant Andurlekar	Acting Branch Chief, Bridge Design, Structure Design	(916) 227-8763

16. ATTACHMENTS (Number of Pages)

A. Location Map (1)
B. Typical Cross-Sections (4)
C. Preliminary Cost Estimate (10)
D. Advanced Planning Study (4)
E. Summary of the Life Cycle Cost Analysis (2)
F. Project Scope Summary Report (PSSR)-signed cover sheet (1)
G. Categorical Exemption/Categorical Exclusion (CE/CE) (4)
H. Right of Way Data Sheet (9)
I. Transportation Management Plan (6)
J. Risk Register (7)
K. Storm Water Data Report-signed cover sheet (1)
L. Initial Site Assessment (ISA) Checklist (1)

ATTACHMENT “A”
LOCATION MAP

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN SAN BERNARDINO COUNTY
IN HESPERIA FROM OAK HILL ROAD OVERCROSSING
TO 0.1 MILE SOUTH OF BEAR VALLEY ROAD OVERCROSSSING

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2015

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	15	R28.6/37.5	1	XX

NO SCALE

PROJECT MANAGER: RAGHURAM RADHAKRISHNAN

DESIGN MANAGER: MUSTAPHA RAOUF

PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

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

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.

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

CONTRACT No.	08-0K1224
PROJECT ID	0815000244

LAST REVISION 05-16-18

DATE PLOTTED => 5/18/2018
TIME PLOTTED => 1:42:36 PM

BORDER LAST REVISED 8/1/2016 | CALTRANS WEB SITE IS: HTTP//WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => USER: s145719 DGN FILE => 0815000244ab001.dgn | UNIT 2229 | PROJECT NUMBER & PHASE 08150002441

ATTACHMENT “B”
TYPICAL CROSS SECTIONS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	15	R28.6/37.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

NOTE:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO THE TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. ALL DIMENSIONS ARE TO FLOWLINE OF CURB UNLESS OTHERWISE NOTED.
3. EXISTING PLAVEMENT SECTIONS BASED ON AS-BUILT PLANS, ACTUAL SECTIONS MAY VARY.

ABBREVIATION:

ACS	ASPHALT CONCRETE SURFACE
BSW	BACK OF SIDEWALK
Rem	REMOVE
HMA-A	HMA (TYPE A)
RHMA-G	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)
RSC	RAPID STRENGTH CONCRETE
RSLCB	RAPID STRENGTH LEAN CONCRETE BASE

DESIGN DESIGNATION (I-15)

ADT(2040)=163,500 D=53%
ADT(2060)=232,200 T=14%
DHV=17,430 V=75 MPH
TI (40)=19.5 ESAL=447,061,999

PAVEMENT CLIMATE REGION

DESERT

EXISTING STRUCTURAL SECTIONS

[A] EXISTING PAVEMENT STRUCTURE

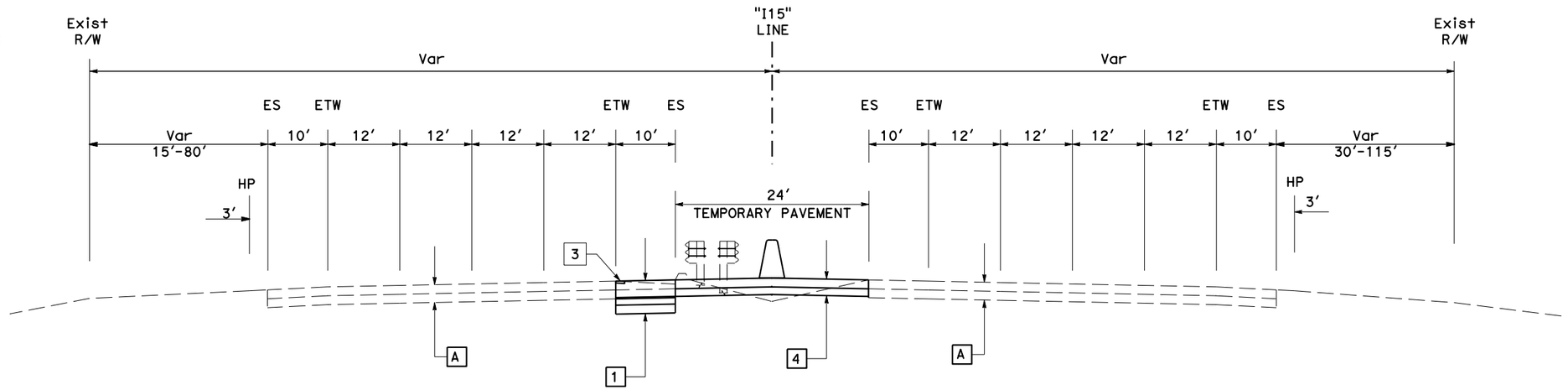
SB								NB				
PM	OS	No. 4 (Aux.)	No. 3	No. 2	No.1	IS	IS	No.1	No. 2	No. 3	No. 4 (Aux.)	OS
30.8-31.4			0.58′ AC 0.67′ CTB	0.55′ AC 0.50′ CTB	0.55′ AC 0.50′ CTB			0.55′ AC 0.50′ CTB	0.55′ AC 0.50′ CTB	0.58′ AC 0.67′ CTB		
31.4-32.9			0.58′ AC 0.67′ CTB	0.58′-0.60′ AC 0.50′ CTB	0.58′-0.60′ AC 0.50′ CTB			0.92′ AC 0.50′ CTB	0.92′ AC 0.50′ CTB	0.58′ AC 0.67′ CTB		
32.9-37.5			0.58′ AC 0.67′ CTB	0.83′ AC 0.50′ CTB	0.83′ AC 0.50′ CTB			0.92′ AC 0.50′ CTB	0.92′ AC 0.50′ CTB	0.58′ AC 0.67′ CTB		

[B] CONCRETE CHANNEL LOCATIONS

SB (CLOSE TO RAMP)	SB (CLOSE TO OUTSIDE Shld)	MEDIAN	NB (CLOSE TO OUTSIDE Shld)	SB (CLOSE TO RAMP)
POST MILE				
		29.9-31.3		
	30.1-30.3		30.1-30.5	
30.3-30.7			30.5-30.8	
	33.5-33.9			31.6-31.8
	33.9-34.0		31.8-32.3	31.8-32.3
34.0-34.1			32.3-34.1	34.0-34.2
	34.3-36.7		34.1-36.6	
	36.7-37.4		36.6-37.5	

PAVEMENT STRUCTURAL SECTIONS

1. 1.10′ CRCP
0.25′ HMA-A
0.70′ AS
2. TAPERED EDGE
3. RUMBLE STRIP
4. 0.50′ HMA-A
0.60′ AB



SOUTHBOUND
PM R28.6 TO PM R28.9

NORTHBOUND
PM R28.6 TO PM R28.9

INTERSTATE 15

TYPICAL CROSS SECTIONS

NO SCALE

X-1

REVISED BY | DATE REVISED
JAVED GREWAL | HOON PARK
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | MUSTAPHA RAOUF
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | DESIGN

LAST REVISION 00-00-00
DATE PLOTTED => 14-MAR-2018
TIME PLOTTED => 13:23

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	15	R28.6/37.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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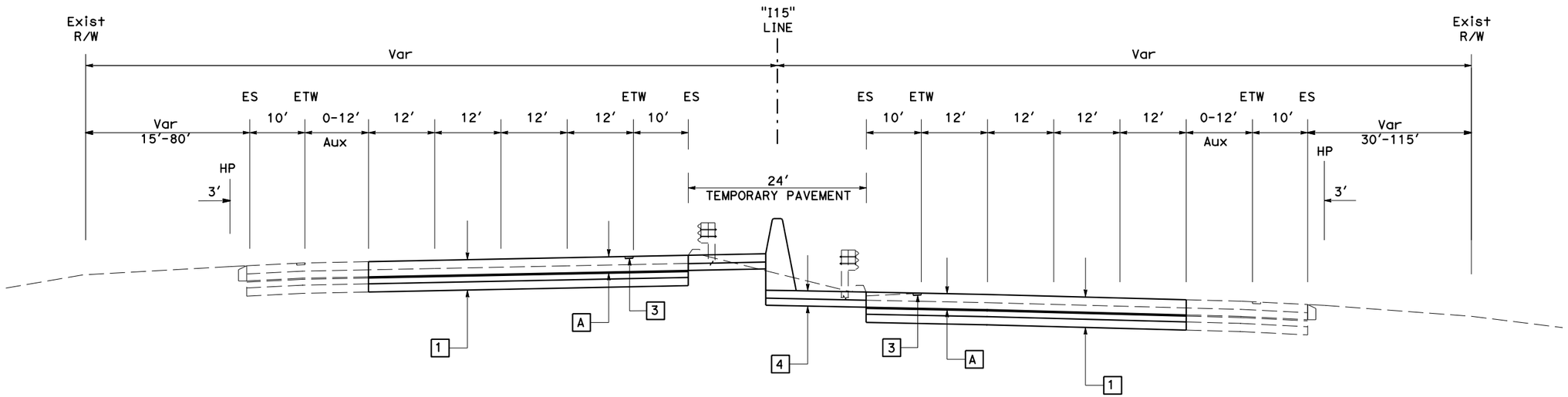
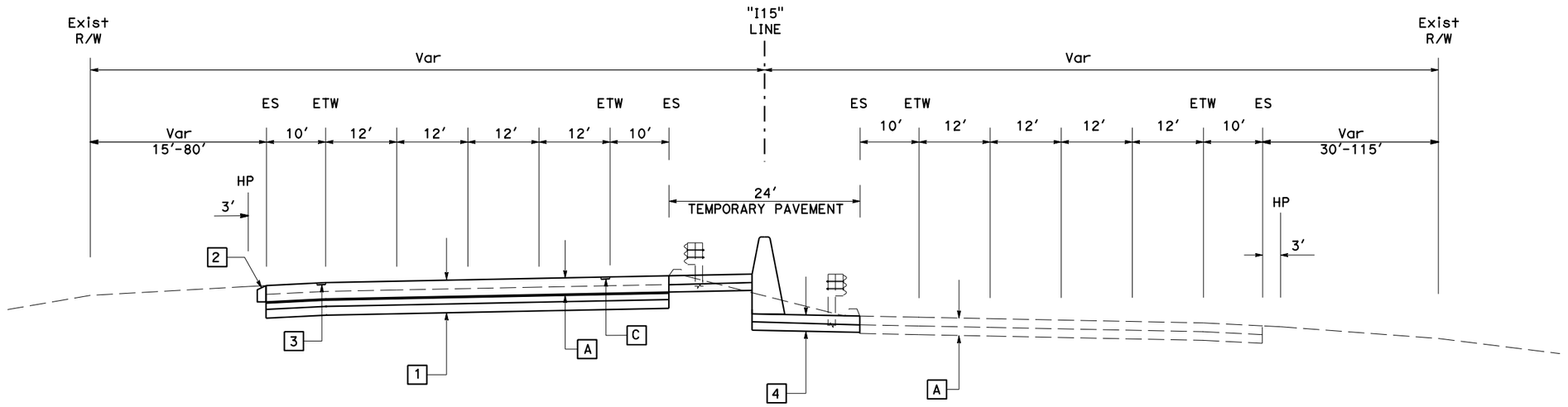


SOUTHBOUND
PM 29.6 TO PM 30.0

NORTHBOUND
PM 29.8 TO PM 30.0

INTERSTATE 15



SOUTHBOUND
PM R28.9 TO PM R29.6

NORTHBOUND
PM R28.9 TO PM R29.8

INTERSTATE 15

TYPICAL CROSS SECTIONS

NO SCALE

X-2

LAST REVISION 00-00-00 DATE PLOTTED => 14-MAR-2018 TIME PLOTTED => 13:24

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: MUSTAPHA RAOUF
CALCULATED-DESIGNED BY: JAVED GREWAL
CHECKED BY: HOON PARK
REVISED BY / DATE REVISED

BORDER LAST REVISED 7/2/2010

USERNAME => s145549
DGN FILE => 0815000244ca002.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2229

PROJECT NUMBER & PHASE 08150002440

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	15	R28.6/37.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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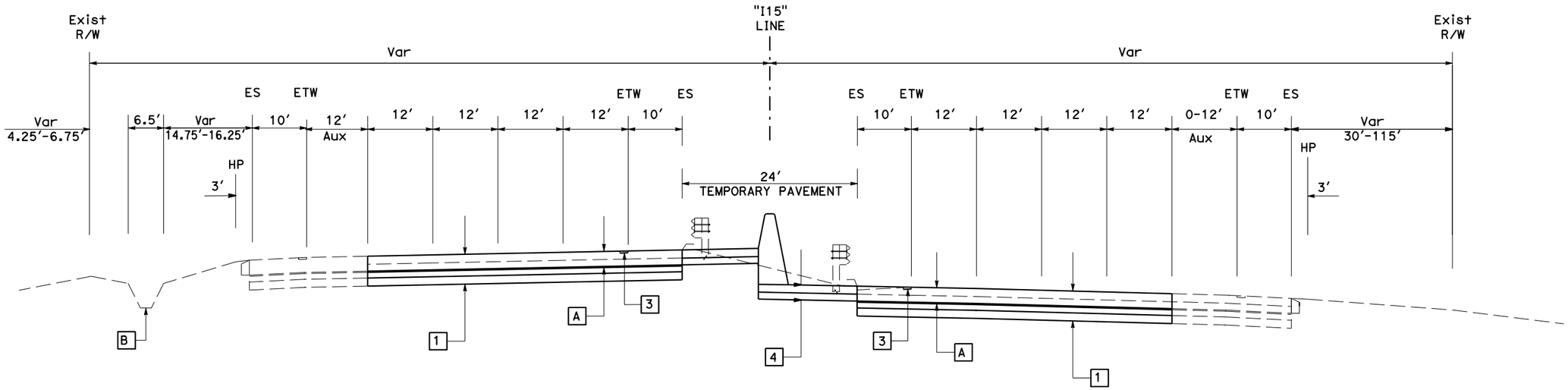
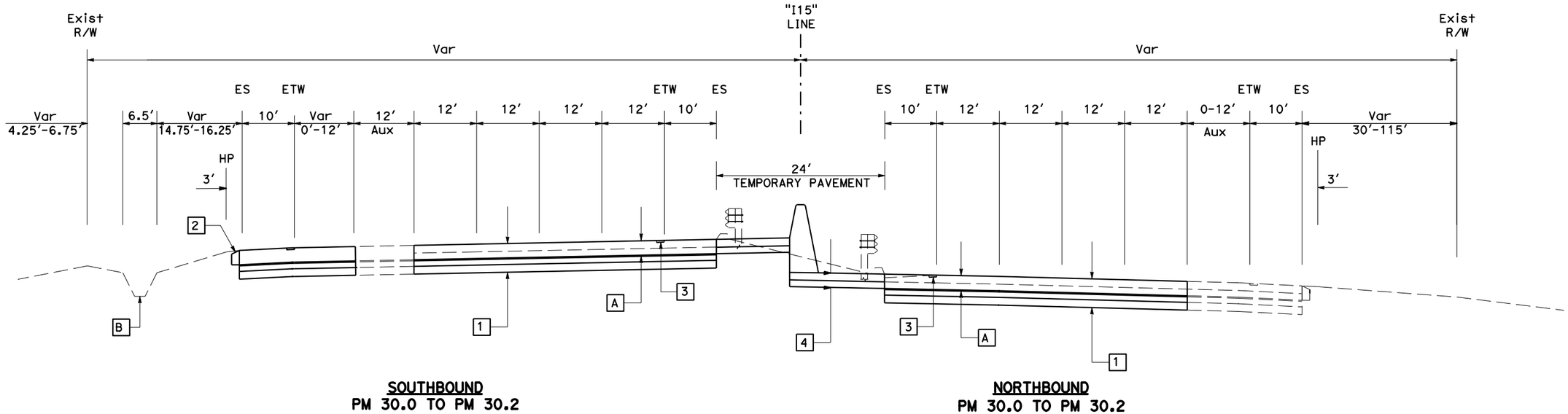


SOUTHBOUND
PM 30.2 TO PM 30.3

NORTHBOUND
PM 30.2 TO PM 30.3

INTERSTATE 15



SOUTHBOUND
PM 30.0 TO PM 30.2

NORTHBOUND
PM 30.0 TO PM 30.2

INTERSTATE 15

TYPICAL CROSS SECTIONS

NO SCALE

X-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: MUSTAPHA RAOUF
CALCULATED-DESIGNED BY: JAVED GREWAL
CHECKED BY: HOON PARK
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 14-MAR-2018
TIME PLOTTED => 13:25

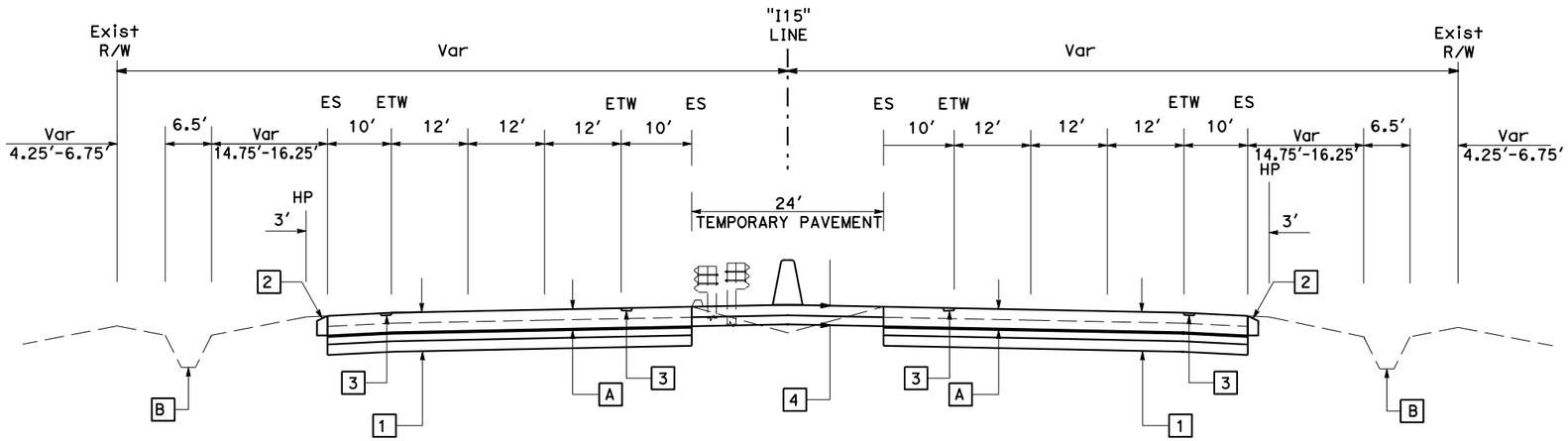
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	15	R28.6/37.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

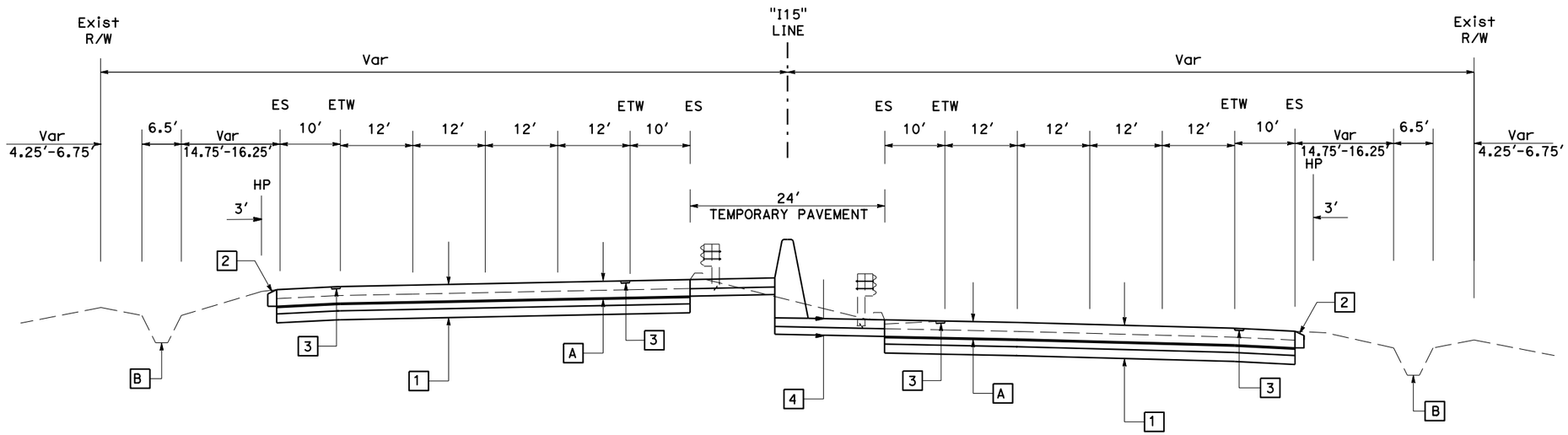
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



SOUTHBOUND
PM 31.6 TO PM 37.5

NORTHBOUND
PM 31.6 TO PM 37.5

INTERSTATE 15



SOUTHBOUND
PM 30.3 TO PM 31.6

NORTHBOUND
PM 30.3 TO PM 31.6

INTERSTATE 15

TYPICAL CROSS SECTIONS

NO SCALE

X-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: MUSTAPHA RAOUF
CALCULATED-DESIGNED BY: JAVED GREWAL
CHECKED BY: HOON PARK
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 14-MAR-2018
TIME PLOTTED => 13:25

BORDER LAST REVISED 7/2/2010
USERNAME => s145549
DGN FILE => 0815000244ca004.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2229
PROJECT NUMBER & PHASE 08150002440

ATTACHMENT “C”
PRELIMINARY COST ESTIMATE

PROJECT

PA&ED COST ESTIMATE

PROJECT ID: 0815000244

Type of Estimate : SUPPLEMENTAL PROJECT SCOPE SUMMARY REPORT

Program Code : 201.122 - HA22 (For more information, please refer to section 9 in the SPSSR)

Project Limits : 08-SBd-15-PM R28.6/37.5

Project Description: Rehabilitate Existing Roadway under Pavement Resurfacing, Restoration, and Rehabilitation (3R) Project.
(PCR will be submitted during the PS&E phase.)

Scope : Replace all mainline existing Asphalt Concrete (AC) lanes of the traveled way, auxiliary lanes, and shoulders to 40-year rigid pavement design with Continuously Reinforced Concrete Pavement. Replace AC pavement from merge point of ramps to gore area with Jointed Plane Concrete Pavement (JPCP) Rapid Strength Concrete (RSC). Cold plane and overlay existing AC ramps with RHMA-G. Construct ramp termini with JPCP on I-15 southbound exit ramp at Joshua Street OC. Upgrade existing nonstandard guardrails, construct vegetation control, reconstruct shoulder backing and dikes, and adjust drainage inlets. Provide pavement edge treatments where required. Construct temporary pavement for bypass lanes at the median to accommodate stage construction. These bypass lanes will be paved with 1-year design life of HMA pavement and removed after construction. Median concrete barrier will be installed over temporary pavement where required. Upgrade curb ramps to Americans with Disabilities Act (ADA) standards (approximately 12 curb ramps) and sidewalks if required. Upgrade highway appurtenances and facilities. Upgrade the existing nonstandard bridge railings, replace joint seals, and add paving notch extensions and approach slabs on West Hesperia Overheads (Bridge No. 54-0664L/R). Install outer separation barrier where required. Reconstruct drainage system and provide erosion control where required. Modify existing concrete channel within clear recovery zone to be traversable by adding removable steel grates. Provide permanent best management practices to address NPDES requirements. Replace existing tortoise fence.

Alternative : Alternative #1

SUMMARY OF PROJECT COST ESTIMATE

	Current Year Cost	Escalated Cost
TOTAL ROADWAY COST	$ 133,833,900	$ 157,774,572
TOTAL STRUCTURES COST	$ 1,064,152	$ 1,254,511
SUBTOTAL CONSTRUCTION COST	$ 134,898,052	$ 159,029,083
TOTAL RIGHT OF WAY COST	$ 10,000	$ 10,000
TOTAL CAPITAL OUTLAY COSTS	**$ 134,909,000**	**$ 159,040,000**
PR/ED SUPPORT	$ -	$ -
PS&E SUPPORT	$ -	$ -
RIGHT OF WAY SUPPORT	$ -	$ -
CONSTRUCTION SUPPORT	$ -	$ -
TOTAL SUPPORT COST	**$ -**	**$ -**
TOTAL PROJECT COST	**$ 135,000,000**	**$ 160,000,000**

If Project has been programmed enter Programmed Amount

	Month	/	Year
Date of Estimate (Month/Year)	3	/	2018
Estimated Construction Start (Month/Year)	10	/	2020
Number of Working Days =			625
Estimated Mid-Point of Construction (Month/Year)	2	/	2022
Estimated Construction End (Month/Year)	5	/	2023
Number of Plant Establishment Days			0

Estimated Project Schedule

PID Approval	June-15
PA/ED Approval	May-18
PS&E	May-19
RTL	February-20
Begin Construction	October-20

Reviewed by District O.E. or Cost Estimate Certifier

Office Engineer / Cost Estimate Certifier	**xx/xx/xxxx**	(xxx) xxx-xxxx
	Date	**Phone**

Approved by Project Manager

Project Manager	**xx/xx/xxxx**	(xxx) xxx-xxxx
	Date	**Phone**

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	11,285,000
2	**Pavement Structural Section**	$	51,074,900
3	**Drainage**	$	-
4	**Specialty Items**	$	5,028,000
5	**Environmental**	$	1,509,000
6	**Traffic Items**	$	5,094,400
7	**Detours**	$	6,843,900
8	**Minor Items**	$	6,041,600
9	**Roadway Mobilization**	$	8,687,700
10	**Supplemental Work**	$	4,343,900
11	**State Furnished**	$	4,343,900
12	**Time-Related Overhead**	$	8,687,700
13	**Roadway Contingency**	$	20,893,900
	TOTAL ROADWAY ITEMS	**$**	**133,833,900**

Estimate Prepared By : Javed Grewal, Design Engineer | 5/2/2018 | (909) 388-7016

Name and Title | Date | Phone

Estimate Reviewed By : Hoon Park, Project Engineer | 5/2/2018 | (909) 383-7307

Name and Title | Date | Phone

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

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
100100	DEVELOP WATER SUPPLY	LS	1	x	464,768.25	=	$	464,768
170105	CLEARING AND GRUBBING (ACRE)	ACRE	30	x	3,000.00	=	$	90,000
190101	ROADWAY EXCAVATION	CY	415,900	x	22.35	=	$	9,295,365
190107	ROADWAY EXCAVATION (TYPE Y-1) (AERIALLY DEPOSITED	CY	32,000	x	30.00	=	$	960,000
190185	SHOULDER BACKING	TON	16,659	x	28.50	=	$	474,782
192025	STRUCTURE EXCAVATION (CULVERT)	CY		x		=	$	-
192037	STRUCTURE EXCAVATION (RETAINING WALL)	CY		x		=	$	-
193004	STRUCTURE BACKFILL (CULVERT)	CY		x		=	$	-
193013	STRUCTURE BACKFILL (RETAINING WALL)	CY		x		=	$	-
193031	PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	CY		x		=	$	-
194001	DITCH EXCAVATION	CY		x		=	$	-
198010	IMPORTED BORROW (CY)	CY		x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 11,285,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
250201	CLASS 2 AGGREGATE SUBBASE	CY	133,550	x	33.90	=	$	4,527,345
260203	CLASS 2 AGGREGATE BASE (CY)	CY		x		=	$	-
280000	LEAN CONCRETE BASE	CY		x		=	$	-
280010	RAPID STRENGTH CONCRETE BASE	CY		x		=	$	-
280015	LEAN CONCRETE BASE RAPID SETTING	CY		x		=	$	-
370001	SAND COVER (SEAL)	TON		x		=	$	-
374002	ASPHALTIC EMULSION (FOG SEAL COAT)	TON		x		=	$	-
377501	SLURRY SEAL	TON		x		=	$	-
390095	REPLACE ASPHALT CONCRETE SURFACING	CY		x		=	$	-
390100	PRIME COAT	TON	477	x	821.85	=	$	392,022
390132	HOT MIX ASPHALT (TYPE A)	TON	76,899	x	96.05	=	$	7,386,149
390136	MINOR HOT MIX ASPHALT	TON	43	x	151.25	=	$	6,504
390137	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	TON	2,500	x	149.90	=	$	374,750
391006	ASPHALT BINDER (GEOSYNTHETIC PAVEMENT INTERLAYER)	TON		x		=	$	-
394076	PLACE HOT MIX ASPHALT DIKE (TYPE E)	LF	1,412	x	2.35	=	$	3,318
394077	PLACE HOT MIX ASPHALT DIKE (TYPE F)	LF	471	x	3.00	=	$	1,413
394090	PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)	SQYD		x		=	$	-
394095	ROADSIDE PAVING (MISCELLANEOUS AREAS)	SQYD		x		=	$	-
397005	TACK COAT	TON	211	x	820.00	=	$	173,020
398100	REMOVE ASPHALT CONCRETE DIKE	LF	1,883	x	3.05	=	$	5,743
398200	COLD PLANE ASPHALT CONCRETE PAVEMENT	SQYD	47,900	x	4.20	=	$	201,180
398300	REMOVE BASE AND SURFACING	CY		x		=	$	-
400050	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT	CY	211,825	x	177.00	=	$	37,493,025
401050	JOINTED PLAIN CONCRETE PAVEMENT	CY		x		=	$	-
401055	JOINTED PLAIN CONCRETE PAVEMENT (RSC)	CY	195	x	473.10	=	$	92,255
410096	DRILL AND BOND (DOWEL BAR)	EA		x		=	$	-
410120	SPALL REPAIR (POLYESTER CONCRETE)	SQYD		x		=	$	-
411105	INDIVIDUAL SLAB REPLACEMENT (RSC)	CY		x		=	$	-
414200	JOINT SEAL (ASPHALT RUBBER)	LF		x		=	$	-
414201	JOINT SEAL (SILICONE)	LF		x		=	$	-
414202	JOINT SEAL (PREFORMED COMPRESSION)	LF		x		=	$	-
414220	REPLACE JOINT SEAL (ASPHALT RUBBER)	LF		x		=	$	-
418002	REMOVE CONCRETE PAVEMENT AND BASE	CY		x		=	$	-
418006	REMOVE CONCRETE PAVEMENT (CY)	CY		x		=	$	-
420102	GROOVE EXISTING CONCRETE PAVEMENT	SQYD		x		=	$	-
420201	GRIND EXISTING CONCRETE PAVEMENT	SQYD		x		=	$	-
731502	MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)	CY		x		=	$	-
731530	MINOR CONCRETE (TEXTURED PAVING)	CY		x		=	$	-
731700	REMOVE CURB	LF		x		=	$	-
846052	12" RUMBLE STRIP (CONCRETE PAVEMENT)	STA	1,616	x	258.75	=	$	418,140

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 51,074,900

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)		Cost
510502	PROGRESS SCHEDULE (CRITICAL PATH METHOD)	LS		x		= $	-
510530	STRUCTURE EXCAVATION (CRIB WALL)	CY		x		= $	-
610108	RETAINING WALL (MASONRY WALL)	SQFT		x		= $	-
641107	36" CAST-IN-DRILLED-HOLE CONCRETE PILING	LF		x		= $	-
650014	STRUCTURAL CONCRETE, RETAINING WALL	CY		x		= $	-
665016	MINOR CONCRETE (WALL)	CY		x		= $	-
681104	ARCHITECTURAL TREATMENT	SQFT		x		= $	-
690117	BAR REINFORCING STEEL (RETAINING WALL)	LB		x		= $	-
700640	SOUND WALL (MASONRY BLOCK)	SQFT		x		= $	-
703223	REMOVE SOUND WALL (LF)	LF		x		= $	-
703233	REMOVE FLARED END SECTION (EA)	EA		x		= $	-
705019	PREPARE AND STAIN CONCRETE	SQFT		x		= $	-
710102	ROCK STAIN	SQFT		x		= $	-
710132	ANTI-GRAFFITI COATING	SQFT		x		= $	-
710196	CHAIN LINK FENCE (TYPE CL-6)	LF		x		= $	-
710240	6' CHAIN LINK GATE (TYPE CL-6)	EA		x		= $	-
710262	REMOVE FENCE	LF		x		= $	-
710370	MIDWEST GUARDRAIL SYSTEM (WOOD POST)	LF		x		= $	-
720122	VEGETATION CONTROL (MINOR CONCRETE)	SQYD		x		= $	-
721420	SINGLE THRIE BEAM BARRIER	LF		x		= $	-
721430	DOUBLE THRIE BEAM BARRIER	LF		x		= $	-
723040	CABLE RAILING	LF		x		= $	-

TOTAL DRAINAGE ITEMS $ -

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)		Cost
080050	PROGRESS SCHEDULE (CRITICAL PATH METHOD)	LS		x		= $	-
192001	STRUCTURE EXCAVATION	CY	2	x	240.50	= $	481
192036	STRUCTURE EXCAVATION (CRIB WALL)	CY		x		= $	-
475010	RETAINING WALL (MASONRY WALL)	SQFT		x		= $	-
490605	36" CAST-IN-DRILLED-HOLE CONCRETE PILING	LF		x		= $	-
510060	STRUCTURAL CONCRETE, RETAINING WALL	CY		x		= $	-
510502	MINOR CONCRETE (MINOR STRUCTURE)	CY	4	x	3,777.45	$	15,110
510530	MINOR CONCRETE (WALL)	CY		x		= $	-
511035	ARCHITECTURAL TREATMENT	SQFT		x		= $	-
511106	DRILL AND BOND DOWEL	LF	9	x	217.15	= $	1,954
520101	BAR REINFORCING STEEL	LB	357	x	3.10	$	1,107
520103	BAR REINFORCING STEEL (RETAINING WALL)	LB		x		= $	-
582001	SOUND WALL (MASONRY BLOCK)	SQFT		x		= $	-
600051	REMOVE SOUND WALL (LF)	LF		x		= $	-
710167	REMOVE FLARED END SECTION (EA)	EA		x		= $	-
780440	PREPARE AND STAIN CONCRETE	SQFT		x		= $	-
780450	ROCK STAIN	SQFT		x		= $	-
780460	ANTI-GRAFFITI COATING	SQFT		x		= $	-
800360	CHAIN LINK FENCE (TYPE CL-6)	LF	95,040	x	13.20	= $	1,254,528
802520	6' CHAIN LINK GATE (TYPE CL-6)	EA		x		= $	-
803020	REMOVE FENCE	LF	95,040	x	2.75	= $	261,360
832007	MIDWEST GUARDRAIL SYSTEM (WOOD POST)	LF	1,455	x	31.05	= $	45,178
832070	VEGETATION CONTROL (MINOR CONCRETE)	SQYD	1,001	x	77.19	= $	77,267
839301	SINGLE THRIE BEAM BARRIER	LF		x		= $	-
839310	DOUBLE THRIE BEAM BARRIER	LF		x		= $	-
839521	CABLE RAILING	LF		x		= $	-
839543	TRANSITION RAILING (TYPE WB-31)	EA	5	x	3,895.25	= $	19,476
839561	RAIL TENSIONING ASSEMBLY	EA		x		= $	-
839581	END ANCHOR ASSEMBLY (TYPE SFT)	EA	8	x	793.40	= $	6,347
839584	ALTERNATIVE IN-LINE TERMINAL SYSTEM	EA	16	x	2,200.00	= $	35,200
839585	ALTERNATIVE FLARED TERMINAL SYSTEM	EA		x		= $	-
839605	CRASH CUSHION (REACT 9SCBS)	EA		x		= $	-
839701	CONCRETE BARRIER (TYPE 60)	LF		x		= $	-
839703	CONCRETE BARRIER (TYPE 60C)	LF	47,065	x	57.15	= $	2,689,765
839752	REMOVE GUARDRAIL	LF	93,255	x	6.65	= $	620,146
839774	REMOVE CONCRETE BARRIER	LF		x		= $	-
839779	REMOVE METAL RAILING	LF		x		= $	-

TOTAL SPECIALTY ITEMS $ 5,028,000

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
070030	LEAD COMPLIANCE PLAN	LS	1	x	4,000.00	=	$	4,000
130670	TEMPORARY REINFORCED SILT FENCE	LF		x		=	$	-
141120	TREATED WOOD WASTE	LB	41,062	x	0.25	=	$	10,266
800100	TEMPORARY FENCE	LF		x		=	$	-
803020	REMOVE FENCE	LF		x			$	-
803220	DESERT TORTOISE FENCE	LF		x			$	-

Subtotal Environmental Mitigation $ *14,266*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
200114	ROCK BLANKET	SQFT	6,000	x	13.89	=	$	83,340
202006	SOIL AMENDMENT	CY		x		=	$	-
202026	RELOCATE BACKFLOW PREVENTER ASSEMBLY	EA		x		=	$	-
202028	RELOCATE IRRIGATION CONTROLLER	EA		x		=	$	-
202037	ORGANIC FERTILIZER	LB		x		=	$	-
205033	GRAVEL MULCH	SQFT	376,319	x	2.43	=	$	914,455
206405	REMOVE IRRIGATION FACILITY	LS		x		=	$	-
208301	IRRIGATION CONTROLLER ENCLOSURE CABINET	EA		x		=	$	-
208690	PVC PIPE CONDUIT (SLEEVE)	LF		x		=	$	-
210610	COMPOST (CY)	CY	150,000	x	0.32	=	$	48,000
210630	INCORPORATE MATERIALS	SQFT	150,000	x	0.07	=	$	10,500

Subtotal Landscape and Irrigation $ *1,056,295*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)			Cost
210010	MOVE-IN/MOVE-OUT (EROSION CONTROL)	EA	1	x	500.00	=	$	500
210350	FIBER ROLLS	LF		x		=	$	-
210360	COMPOST SOCK	LF		x		=	$	-
210300	HYDROMULCH	SQFT		x		=	$	-
210420	STRAW	SQFT		x		=	$	-

Subtotal Erosion Control $ *500*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost
130100	JOB SITE MANAGEMENT	LS	1	x	213,000.00	=	$	213,000
130200	PREPARE WATER POLLUTION CONTROL PROGRAM	LS		x		=	$	-
130300	PREPARE STORM WATER POLLUTION PREVENTION PLAN	LS	1	x	43,500.00	=	$	43,500
130310	RAIN EVENT ACTION PLAN	EA	38	x	500.00	=	$	19,000
130320	STORM WATER SAMPLING AND ANALYSIS DAY	EA	11	x	4,925.00	=	$	54,175
130330	STORM WATER ANNUAL REPORT	EA	3	x	2,000.00	=	$	6,000
130505	MOVE-IN/MOVE-OUT (TEMPORARY EROSION CONTROL)	EA		x		=	$	-
130520	TEMPORARY HYDRAULIC MULCH	SQYD		x		=	$	-
130560	TEMPORARY SOIL BINDER	SQYD	3,500	x	0.50	=	$	1,750
130570	TEMPORARY COVER	SQYD	4,000	x	5.00	=	$	20,000
130620	TEMPORARY DRAINAGE INLET PROTECTION	EA		x		=	$	-
130640	TEMPORARY FIBER ROLL	LF	3,000	x	4.00	=	$	12,000
130650	TEMPORARY GRAVEL BAG BERM	LF					$	-
130680	TEMPORARY SILT FENCE	LF	5,000	x	3.50	=	$	17,500
130710	TEMPORARY CONSTRUCTION ENTRANCE	EA	2		3,000.00		$	6,000
130730	STREET SWEEPING	LS		x		=	$	-
130900	TEMPORARY CONCRETE WASHOUT	LS	1	x	45,000.00	=	$	45,000
XXXXXX	EXISTING TREATMENT BMPs IMPROVEMENT	LS	1	x	20,000.00		$	20,000

Subtotal NPDES $ *437,925*

TOTAL ENVIRONMENTAL $ **1,509,000**

Supplemental Work for NPDES

066596	ADDITIONAL WATER POLLUTION CONTROL	LS	1.00	x	25,000.00	=	$	25,000
066595	WATER POLLUTION CONTROL MAINTENANCE SHARING	LS	1.00	x	20,000.00	=	$	20,000
066597	STORM WATER SAMPLING AND ANALYSIS	LS		x		=	$	-
066916	ANNUAL CONSTRUCTION GENERAL PERMIT FEE	LS	1.00	x	16,000.00	=	$	16,000

Subtotal Supplemental Work for NDPS $ *61,000*

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

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
498040	24" CAST-IN-DRILLED-HOLE CONCRETE PILE (SIGN FOUNDATION)	LF		x		=	$	-
560208	FURNISH SIGN STRUCTURE (TUBULAR)	LB		x		=	$	-
560219	INSTALL SIGN STRUCTURE (TRUSS)	LB		x		=	$	-
568046	REMOVE SIGN STRUCTURE (EA)	EA		x		=	$	-
568054	RECONSTRUCT SIGN STRUCTURE	EA		x		=	$	-
568060	MODIFY SIGN STRUCTURE	EA		x		=	$	-
870009	MAINTAINING EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS DURINC	LS		x		=	$	-
870111	INDUCTIVE LOOP DETECTOR (EA)	EA		x		=	$	-
870300	SIGN ILLUMINATION SYSTEM	LS		x		=	$	-
870400	SIGNAL AND LIGHTING SYSTEM	LS		x		=	$	-
870510	RAMP METERING SYSTEM	LS		x		=	$	-
870600	TRAFFIC MONITORING STATION SYSTEM	LS		x		=	$	-
871811	INTERCONNECTION CONDUIT AND CABLE (LF)	LF		x		=	$	-
872130	MODIFYING EXISTING ELECTRICAL SYSTEM	LS	1	x	220,000.00	=	$	220,000

Subtotal Traffic Electrical *$* *220,000*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
141101	REMOVE YELLOW PAINTED TRAFFIC STRIPE (HAZARDOUS WASTE)	LF		x		=	$	-
141103	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	LF	141,000	x	0.60	=	$	84,600
568048A	RETROREFLECTIVE SHEETING (TYPE XI)	SQFT	1,600	x	7.00	=	$	11,200
810120	REMOVE PAVEMENT MARKER	EA	10,500	x	1.25	=	$	13,125
810170	DELINEATOR (CLASS 1)	EA		x		=	$	-
810230	PAVEMENT MARKER (RETROREFLECTIVE)	EA	1,800	x	1.00	=	$	1,800
810250	PAVEMENT MARKER (RETROREFLECTIVE-RECESSED)	EA	8,700	x	7.00	=	$	60,900
820250	REMOVE ROADSIDE SIGN	EA		x		=	$	-
820510	RESET ROADSIDE SIGN (ONE POST)	EA		x		=	$	-
820520	RESET ROADSIDE SIGN (TWO POST)	EA		x		=	$	-
820610	RELOCATE ROADSIDE SIGN	EA		x		=	$	-
820760	FURNISH SINGLE SHEET ALUMINUM SIGN (0.080"-UNFRAMED)	SQFT		x		=	$	-
820840	ROADSIDE SIGN - ONE POST	EA		x		=	$	-
820850	ROADSIDE SIGN - TWO POST	EA		x		=	$	-
820890	INSTALL SIGN PANEL ON EXISTING FRAME	SQFT		x		=	$	-
840502	THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY)	LF		x		=	$	-
840515	THERMOPLASTIC PAVEMENT MARKING	SQFT	7,800	x	3.00	=	$	23,400
840516	THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY)	SQFT		x		=	$	-
840560	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)	LF	79,000	x	0.15	=	$	11,850
840656	PAINT TRAFFIC STRIPE (2-COAT)	LF	388,000	x	0.25	=	$	97,000
846007	6" THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY)	LF	388,000	x	0.60	=	$	232,800
846012	THERMOPLASTIC CROSSWALK AND PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY)	SQFT		x		=	$	-
846020	REMOVE PAINTED TRAFFIC STRIPE	LF		x		=	$	-
846025	REMOVE PAINTED PAVEMENT MARKING	SQFT		x		=	$	-
846030	REMOVE THERMOPLASTIC TRAFFIC STRIPE	LF	179,000	x	0.35	=	$	62,650

Subtotal Traffic Signing and Striping *$* *599,325*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128651	PORTABLE CHANGEABLE MESSAGE SIGN (EA)	LS	20	x	$ 3,500	=	$	70,000

Subtotal Traffic Management Plan *$* *70,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120090	CONSTRUCTION AREA SIGNS	LS	1	x	20,000.00	=	$	20,000
120100	TRAFFIC CONTROL SYSTEM	LS	1	x	1,254,000.00	=	$	1,254,000
120120	TYPE III BARRICADE	EA		x		=	$	-
120149	TEMPORARY PAVEMENT MARKING (PAINT)	SQFT		x		=	$	-
120159	TEMPORARY TRAFFIC STRIPE (PAINT)	LF	388,000	x	0.15	=	$	58,200
120165	CHANNELIZER (SURFACE MOUNTED)	EA	160	x	40.00	=	$	6,400
120199	TRAFFIC PLASTIC DRUM	EA		x		=	$	-
120300	TEMPORARY PAVEMENT MARKER	EA	8,700		2.50	=	$	21,750
129000	TEMPORARY RAILING (TYPE K)	LF	141,000	x	20.00	=	$	2,820,000
129100	TEMPORARY CRASH CUSHION MODULE	EA	112	x	220.00	=	$	24,640
129110	TEMPORARY CRASH CUSHION	EA		x		=	$	-

Subtotal Stage Construction and Traffic Handling *$* *4,204,990*

TOTAL TRAFFIC ITEMS **$** **5,094,400**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost	
100100	DEVELOP WATER SUPPLY	LS	1	x	66585.12	=	$	66,585	1
120149	TEMPORARY PAVEMENT MARKING (PAINT)	SQFT		x		=	$	-	
124000	TEMPORARY PEDESTRIAN ACCESS ROUTE	LS	1	x	5000.00	=	$	5,000	
128601	TEMPORARY SIGNAL SYSTEM	LS		x		=	$	-	
129000	TEMPORARY RAILING (TYPE K)	LF		x		=	$	-	
130620	TEMPORARY DRAINAGE INLET PROTECTION	EA		x		=	$	-	
190101	ROADWAY EXCAVATION	CY	59,584	x	22.35	=	$	1,331,702	
198010	IMPORTED BORROW (CY)	CY		x		=	$	-	
250401	CLASS 4 AGGREGATE SUBBASE	CY		x		=	$	-	
260203	CLASS 2 AGGREGATE BASE (CY)	CY	53,625	x	46.90	=	$	2,515,013	
390100	PRIME COAT	TON	106	x	821.85	=	$	87,116	
390132	HOT MIX ASPHALT (TYPE A)	TON	29,792	x	96.05	=	$	2,861,522	
397005	TACK COAT	TON	53	x	820.00	=	$	43,460	
800100	TEMPORARY FENCE	LF		x		=	$	-	

TOTAL DETOURS **$ 6,843,900**

SUBTOTAL SECTIONS 1 through 7 $ 80,835,200

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items					
	ADA Items	1.0%	$	808,352	
8B - Bike Path Items					
	Bike Path Items		$	-	
8C - Traffic Safety					
	Ramp Improvements for Safety Analysis (Main St. Overcrossing)	1.0%	$	808,352	
8D - Other Minor Items					
	Other Minor Items (Misc, Utilitites, Drainage, potential treatment BMPs)	5.5%	$	4,424,838	

Total of Section 1-7	$	80,835,200	x	7.5%	=	$	6,041,543	

TOTAL MINOR ITEMS **$ 6,041,600**

SECTIONS 9: MOBILIZATION

Item code										
999990	MOBILIZATION (Total of Section 1-8)	LS	$	86,876,800	x	**10%**	=	$	8,687,680	

TOTAL MOBILIZATION **$ 8,687,700**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066015	FEDERAL TRAINEE PROGRAM	LS	43	x	800	=	$	34,400
066016	JUST-IN-TIME TRAINING	LS	1	x	5,000	=	$	5,000
066041	BIRD PROTECTION	LS		x		=	$	-
066070	MAINTAIN TRAFFIC	LS	1	x	100,000	=	$	100,000
066094	VALUE ANALYSIS	LS	1	x	10,000	=	$	10,000
066204	REMOVE ROCK AND DEBRIS	LS		x		=	$	-
066222	LOCATE EXISTING CROSSOVER	LS		x		=	$	-
066610	PARTNERING	LS	1	x	90,000	=	$	90,000
066670	PAYMENT ADJUSTMENTS FOR PRICE INDEX FLUCTUATIONS	LS	1	x	654,000	=	$	654,000
066860	MAINTAIN EXISTING ELECTRICAL SYSTEM	LS	1	x	5,000	=	$	5,000
066919	DISPUTE RESOLUTION BOARD	LS	1	x	30,000	=	$	30,000
066921	DISPUTE RESOLUTION ADVISOR	LS		x		=	$	-

*Cost of **NPDES** Supplemental Work specified in Section 5D* = $ 61,000

Total Section 1-8	$	86,876,800	5.0%	=	$	4,343,900	

TOTAL SUPPLEMENTAL WORK **$ 4,343,900**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)			Cost
066105	RESIDENT ENGINEERS OFFICE	LS	1	x	273,438	=	$	273,438
066063	TRAFFIC MANAGEMENT PLAN - PUBLIC INFORMATION	LS	1	x	100,000	=	$	100,000
066916	CGP STORMWATER FEES	LS	1	x	16,000	=	$	16,000
066841	TRAFFIC CONTROLLER ASSEMBLY	LS		x		=	$	-
066840	TRAFFIC SIGNAL CONTROLLER ASSEMBLY	LS		x		=	$	-
066062	COZEEP CONTRACT	LS	1	x	551,000	=	$	551,000
066838	REFLECTIVE NUMBERS AND EDGE SEALER	LS		x		=	$	-
066065	TOW TRUCK SERVICE PATROL	LS		x		=	$	-
066916	ANNUAL CONSTRUCTION GENERAL PERMIT FEE	LS		x		=	$	-
	Total Section 1-8	$	86,876,800		5.0%	=	$	4,343,840

TOTAL STATE FURNISHED $ 4,343,900

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Bid Items excluding Mobilization, Supplemental Work, Contingencies per CCD 7.6.2 — $86,876,800 (used to calculate TRO)

Total Construction Cost (excluding TRO and Contingency) — $104,252,300 (used to check if project is greater than $5 million excluding contingency)

Estiamted Time-Releated Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)			Cost
070018	Time-Related Overhead	WD	625	X	$13,900	=	$	8,687,700.00

TOTAL TIME-RELATED OVERHEAD $8,687,700

Note: If the building portion of the project is greater than 50% of the total project cost, then TRO is not included.

SECTION 13: ROADWAY CONTINGENCY

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-12	$	112,940,000	x	**18.5%**	=	$20,893,900

TOTAL CONTINGENCY $20,893,900

II. STRUCTURE ITEMS

	Bridge 1				
DATE OF ESTIMATE	03/28/18		00/00/00		00/00/00
Bridge Name	West Hesperia OH		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Bridge Number	54-0664L/R		57-XXX		57-XXX
Structure Type	Slab Bridge		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Bridge Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0		$0		$0
	Bridge Railing Replacement				
COST OF EACH	**$1,064,152**		**$0**		**$0**

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Name	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$100		$0		$0
COST OF EACH	**$0**		**$0**		**$0**

TOTAL COST OF BRIDGES		**$1,064,152**
TOTAL COST OF BUILDINGS		**$0**
Structures Mobilization Percentage	0%	**$0**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Structures Contingency Percentage	0%	**$0**
TOTAL COST OF STRUCTURES		**$1,064,152**

Estimate Prepared By: _____ _____

XXXXXXXXXXXXXXXX ------ Division of Structures — Date

III. RIGHT OF WAY

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

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	0
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	0
E)		Clearance / Demolition	$	0
F)		Title and Escrow	$	0
G)		Project Permit Fees	$	10,000
H)		Environmental Review	$	
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$10,000**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$10,000**
N)	**RIGHT OF WAY SUPPORT**	**$0**

Support Cost Estimate Prepared By	Project Coordinator[1]	Phone
Utility Estimate Prepared By	Utiliy Coordinator[2]	Phone
R/W Acquistion Estimate Prepared By	Right of Way Estimator[3]	Phone

Note: Items G & H applied to items A + B

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

ATTACHMENT “D”
ADAVNCED PLANNING STUDY

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

Making Conservation
a California Way of Life.

To: MUSTAPHA RAOUF
OFFICE CHIEF
DESIGN A
D8 SAN BERNARDINO

Date: March 28, 2018

File: 08-SB-15-PM R28.6/42.5
08-0K122
0815000244
Barrier Rail Replacement and Approach Slab addition West Hesperia OH
54-0664L/R

From: KRISHNAKANT ANDURLEKAR
Bridge Design Branch 15 (Acting)
Office of Bridge Design Central
Structure Design
Division of Engineering Services

Subject: **ADVANCE PLANNING STUDY**

Attached is the Advance Planning Study for the above referenced project as requested by you on March 16, 2018.

The scope of the project includes removal of Concrete Barrier Rail Type 1 and replaced with Type 836 on left and right structure total 330 feet each structure. Possible salvage of steel rail on top of Type 1 rail. Existing upright rebar will be retained and additional drill and bond dowels will be added for placement of Type 836 barrier rail. Approach Slab Type R(30) will be added to both approach and departure of each structure. Paving Notch Extension will be added to existing diaphragm abutments for approach and departure slabs each structure.

The forecast structure cost, including time related overhead, mobilization and contingencies, is as follows:

Structure Name	Br. No.	Estimated Cost
West Hesperia L/R	54-0664L/R	$1,064,152
	Total Cost =	$1,064,152

The following table summarizes the projected total structure cost based on a constant 4.2% escalation rate. The escalated structure cost is provided for informational purposes only and does not replace annual cost updates as required by Department policy.

Years Beyond Midpoint	Escalated Cost
1	$1,108,847
2	$1,155,418
3	$1,203,946
4	$1,254,511
5	$1,307,201

Also prepared is a Resource and Duration estimate for Unit 3604 to complete the subject project:

WBS Activity	Approx. Hours (Total Project)	Duration (months)	
100.10	NA		
100.15	20		
100.20	20		
160	NA		
240	500	M221 to M275 M275 to M378	2 4
250	40		
265	20		
275	40		
285	40		
290	20		
295	20		
Total Design Duration (months) =			**6**

This Advance Planning Study and associated cost, resource and duration estimate is based on the following assumptions:

1. Barrier Rails will be removed from Bridge Structure. Existing upright rebar will be retained and additional upright rebar will be added using drill and bond dowels.
2. Barrier Rails will be adjusted to fit around any exist drainage grate opening on the bridge if encountered.
3. At West Hesperia OH R/L the steel pipe on top of the Type 1 concrete barrier may be salvaged.
4. Replacement of Type 1 barrier at West Hesperia OH R/L with Type 836 will reduce shoulder width by 9" each side.
5. We will be given a design exception for non-standard shoulder widths on inside shoulder left and right structure.
6. Replacement schedule of the rails will be determined by District during paving operations.
7. Approach slabs are new to structure but structure is not new therefore use Type R(30)
8. Paving Notch Extensions will need to be added to exist diaphragm abutments.
9. Approach Slab typical depth is now 1'-3" instead of 1'-0"
10. Aggregate approach slab base may be up to 6" deep.
11. Shoulders will be part of approach slab type R(30) total width.
12. Work will be done at night one lane at a time.
13. Joint seals will be replaced at new or replaced approach/departure slab.

If you have any questions or if you need additional information regarding this study, please contact Tony Logus at (916) 227-6496 or Krishnakant Andurlekar at (916) 227-8381.

Attachments: Estimate for structure items in this project.

c: Radhakrishman, Raghuram, Project Manager
Park, Hoon, District Project Engineer
Kurani, Elias, Chief, Office of Bridge Design Central
Structure Design Task Management Support Unit
Wei, Frank Technical Liaison Engineer
Wong, Quincy, Branch Chief, Bridge Architecture and Aesthetics
Hight, Gary, Branch Chief, Preliminary Investigations
Maan, Sukhminder, Project Liaison Engineer
Chao, Ching, Chief, Structure Maintenance and Investigations - Office *(North or South)*
Bruton, Nancy, Structure Maintenance and Investigations Program Advisor
Satter, Tillat, *Railings and Soundwalls*
Kaderabek,Greg *Railings and Soundwalls*

Location	Br. No.	Interstate	Bridge PM	Replace Approach Slab	Exist Barrier Rail Type	Barrier Rail Length LF	Barrier Rail Removal LF	Barrier Rail Removal Cost Max $84.65/LF	Drill and Bond Hole Depth LF	Total Drill and Bond Hole LF	Drill and Bond #5 rebar dowl Length LF	Total Drill and Bond #5 rebar dowl @ 8" LF	Total Weight #5 Rebar dowl lb	Barrier Rail Replace Type	Barrier Rail LF	Barrier Rail 836 Cost Max $155.63/ LF	Approach Type	Approach Area (ft^2)	Approach Depth (ft)	Approach Vol (CY)	Paving Notch Extender LF	Paving Notch Extender $310.00 LF	6 inches deep Aggregate Base CY	Aggregate Base cost $350/CY	Structure Concrete Slab Max $1137/CY
West Hesperia OH	54-0664L	15	31.08	Yes	1	330	330	27935	0.417	205	3.30	1625	1695	836	330	51358	R(30)	4036	1.25	187	109	33790	75	26250	212451
West Hesperia OH	54-0664R	15	31.08	Yes	1	330	330	27935	0.417	205	3.30	1625	1695	836	330	51358	R(30)	4036	1.25	187	109	33790	75	26250	212451
							S	$55,869							S	$102,716					S	$67,580	S	$52,500	$424,901
					10% Time Related Overhead			$5,587					10% Time Related Overhead			$10,272		10% Time Related Overhead				$6,758		$5,250	$42,490
					10% Mobilization			$6,828					10% Mobilization			$11,299		10% Mobilization				$6,758		$5,775	$46,739
					25% Contingency			$17,071					25% Contingency			$31,072		25% Contingency				$20,274		$15,881	$128,533
					Total Cost			$85,355					Total Cost			$155,358				Total Cost		$101,370		$79,406	$642,663

Assumptions for Barrier Rail Replacement West Hesperia L/R

1.Barrier Rails will be removed from Bridge Structure. Exist upright rebar will be retained and new upright rebar will be placed using drill and bond dowels

2. Barrier Rails will be adjusted to fit around any exist drainage grate opening on the bridge if incountered

4. At West Hesperia OH R/L the steel pipe on top of the Type 1 concrete barrier may be salvaged.

5. Replacement of Type 1 barrier at West Hesperia OH R/L with Type 836 will reduce shoulder width by 9" each side.

6. Replacement schedule of the rails will be determined by District durring paving operations.

Assuptions for Approach/Departure Slab at West Hesperia L/R

1. Approach slabs are new to structure but sturcture is not new therefore use Type R(30)

2. Approach Slab typical depth is now 1'-3" instead of 1'-0"

3. Shoulders will be part of replacement.

4. Work will be done at night one lane at a time.

5. Joint seals will be replaced at any new or replaced approach/departure slab.

6. Paving Notch Extension will be added at each abutment approach/departure.

Final Cost L and R Bridge $1,064,152

Years Beyound Midpoint	Escalated Cost constant 4.2%
1	$1,108,847
2	$1,155,418
3	$1,203,946
4	$1,254,511
5	$1,307,201

ATTACHMENT “E”
SUMMARY OF THE LIFE CYCLE COST ANALYSIS

State of California Business, Transportation and Housing Agency

Memorandum

To: **Mustafa Raouf**
Office Chief Design A, MS 1164

Attn: **Hoon Park, PE**

Date: **December 5, 2017**

File No: **EA: 08-0K122**
08-Riv-15-PM 30.8/42.5
I-15 Rehabilitation-Hesperia & Victorville from Ranchero Rd. to Mojave Dr. OC

From: **DEPARTMENT OF TRANSPORTATION**
Parwaz Khasraw, District 8 Materials Engineer

Subject: **Review of Life Cycle Cost Analysis (LCCA) Report (1st Submittal_ 0 Phase)-APPROVED**

We have completed the review of the Life Cycle Cost Analysis (LCCA) Report prepared by Sohila Bemanian of Parsons Engineering dated December 5, 2017 and received through your email on the same day. We have no comments. The summary of the analysis is given below:

I-15 Mainline: 40-year CRCP mainline with CRCP shoulder is most cost effective over the analysis period of 55-years.

The results are summarized in the attached sheet, Summary of Life Cycle Cost Analysis.

If a change in pavement design alters the pavement design life or other performance objectives during the design of the project, update the LCCA to include the new pavement alternative.

If you have any questions please contact K. Mahmood Khan at 909-888-2090 or myself at 909-806-3963.

PK: kmk
C: File

Attachment-1:
Summary of Life Cycle Cost Analysis.

Attachment 1

	40-year JPCP with HMA shoulder	40-year JPCP with JPCP shoulder	40-year CRCP with HMA shoulder	40-year CRCP with CRCP shoulder
Initial Construction Cost ($)	$ 96,853,783	$ 96,367,584	$ 87,927,502	$ 84,064,799
Future Maintenance & Rehabilitation Cost ($)	$ 7,126,967	$ 3,429,136	$ 4,832,928	$ 535,971
Total Agency Cost	$ 103,980,750	$ 99,796,720	$ 92,760,430	$ 84,600,770
User Cost ($)	$ 532,880	$ 590	$ 2,730	$ -
Grand Total Cost ($)	$ 104,513,630	$ 99,797,310	$ 92,763,160	$ 84,600,770
Ranking by Lowest Initial Cost	3	4	1	2
Ranking by Lowest Future M&R Cost ($)	4	2	3	1
Ranking by Total Agency Cost ($)	3	4	2	1
Ranking by Lowest User Cost ($)	4	2	3	1
Ranking by Lowest Grand Total Cost ($)	3	4	2	1
Agency Cost Difference ($)	$ 19,379,980	$ 15,195,950	$ 8,159,660	$ -
Percentage Difference- Agency Cost (%)	23%	18%	10%	0%
Cost Difference- Total ($)	$ 19,912,860	$ 15,196,540	$ 8,162,390	$ -
Percentage Difference- Grand Total (%)	24%	18%	10%	0%

ATTACHMENT “F”
PROJECT SCOPE
SUMMARY REPORT (PSSR)
SIGNATURE COVER PAGE

08 - SBd - 15 – PM 12.8/75.3
EA 0K120K
Project Number 0812000299
Program Code 201.122/201.121
June 2015

Project Scope Summary Report (Roadway Rehabilitation)

To

Request Programming in the 2016 SHOPP

On Route 15

Between Sierra Avenue Undercrossing

And Mojave River Bridge

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

Rene Fletcher

RENE FLETCHER
INTERIM DEPUTY DISTRICT DIRECTOR, RIGHT OF WAY

APPROVAL RECOMMENDED:

MELECIO CHALCO
PROJECT MANAGER

APPROVED:

John Bulinski

JOHN BULINSKI
INTERIM DISTRICT DIRECTOR

6/22/15

DATE

ATTACHMENT “G”
CATEGORICAL EXEMPTION/
CATEGORICAL EXCLUSION (CE/CE)

CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM

08-SBd-15	R28.6 / 37.5	0K122/0815000244	-----n/a-----
Dist.-Co.-Rte. (or Local Agency)	P.M./P.M.	E.A/Project No.	Federal-Aid Project No. (Local Project)/Project No.

PROJECT DESCRIPTION: (Briefly describe project including need, purpose, location, limits, right-of-way requirements, and activities involved in this box. *Use Continuation Sheet, if necessary.)*

This is a resurfacing, restoration, and rehabilitation (3R) project. The proposed project will consist of replacing existing Asphalt Concrete (AC) traveled way, auxiliary lanes, and shoulder to meet 40-year rigid pavement with either Continuous Reinforced Concrete Pavement (CRCP) or Jointed Plain Concrete Pavement (JPCP) from PM R28.6 to 37.5 in the City of Hesperia/Victorville, in San Bernardino County. All work will be done within the State Right of Way.

(Additional information on continuation sheets)

CEQA COMPLIANCE *(for State Projects only)*

Based on an examination of this proposal and supporting information, the following statements are true and exceptions do not apply (See 14 CCR 15300 et seq.):

- If this project falls within exempt class 3, 4, 5, 6 or 11, it does not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law.
- There will not be a significant cumulative effect by this project and successive projects of the same type in the same place, over time.
- There is not a reasonable possibility that the project will have a significant effect on the environment due to unusual circumstances.
- This project does not damage a scenic resource within an officially designated state scenic highway.
- This project is not located on a site included on any list compiled pursuant to Govt. Code § 65962.5 ("Cortese List").
- This project does not cause a substantial adverse change in the significance of a historical resource.

CALTRANS CEQA DETERMINATION (Check one)

☐ **Not Applicable – Caltrans is not the CEQA Lead Agency**

☐ **Not Applicable – Caltrans has prepared an Initial Study or Environmental Impact Report under CEQA**

☐ **Exempt by Statute.** (PRC 21080[b]; 14 CCR 15260 et seq.)
Based on an examination of this proposal, supporting information, and the above statements, the project is:

☒ **Categorically Exempt. Class 1.** (PRC 21084; 14 CCR 15300 et seq.)

☐ **Categorically Exempt. General Rule exemption.** [This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (CCR 15061[b][3].)

Gabrielle Duff
Print Name: Senior Environmental Planner or Environmental Branch Chief
Signature 4/23/18 Date

Raghuram Radhakrishnan
Print Name: Project Manager
Signature 4-23-18 Date

NEPA COMPLIANCE

In accordance with 23 CFR 771.117, and based on an examination of this proposal and supporting information, the State has determined that this project:

- does not individually or cumulatively have a significant impact on the environment as defined by NEPA, and is excluded from the requirements to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS), and
- has considered unusual circumstances pursuant to 23 CFR 771.117(b).

CALTRANS NEPA DETERMINATION (Check one)

☒ **23 USC 326:** The State has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the project is categorically excluded from the requirements to prepare an EA or EIS under the National Environmental Policy Act. The State has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to Chapter 3 of Title 23, United States Code, Section 326 and a Memorandum of Understanding dated May 31, 2016, executed between the FHWA and the State. The State has determined that the project is a Categorical Exclusion under:

- ☒ **23 CFR 771.117(c): activity (c)(26)**
- ☐ **23 CFR 771.117(d): activity (d)(___)**
- ☐ **Activity ___ listed in Appendix A of the MOU between FHWA and the State**

☐ **23 USC 327:** Based on an examination of this proposal and supporting information, the State has determined that the project is a Categorical Exclusion under 23 USC 327. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Gabrielle Duff
Print Name: Senior Environmental Planner or Environmental Branch Chief
Signature 4/23/18 Date

Raghuram Radhakrishnan
Print Name: Project Manager/DLA Engineer
Signature 4-23-18 Date

Date of Categorical Exclusion Checklist completion: 4/23/2018

Date of ECR or equivalent : 4/20/2018

Briefly list environmental commitments on continuation sheet. Reference additional information, as appropriate (e.g., CE checklist, additional studies and design conditions).

Continued from page 1:

Additional project activities include:

- Cold planning and overlaying of the existing AC ramps with Hot Mix Asphalt (HMA) and reconstruction of the ramp termini. Replacement of the AC lanes will involve construction staging and traffic handling, which requires temporary HMA paving of the median to construct bypass lanes.
- Upgrade existing non-standard guardrails/median barriers
- Construct vegetation control, reconstruct shoulder backing and dikes, and adjust inlets.
- Potential to implement permanent Best Management Practices (BMPs) at concrete v-ditches within the Clear Recovery Zone (CRZ). Solutions include either installing a modified channel and trench or installing a Midwest Guardrail System (MGS).
- Temporary staging area identified at PM 31.5 northbound on I-15

Purpose: The purpose of this project is to restore the roadway to a state of good repair to a recommended design life of 40 years so that it will be in a condition that requires minimal maintenance.

Need: The 2011 Pavement Condition Survey Inventory data indicates that the pavement within the project limits exhibits extensive cracking, faulting and generalized poor ride quality. The proposed pavement rehabilitation strategies will reduce maintenance frequency and costs, improve ride quality, and extend the service life of the roadway.

This is a SHOPP program project (201.122). Currently, the project is programmed for $173,149,000. The project is included as part of the 2017 FTIP Administrative Modification #17-15, SHOPP Roadway Preservation Program under the Exempt Grouped Projects for Pavement Resurfacing and/or Pavement Rehabilitation.

The following technical documentation was prepared in conjunction with determining and addressing applicable National Environmental Policy Act (NEPA) and applicable California Environmental Quality Act (CEQA) documentation and compliance requirements.

Initial Site Assessment (ISA) Checklist – April 11, 2018

Cultural Resources Compliance Memorandum – February 15, 2018

Natural Environment Study (Minimal Impacts) (NESMI) – April 20, 2018

Air Quality Analysis Exemption Memorandum - February 27, 2018

Noise Study Memorandum - February 27, 2018

Paleontological Resources – January 24, 2018

BIOLOGICAL RESOURCES: **NES(MI) "No Effect"**

In coordination with District Biology, a Natural Environment Study (Minimal Impacts) (NESMI) was completed on April 20, 2018. The NES(MI) identified a number of special status species that have the potential to occur in the project area. In conjunction with addressing the Federal Endangered Species Act, Caltrans determined that the project will have a "No Effect" to desert tortoise and a "No Effect" to critical habitat. The project will have a "no take" for state listed species and will not cause any adverse impacts to habitat and listed flora and fauna species. The project will not impact Waters of the United States or Waters of the State will not be altered by the project.

No permits will be required for this project. This project will not result in adverse impacts to any "jurisdictional waters" and will not alter, modify, or fill State and/or Federal Waters. As currently proposed, the project will not require regulatory permits and will not result in impacts to natural resources under the jurisdiction of State or Federal regulatory agencies. Implementation of the avoidance and minimization measures identified in the Environmental Commitments Record (ECR), attached separately, will minimize impacts to species and their habitat.

Biological Environmental Commitments include:

- BIO-1 Designated Temporary Staging and Fencing in Table 1 of NESMI (PM 31.5, Northbound I-15)
- BIO-2 Pre-construction botanical surveys
- BIO-3 Equipment Staging
- BIO-4 Materials and Spoils Control
- BIO-5 Migratory Bird Treaty Act
- BIO-6 Vegetation Removal
- BIO-7 Species Protection for Desert Tortoise
- BIO-8 Work Environmental Awareness Training
- BIO-9 Desert Tortoise Avoidance and Vehicles
- BIO-10 Litter Control
- BIO-11 Desert Tortoise Finding

CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM
Continuation Sheet

CULTURAL RESOURCES: **Section 106 Screened Undertaking**

In coordination with District Cultural Studies, a Cultural Resources Compliance Memorandum was prepared and approved on February 15, 2018. The project as currently proposed is determined to be a screened undertaking, with no potential to affect historic properties eligible for or listed in the National Register of Historic Places. As a result, this project is exempt from further review and the Section 106 compliance process, CEQA cultural resources component, and PRC 5024 compliance are complete. The provisions of the First Amended Section 106 Programmatic Agreement, executed January 1, 2014, Attachment 2 have been applied to this project. This project falls under: Class 1, "Pavement reconstruction, resurfacing, shoulder backing, or placement of seal coats;" Class 2, "Minor widening of less than one-half lane width, adding lanes in the median, or adding paved shoulders;" Class 10, "Repair of the highway and its facilities;" Class 11, "Modification of existing facilities, such as slopes, ditches, curbs, sidewalks, dikes, or headwalls, within or adjacent to the right-of-way;" Class 12, "Minor operational improvements, such as culvert replacements and median or side-ditch paving;" Class 13, "Addition or replacement of devices, such as flare screens, median barriers, fencing, guardrails, safety barriers, energy attenuators, guide posts, markers, safety cables, ladders, lighting hoists, or signs;" and Class 25, "Establishment, replacement or removal of landscaping, vegetation, or irrigation systems on state or local public property, including highway and local roads rights-of-way and building sites."

ENVIRONMENTAL ENGINEERING

In coordination with District Environmental Engineering, an updated Initial Site Assessment (ISA) Checklist was prepared and approved on April 11, 2018. According to the checklist, the project's potential for hazardous waste involvement is "LOW RISK". Further studies for Aerially Deposited Lead (ADL), Asbestos Containing Materials (ACM), and Lead Based Paint (LBP) will occur in the Plans, Specifications, and Estimates phase of the project.

Also in coordination with District Environmental Engineering it was determined on February 27, 2018 that this project is listed in Table 1 of the Carbon Monoxide (CO) Protocol (Table 2 of 40 CFR 93.126) and is exempt from all air emissions analyses. It was also determined that the project is considered to be a Type III project per Traffic Noise Analysis Protocol and therefore is exempt from traffic noise analysis. No Air Quality Report or Noise Study was prepared for this project.

PALEONTOLOGICAL RESOURCES

In coordination with District Paleontology, it was determined on January 24, 2018 no paleontological studies are required.

In conjunction with the results of the above technical documentation, the Avoidance and/or Minimization Measure(s) included in the ECR prepared for this project (attached separately), will be implemented during the Final Design (Plans, Specifications, and Estimates) phase and/or the Construction phase of this project, as applicable. If it is determined that revisions to the ECR are required for this project during the Final Design phase (PS&E), or during the construction phase, the ECR will be updated accordingly, based upon and following direct coordination with the Senior Environmental Planner assigned to this project.

Changes to the project's scope of work (including any changes necessitated by utilities), limits, construction strategy and/or staging and storage requirements, and/or the timeframe of construction, as well as Final Design (PS&E) efforts not addressed during preliminary design (PA&ED), will require that the District's Division of Environmental Planning be notified in a timely manner, to determine if performance of an Environmental Re-Evaluation will be required to confirm that the environmental documentation for CEQA compliance and NEPA compliance remains valid. Updates to the original Technical Studies, or preparation of new Technical Studies may be required and/or a new CE/CE Determination Form may need to be completed, and/or an Environmental Document may need to be prepared and approved to document the project's compliance with all applicable CEQA and NEPA requirements.

If an Environmental Re-Evaluation is determined to be necessary, it would need to be completed before the associated scope of work (or project limits) change(s) being considered for the project were implemented.

An Environmental Certification will be required at the end of the Plans, Specifications, and Estimates phase.

The District's Division of Environmental Planning needs to be notified in a timely manner, if the project's scope of work, project limits, construction strategy and/or staging and storage requirements, and/or the timeframe of construction, changes during the Construction Phase, to determine if an Environmental Re-Evaluation (including possible updates to the original Technical Studies, or preparation of new Technical Studies) is required, and/or a new CE/CE Determination Form may need to be completed, and/or an Environmental Document may need to be prepared and approved to document the project's compliance with all applicable CEQA and NEPA requirements. If an Environmental Re-Evaluation is determined to be necessary, and/or additional analysis is required, all such efforts would be required to be completed before the scope of work (or project limits) change(s) being considered for the related portion of the project were implemented. Construction work consistent with the project scope included in the Environmental Certification issued for the project could continue, however, advance coordination with the Senior Environmental Planner assigned to this project would be necessary.

CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM
Continuation Sheet

08-SBd-15	R28.6 / 37.5	0K122/0815000244	-----n/a-----
Dist.-Co.-Rte. (or Local Agency)	P.M./P.M.	E.A/Project No.	Federal-Aid Project No. (Local Project)/Project No.

Completion of a *Certificate of Environmental Compliance At Construction Contract Acceptance* will be required following completion of construction of the project.

ATTACHMENT “H”
RIGHT OF WAY DATA SHEET

Revised: March 20, 2018
08-SBd-15 – PM R28.6/37.5
Rehabilitate Existing Mainline and Ramp Pavement
EA 0K122 **PN #0815000244**

To: MUSTAPHA RAOUF
Design A

From: DAVID R CHAVEZ,
R/W Project Coordination

Subject: Current Estimated Right of Way Costs

We have completed an estimate of the right of way costs for the above-referenced project based on maps we received from you on **November 7, 2017**, and the following assumptions and limiting conditions:

[ ] 1. The mapping did not provide sufficient detail to determine the limits of the right of way required.

[ ] 2. The transportation facilities have not been sufficiently designed so that the estimator could determine the damages to any of the remainder parcels affected by the project.

[X] 3. Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the early design requirements.

[ ] 4. We have determined there is no right of way functional involvement in the proposed project at this time, as designed.

Right of Way Lead Time will require a minimum of 6 months after we begin receiving final right of way requirements (PYPSCAN node No. 224), necessary environmental clearance has been obtained, and freeway agreements have been approved. From the date of receipt of final right of way requirements (PYPSCAN node No. 225), we will require a minimum of 4 months prior to the date of certification of the project. Shorter lead times will require either more right of way resources or an increased number of condemnation suits filed. Either of these actions may reflect adversely on the District's other programs or our public image generally.

*TOTAL PROJECT HOURS FOR R/W: 220

*NOTE: THESE HOURS ARE PRELIMINARY BASED ON THE INFORMATION PROVIDED WITH THE DATA SHEET REQUEST. HOURS ARE SUBJECT TO CHANGE AS NEW INFORMATION IS PROVIDED.

Attachments:
[XX] Right of Way Data Sheet
[XX] Utility Information Sheet
[XX] Railroad Information Sheet

EVNT RW	12/19/17
COST RW1 – 6	12/19/17
TEXT TI	
SCAN	3/20/18
CLASS	
AGRE	
TPRC	

08-SBd-15 -- PM R28.6/37.5
Rehabilitate Existing Mainline and Ramp Pavement
EA 0K122 PN #0815000244

1. Right of Way Cost Estimate:

			Value
A.	Acquisition, including Excess Lands, Damages, Goodwill, Major Rehabilitation, and Environmental Permits to Enter	$	0.00
B.	Acquisition of Offsite Mitigation.	$	0.00
C.	Utility - Relocation (State share) - Potholing $0.00	$	0.00
D.	RAP	$	0.00
E.	Clearance/Demolition	$	0.00
F.	Title and Escrow Fees	$	0.00
G.	Project Permit Fees	$	10,000.00
H.	Condemnation Costs	$	0.00
I.	**Total R/W Estimate:**	**$**	**10,000.00**
J.	Construction Contract Work	$	0.00

1a. Real Property Services:

A.	Routine Maintenance (Object Code 058)	$	0.00
B.	Advertising Costs (Object Code 039)	$	0.00
C.	Utility Costs (Object Code 002)	$	0.00
D.	Total Real Property Services Estimate:	$	0.00

2. Anticipated PYPSCAN Date of Right of Way Certification November 4, 2019

3. Parcel Data:

Type	Dual/Appr	Utility Involvement
X		U4-1
A		-2
B		-3
C		-4
D		U5-7 6
E xxxx		-8
F xxxx		-9

Total

RR Involvement	Yes
C&M Agreement	0
Svc Contract	0
OE Clearances/ Clauses	1
LIC/ROE	0

Government Lands	No
Number of Parcels	0

Misc. R/W Work	No
RAP Displacement	0
Clear/Demo	0
Const Permits	0
Condemnation	0
Permits to Enter-ENV	0

Areas: Right of Way: S.F. 0
Excess: S.F. 0
No. Excess Land Parcels: 0

4. Are there major items of Construction Contract Work?
   Yes ____ No _X_ (If yes, explain.)

5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.).

   Type and Number of Parcels:

Fee	0
Partial	0
Full	0
Easements	0
Temporary	0
Permanent	0

6. Is there an effect on assessed valuation?
   Yes ____ Not Significant ____ No _X_ (If yes, explain.)

7. Are utility facilities or rights of way affected?
   Yes ____ No _X_ (If yes, attach Utility Information Sheet, Exhibit 4-EX-5.)
   The following checked items may seriously impact lead time for utility relocation:
   - ☐ Longitudinal policy conflict(s).
   - ☐ Environmental concerns impacting acquisition of potential easements.
   - ☐ Power lines operating in excess of 50 KV and substations.

   (See attached Exhibit 4-EX-5 for explanation.)

8. Are railroad facilities or rights of way affected? Yes _X_ No ____
   (If yes, attach Railroad Information Sheet, Exhibit 4-EX-6.)

9. Were any previously unidentified sites with hazardous waste and/or material found?
   Yes ____ None Evident _X_
   (If yes, attach memorandum per R/W Manual, Chapter 4, Section 4.01.10.00.)

10. Are RAP displacements required? Yes ____ No _X_ (If yes, provide the following information.)
    No. of single family ____ No. of business/nonprofit ____
    No. of multi-family ____ No. of farms ____
    Based on Draft/Final Relocation Impact Statement/Study dated _____, it is anticipated that sufficient replacement housing (will/will not) be available without Last Resort Housing.

11. Are there material borrow and/or disposal sites required?
    Yes ____ No _X_ (If yes, explain.)

12. Are there potential relinquishments and/or abandonments?
    Yes ____ No _X_ (If yes, explain.)

13. Are there existing and/or potential Airspace sites?
    Yes ____ No _X_ (If yes, explain.)

14. Indicate the anticipated Right of Way schedule and lead time requirements.
    (Discuss if District proposes less than PMCS lead time and/or if significant pressures for project advancement are anticipated.)
    PYPSCAN lead time (from Maps to R/W to project certification) _6_ months.

15. Is it anticipated that all Right of Way work will be performed by CALTRANS staff?
    Yes _X_ No ____ (If no, discuss.)

08-SBd-15 – PM R28.6/37.5
Rehabilitate Existing Mainline and Ramp Pavement
EA 0K122 **PN #0815000244**

Evaluations prepared by:

Right of Way: Name STEPHEN HENSLEY Date 11/15/17

Railroad: Name KATHY BECKHAM Date 12/9/2017

Utilities: Name Shunequa Brittle Date 12/19/17

Government Lands: Name MILELE ROBERTSON Date 12/18/17

Property Management: Name DAVID BUZON Date 11/27/2017

Excess Land: Name LAWRENCE KELLY Date 11-27-17

Reviewed By:

MARIA LAMERE, Senior
Project Coordination
District 8, Right of Way
Date 12-19-17

I have personally reviewed this Right of Way Data Sheet and all supporting information. I certify that the probable Highest and Best Use, estimated values, escalation rates, and assumptions are reasonable and proper subject to the limiting conditions set forth, and I find this Data Sheet complete and current.

REBECCA GUIRADO,
Deputy District Director
District 8, Right of Way
Date 12/19/17

cc: Program Manager
Project Manager

08-SBD-15 PM R28.6/37.5
EA 0K122 Revised
Project Description: Rehabilitate Existing Mainline and Ramp Pavement

UTILITY INFORMATION SHEET

1. Name of utility companies involved in project:
Level 3 Communications; AT&T Transmission; Hesperia Water District; MCI SoCal; SW Gas; MCI (Verizon Business); Utiliquest for Charter Communications; Utiliquest for SCE Distribution; Utiliquest for Frontier Communications

2. Types of facilities and agreements required:

Underground electric, gas, telephone, fiber optic, water, sewer and cable TV.
Overhead electric, telephone and cable TV.
Notices to Owners and Utility Agreements will not be required.

3. Is any facility a longitudinal encroachment in existing or proposed access controlled right of way? **No.**

4. Additional information concerning utility involvements on this project, i.e., long lead time materials, growing or species seasons, customer service seasons (no transmission tower relocations in summer).

Design A is preparing a Supplemental Project Scope Summary Report for the above-referenced project. The project scope has changed from Roadway Rehabilitation (2R) to Resurfacing, Restoration and Rehabilitation (3R) project. In addition, the project limits are extended on the Interstate 15 to include post miles R28.6 to 37.5 in the City of Hesperia/Victorville, in San Bernardino County.

The revised scope of this is a resurfacing, restoration, and rehabilitation (3R) project under Program Code 201.122. In both directions on the highway, it is proposed to replace the existing Asphalt Concrete (AC) traveled way, auxliliary lanes, and shoulder to 40-year rigid pavement with either Continuous Reinforced Concrete Pavement (CRCP) from PM R28.6 to 37.5, in the City of Hesperia/Victorville, in San Bernardino County. It is also proposed to cold plane and overlay the existing AC ramps with HMA and reconstruct the ramp termini. Replacement of the AC lanes will involve construction staging and traffic handling, which requires temporary HMA paving of the median to construct bypass lanes. The project will upgrade existing non-standard guardrails/median barriers, construct vegetation control, reconstruct shoulder backing and dikes, and adjust drainage inlets. In addition, there is a potential to implement permanent BMPs. There are concrete ditches at various locations throughout the project limits that are within the Clear Recovery Zone (CRZ), and there are multiple strategies for that issue. The first strategy is to install a modified channel and trench drainage system, or install MGS to prevent vehicles from veering off the roadway and into the concrete ditches. All work will be done within the existing right of way.

If the scope of the project should change and a utility search is required, Design must provide the Right of Way Utility Coordinator (UC) with geometric base maps and a written request for utility verification [see Design Task D282 (220.D)]. The UC will then contact all appropriate Utility Owners (UO's) for verifications and corrections. The UC will then provide Design with the updated information and/or UO As-Builts and Design will then prepare accurate utility location maps or U-Sheets. Design will then determine all utility conflicts that require positive location and/or relocation [see Design Task D283 (220.D)].

5. PMCS Input Information
Total estimated cost of State's obligation for utility relocation on this project:
(Phase 9 funding) **$ 0**

Note: Total estimated cost to include any Department obligation to relocate longitudinal encroachments in access controlled right of way and acquire any necessary utility easements.

Utility Involvement

U4-1	____	U5-7	**6**
-2	____	-8	____
-3	____	-9	____

-4 ____

Prepared By: _____ Date: **December 06, 2017**

David C. Moore
Right of Way Utility Estimator

08-SBd-15 – PM R28.6/37.5
Rehabilitate Existing Mainline and Ramp Pavement
EA 0K122 PN #0815000244

RAILROAD AND GOVERNMENT LANDS INFORMATION SHEET

1. Describe railroad facilities or rights of way affected.

   None

2. When branch lines or spurs are affected, would acquisition and/or payment of damages to businesses and/or industries served by the railroad facility be more cost effective than construction of a facility to perpetuate the rail service? Yes ___ No__**X**___(If yes, explain.)

3. Discuss types of agreements and rights required from the railroads. Are grade crossings requiring service contracts, or grade separations requiring construction and maintenance agreements involved?

   None

4. Remarks (non-operating railroad right of way involved?):

   RR is affected; will need OE Clearance for Certification.

5. Are Government Lands involved? Yes ____ No __**X**__
   If yes, number of parcels _____
   Agency Name and Explanation: **Working within existing easement. Consult with USFS prior to RW Certification for concurrence.**

6. PMCS Input Information

RR Involvement	Yes
C&M Agreement	0
SVC Contract	0
OE Clearances/ Clauses	1
LIC/RE	0
Government Lands	**No**
Number parcels	0

Prepared By: _____ Date: 12/9/2017
KATHY BECKHAM
Right of Way Railroad Coordinator

Prepared By: _____ Date: 12/18/17
MILELE ROBERTSON
Right of Way Government Lands Coordinator

08-SBd-15 – PM R28.6/37.5
Rehabilitate Existing Mainline and Ramp Pavement
EA 0K122 **PN #0815000244**

PROPERTY MANAGEMENT/EXCESS LAND INFORMATIONAL SHEET

WBS CODE	WBS ACTIVITY	NUMBER OF PARCELS	HOURS	COST
	PROPERTY MANAGEMENT	**NOT APPLICABLE**	**X**	
195.40.05	Fair Market Rent Determinations (Residential)			
195.40.10	Fair Market Rent Determinations (Non-Residential)			
195.40.15	Regular Rental Property Management			
195.40.20	Property Maintenance and Rehabilitation (Rental Property)			
195.40.25	Property Maintenance and Rehabilitation (Non-Rental Property)			
195.40.30	Hazardous Waste and Hazardous Materials			
195.40.35	Transfer of Property to Clearance Status			
270.25.03	Secure Lease for Resident Engineer's Office Space or Trailer			
		Subtotal		

Date: 11/27/2017

DAVID BUZON
Property Management

	EXCESS LAND	**NOT APPLICABLE**	**X**	
195.45.05	Excess Land Inventory			
195.45.10	Excess Land Appraisal and Public Sale Estimate			
195.45.15	Excess Land Inventory ("Roberti Bill")			
195.45.20	Excess Land Sales to $15,000			
195.45.25	Excess Land Sales from $15,001 to $500,000			
195.45.30	Excess Land Sales over $500,000			
195.45.35	CTC and AAC Coordination			
		Subtotal		
		TOTAL HOURS (ONLY)		

Date: 11-27-17

LAWRENCE KELLY
Excess Land

Right of Way Workplan Breakdown: Date Prepared 19-Dec-17

EA: 0K122 0 Date of Data Sheet: 12/19/2017

Utility Portion of DS Total $0 Project Coordinator: MARIA LAMERE

R/W Data Sheet Total $10,000 Project Manager: RK

08.400- WBS Description	WBS 11.2 RW Codes	Hours Needed		Hours if	OVERSIGHT HOURS		%of original total
PROJECT MANAGEMENT - PID COMPONENT	K.100.05	0	2%		100.05	0	100%
PROJECT MANAGEMENT - PA & ED	0.100.10	0	2%		100.10	0	100%
PROJECT MANAGEMENT - PS&E	0.100.15	0	2%		100.15	0	100%
PROJECT MANAGEMENT - CONSTRUCTION	3.100.20	0	2%		100.20	0	100%
PROJECT MANAGEMENT - RIGHT OF WAY	2.100.25	64	92%	64	100.25	64	100%
INITIAL ALTERNATIVES DEVELOPMENT	K.150.10	10	60%				
ALTERNATIVES ANALYSIS	K.150.15	5	30%				
APPROVED PID [PSR PSSR ETC]	K.150.25	2	10%	16			
ENGINEERING STUDIES	0.160.10	9	40%		160.10	0	5%
DRAFT PROJECT REPORT	0.160.15	9	40%		160.15	0	5%
ENVIRONMENTAL STUDY REQUEST [ESR]	0.160.30	5	20%	23	160.30	0	5%
GENERAL ENVIRONMENTAL STUDIES	0.165.10	14	50%		165.10	1	5%
DRAFT ENVIRONMENTAL DOCUMENT	0.165.25	14	50%	29	165.25	1	5%
RAILROAD AGREEMENTS	0.170.15	0	100%		170.15	0	5%
PUBLIC HEARING	0.175.10	0	100%		175.10	0	5%
FINAL PROJECT REPORT	0.180.05	1	50%		180.05	0	5%
FINAL ENVIRONMENTAL DOCUMENT	0.180.10	1	50%	1	180.10	0	5%
UPDATED PROJECT INFORMATION	1.185.05	11	45%		185.05	1	5%
ENGINEERING REPORTS	1.185.20	2	10%		185.20	0	5%
RIGHT OF WAY REQUIREMENTS MAPS	1.185.25	11	45%	24	185.25	1	5%
PROPERTY MANAGEMENT	2.195.40	0	100%				
EXCESS LAND	2.195.45	0	100%				
APPROVED UTILITY RELOCATION PLAN	2.200.15	7	15%		200.15	0	5%
UTILITY RELOCATION PACKAGE	2.200.20	22	50%		200.20	1	5%
UTILITY RELOCATION MANAGEMENT	2.200.25	11	25%		200.25	1	5%
UTILITY CLOSE OUT	2.200.30	4	10%	43	200.30	0	5%
RAILROAD AGREEMENTS	1.205.15	14	100%		205.15	1	5%
PARCEL AND PROJECT DOCUMENTATION	2.225.50	0	5%		225.50	0	100%
RIGHT OF WAY APPRAISALS	2.225.60	0	p8	95%			
RIGHT OF WAY ACQUISITION	2.225.65	3	p15,p30				
RIGHT OF WAY RELOCATION ASSISTANCE	2.225.70	0	p21,p37				
RIGHT OF WAY CLEARANCE	2.225.75	0	p24				
RIGHT OF WAY CONDEMNATION	2.225.80	0	p27	3			
DRAFT SPECIFICATIONS	1.230.35	0	50%		230.35	0	5%
UPDATED PROJECT INFORMATION FOR PS&E PACKAGE	1.230.60	0	50%	0	230.60	0	5%
ENVIRONMENTAL MITIGATION	1.235.05	0	50%		235.05	0	5%
DETAILED SITE INVESTIGATION FOR HAZARDOUS WASTE	1.235.10	0	50%	0	235.10	0	5%
PARCEL AND PROJECT DOCUMENTATION	2.245.50	0	5%		245.50	0	100%
RIGHT OF WAY APPRAISALS	2.245.60	0	s8	95%			
RIGHT OF WAY ACQUISITION	2.245.65	0	s15				
RIGHT OF WAY RELOCATION ASSISTANCE	2.245.70	0	s21				
RIGHT OF WAY CLEARANCE	2.245.75	0	s24				
RIGHT OF WAY CONDEMNATION	2.245.80	1	s27, s30	1			
CIRCULATED & REVIEWED DRAFT DISTRICT PS&E PACKAGE	1.255.05	0	10%		255.05	0	5%
UPDATED PS&E PACKAGE	1.255.10	0	15%		255.10	0	5%
RIGHT OF WAY CERTIFICATION DOCUMENT	1.255.65	1	50%		255.65	0	5%
UPGRADED/UPDATED RIGHT OF WAY CERTIFICATION DOCUMENT	1.255.75	0	25%	2	255.75	0	5%
CONSTRUCTION ENGINEERING WORK	3.270.22	0	100%		270.20	0	5%
FUNTIONAL SUPPORT	3.285.10	0	100%		285.10	0	5%
TECHNICAL SUPPORT	3.270.66	0	100%		290.35	0	5%
RW Support Costs	Total Hours	220		PY 0.12		71	0.04

Updated August 2016

ATTACHMENT "I"
TRANSPORTATION MANAGEMENT PLAN

Caltrans District 8 (Riverside & San Bernardino)

TMP Data Sheet (Ver. Sep. 2014)

Transportation Management Plan (TMP) Data Sheet is for PID, PSR, PR and PS&E considering DTM's requirements. The validity of this TMP expires at the same time the associated LRCs expires.

The TMP Data Sheet includes background & signatures, TMP elements & TMP estimate

Developer: Use the info on the LRC & TMP request to complete the yellow cells of sections A, B & C

TMP receiver: Please note that

Project shall not be certified without the approval of the Lane Requirement Charts (LRCs)

& the TMP by the DTM

(A) Requester's info.

1-Date of request	3/15/2018	2-Department	Design
3-Full name	Hoon Park	4- Phone No.	(909)388-7307
5-E-mail address	hoon.park@dot.ca.gov		
6-Project Manager's name	Raghuram Radhakrishnan		
7-Project Manager's E-mail	raghuram.radhakrishnan@dot.ca.gov		

(B) Project information

		1-EA#/ID#	0K122/08-1500-0244
	SBd/15	3-phase/sub object	180
4-Post mile (From-To)	R28.6/37.5		
5-Short description of job	Rehabilitate Existing Mainline and Ramp Pavement		

Construction period per WPS

6-Estimated start date		8-# of working days	625
7-Estimated end date	02/03/20	9-Estimated Proj. cost	$ 161,000,000

10- Developerer: Use section (H), in the bottom of the page, to add any remarks

DTM office is located on the south side of 11th. Floor of Caltrans, District 8 (See address in section G below) | Questions: call 383-6262

Developer: Fill info in green cells only

C) BACKGROUND INFORMATION

		Date request received	03/15/18	Job assigned to	Benjamin Egiebor
# of working days					
Estimated Project cost ($)	161,000,000	Per E-mail dated			
TMP estimate($)	**$651,000**	Equal to **0.40%**	Of the project cost		

D) IMPACT	High	Medium	Low	NA	Developer: (*Briefly, explain the high impact/mitigation):*
State Hwy.					
Local road					
Ramp/connector					

E) Developer: Complete the info

Developed by	**Benjamin Egiebor**	Original signed by:	**Benjamin Egiebor**	Date	3/29/2018
Title	**Transportation Engineer**				
E-mail	benjamin_giebor@dot.ca.gov				
Phone/Fax	**(909)383-2683/1068**				

F) Approved by

		Original signed by:	Al Afaneh	Date	03/29/18
Name:	Al Afaneh				
Title	District Traffic Manager				
E-mail	al_k_afaneh@dot.ca.gov				
Phone/Fax	383 6262/383 1068				

G) District's info:

Department of Transportation			
District:	8		
Address:	464 W. Fourth St., San Bernardino, Ca., 92401-1400		
Operations, DTM, MS 1150	DTM location	South side of 11th floor	

H) Remarks:

Form was developed by Saleh Yadegari (September 2014)

TMP Elements	EA #/ID#	0K122/08-1500-0244	Date	3/29/2018

Note: An X in the check box means you need to include this in the project unless staging, material, or work hour changes eliminate the need for the item. A ? in the box means TMP anticipates this - please check into this. A blank box means the item is not needed at this time based on the information received.

1	Public Information/Public Awareness Campaign (PAC)	PA	CA	Cost
	BEES 066063 (Traffic Management Plan-Public Information). Cost to be reduced by Public Affairs (PA) and Construction Liaison (CL) only. Show under **State Furnished** as the **total** of PA+CL.			$ 100,000

1.1	X	Include Rideshare information in PA/CL project material to encourage vehicles reduction in work area
1.2	X	Brochures and Mailers
1.3		Media Releases (& minority media sources)
1.4	X	Paid Advertising
1.5		DT
1.6	X	Public Meetings/PAC Mtgs./Speakers Bureau (show cost also for room rental)
1.7	X	Hand deliver notices to vicinity
1.8		Broadcast fax service
1.9	X	Telephone Hotline OR
1.10	X	1-800-COMMUTE (The telephone number is shown on CS-Info signs) -
1.11	X	Visual Information (videos, slide shows, etc.)
1.12	X	Local cable TV and News
1.13	X	Traveler Information System (Internet)
1.14	X	Internet, E-mail
1.15		Notification to targeted groups:
		Revised Transit Schedules/maps
	X	Rideshare organizations
		schools
	X	organizations representing people with disabilities
		bicycle organizations
1.16		Include PA/CL/Consultant resources in WPS
1.17	X	Commercial traffic reporters/feeds - e.g. brief Traffic Information people (TIP) group
1.18	X	Insert SSP's
		"A representative of the Contractor, at Superintendent level or higher, and authorized to commit the Contractor, shall attend and participate in all Public Awareness Campaign meetings. Time commitment for the meeting(s) varies from two to four hours per month."
1.19		Others

Section 1 Total	$ 100,000

2		Traveler Information Strategies Project team needs to coordinate with Traffic Design!
2.1	X	Existing Electronic Message Signs (Stationary) - list locations. See Note 5
	X	New Installation (Stationary) - BEES 860532 CHANGEABLE MESSAGE SIGN SYSTEM - list locations. See Note 5
2.2	X	Portable Changeable Message Signs (PCMS).BEES 128650

These PCMS advise motorists to divert at remote advance decision points - outside the usual work limits. Unlike stationary CMS, you are allowed to use them for advance motorist information - e.g. a week ahead. Their placement may need to be cleared **environmentally** so that they can be included in plans and SSP later. They may be **in addition** to Traffic Design's PCMS for regular traffic handling in and next to a work area.

TMP Elements	EA #/ID#	0K122/08-1500-0244	Date	3/29/2018

Placement Details: units to be placed in the direction of travel towards the closure at 1 mile and 1/2 mile before getting to the closure. Total No. of PCMSs needed is units for 6 months ( )= $

2.3 [X] Lane Closure Web Site
2.4 [X] Caltrans Highway Information Network (CHIN)
2.5 [X] Radar Speed Message Sign (Specter sign) BEES 066064 (approx. EA @ $30,000)
2.6 [ ] Bicycle and pedestrian information, e.g. Detour maps
2.7 [ ] Others

Section 2 Total	$ -

3 Incident Management

3.1 CHP's Construction or Maintenance Zone Enhanced Enforcement Program – COZEEP or MAZEEP. BEES 066062 - show under "State or Agency furnished" in the Cost Estimate.

Make sure to consider the LC hours and add CHP driving time to/from their office

Day COZEEP: To protect active closures

# of days	hours/day	CHP vehicles	# of officers.	Rate/Hr.		
525	8	1	1	$ 95	$	399,000

Night COZEEP: To protect active closures

# of nights		hours/night	CHP vehicles	# of officers (Nights need 2 per car)	Rate/Hr.		
100		8	1	2	$ 95	$	152,000

3.2 BLANK

3.3 **Freeway Service Patrol (FSP) for Construction (CFSP)** $/hr./truck $55

BEES 066065 - show under "State or Agency furnished" in the Cost Estimate

Short duration or remote area CFSP usually is bid with much higher hourly rates. If enhancement of program FSP feasible, CFSP could tie into the lower long-term FSP rates.

	# of trucks	# of days	Hours per day	
A For service within the regular FSP hours				$0
For service outside the regular FSP hours				
B Extended Peak hour coverage				$0
C Night support during structure freeway closures and major traffic shifts				$0
D Weekend support				$0

Local agency (SAFE) support 8% $0
8% of truck cost

CFSP CHP support 5% $0
5% of truck cost only if within regular FSP and area

Equipment/Supplies 10% $0
% of truck cost unless more detail available

Consult with the Inland Empire division of CHP or the border division in the southern Riverside county to select the method which is acceptable for the B,C,D that are outside the regular FSP hours or area.

TMP Elements	EA #/ID#	0K122/08-1500-0244	Date	3/29/2018

Method 1

CFSP/CHP support 20% $0

20% of truck cost or

CFSP Dispatcher @

# of days		# of nights	hours	# of FSP	Rate	# of FSP vehicles	
			0		$45		$ -
			0				

CFSP CHP Officers (See Cozeep rate)

# of days		# of nights	hours	# of officers	Rate	# of CHP vehicles	
0		0	0	1	45	0	$ -
0		0	0	2	0	0	$ -

[X] Cooperative Agreement or Task Order with SAFE
for $0

[ ] Task Order with CHP (State-wide Master Agreement for FSP support).
for $0
Contact District FSP Coordinator for task orders.

[ ] Service Contract
[ ] Local Agency will arrange CFSP with SAFE
[ ] Local Agency will arrange CFSP administration with CHP

3.3 Total $0

Section 3 Total	$ 551,000

4 Construction Strategies

Contact DTM, at 909-383-6262, to get Delay Calculations, Lane Requirement Charts (LRC), Table Z and Special events list. Inform DTM of any concerns/commitments Re special LC days, times, seasons, events; environmental restrictions; if work may be affected by snow and low or high temperatures. E.g. desert heat may delay AC dig out curing which may increase traffic impact when vehicles overheat in the queue; etc. IF traffic volumes vary significantly between seasons, consider 2 sets of LRCs to avoid CCOs.

4.1 This TMP presumes that work is planned as below. If different, TMP needs to be revised. The Lead Project Engineer is responsible to include all appropriate closure charts.

[X] Off peak
[ ] Night
[X] Weekend

4.2

[ ] Flagging
[X] Shoulder
[X] Lane
[ ] Street
[X] Ramp
[ ] Connector*
[ ] Extended Weekend Closures*
[ ] Total Facility Closures*

*Consult with TMP developer and the DTM regarding Cozeep & other costs. Show your detour and traffic diversion plans.

CAUTION: If the Lane Requirement Chart (LRC) for full mainline closures, of one or both directions on a highway or freeway, does not show the maximum number of allowable closures, the PSE cannot be certified by DTM/TMP.

4.3 [ ] Coordinate with adjacent construction and planned projects - also on detour routes.
Use SSP 07-850

4.4 [ ] BEES 066008 Incentives/Disincentives

4.5 [ ] Strictly enforce Constr. Progress Schedule (CPM)

4.6 [ ] Include Specification 12-4.03_A0

BEES 066022 (Traffic) Right of Way delay. Show in supplemental work. If State (or agency) denies an approved closure or orders the contractor an earlier pick up, this shall be used to pay damages, e.g. for AC cold load, etc.

TMP Elements	EA #/ID#	0K122/08-1500-0244	Date	3/29/2018

4.7	X	10-Min. Delay Penalty	Contact DTM at 909-838-6262 for 10 Min. Delay penalty Calculations. Note that Delay Penalty is different from the R/W Delay shown above!
4.8		Others	

Section 4 Total	$ -

5 Demand Management (DM)

Project team needs to coordinate with RCTC/SANBAG/CVAG

Traffic diversion may increase available work hours.

5.1	X	A coop will be executed - mentioned in PSR or PR.
		Instead of a coop, 15% is added to the cost of DM elements since the payment to the local agency will be routed through the contractor.
	X	Instead of a coop, the local agency will make their own arrangements with RCTC/SANBAG.
	X	PA/CL or local agency need to inform commuters through RCTC/SANBAG. Funds part of PA/CL.
5.2		HOV Lanes/Ramps (New or Convert)
5.3	X	Park-and-Ride Lots
		Leased spaces (Sponsored spaces may be feasible in exchange for signs and print coverage)
5.4		Parking Management/Pricing (Coordination with local agency is required)
5.5		BEES 066067 Rideshare Promotion
5.6		Rideshare Incentives -

Section 5 Total	$ -

6 Alternate Route Strategies

Caution - signed detours may require environmental clearance. Traffic diversion may increase available work hours. Please work with Traffic Design.

6.1		Add Capacity to Freeway connector
6.2	X	Ramp Closures
6.3		Temporary Highway Lanes or Shoulder Use
6.4		Parking Restrictions
6.5		Street Improvements
		State R/W - Signals, Widen, etc.
		Local R/W - Signals, Widen, etc. Coop or Permit may be needed
6.6		Local Street USE - Coop or Permit may be needed
6.7		Traffic Control Officers (see 3.1 Cozeep)
6.8		Signed detour - using State routes
6.9		Signed detour - using local streets and roads
6.10		Adjust signals
6.11		Temporary bicycle or pedestrian facilities

Section 6 Total	$ -

TMP Estimate

	EA#/ID#	0K122/08-1500-0244	Date	3/29/2018

TMP developer: Amounts under the cost column will automatically be copied from the TMP elements

TMP Elements	BEES (Code)	Cost
1. Public Information	066063	$100,000
2. Motorist Information Strategies		$0
3. Incident Management		$551,000
4. Construction Strategies		$0
5. Demand Management (DM)		$0
6. Alternate Route Strategies		$0
Total TMP Estimate		$ 651,000

ATTACHMENT “J”
RISK REGISTER

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

RISK REGISTER CERTIFICATION (ACCOUNTABILITY CHECKPOINTS) FORM

PPM-0001 (REV 07/2013)

The risk register is to be approved and signed-off by the District Deputies* listed below for all scalability levels. By signing this form, you are certifying that you have reviewed the risks documented in the register and agree that they have been managed to the extent possible by the PDT.

Project Information ☒ Capital Project ☐ Major Maintenance Project (Check One) Total Estimated Cost: $165,410,000.00

Project ID/District-EA	0815000244 / EA 08-0K122 From Oak Hill Rd To 0.1 MI S/O Bear Valley Rd
Project Description	SBD-15 Rehab Existing Mainline & Ramp Pavement In Hesperia & Victorville
Project Manager (PM)	Raghuram Radhakrishnan
Project Risk Manager (For Risk Level 3 Projects)	Raghuram Radhakrishnan

☐ No Risk Register Certification Required - - Check box if project is less than $1 million in total cost and risk register not prepared. Sign below and submit this form with PID, PA&ED, PS&E submittal, and RE Handoff File (as applicable).

Project Manager Signature _____ Date: _____

PID (Recommended for Capital Projects Only excluding Minor Projects)

Project Manager	_____	Date: _____
Deputy District Director, Planning	_____	Date: _____
Deputy District Director*, Design**	_____	Date: _____
Deputy District Director, Project Management	_____	Date: _____

PA&ED (Required for Capital Projects Only)

Project Manager	[signature]	Date: 4-24-18
Deputy District Director*, Environmental	[signature]	Date: 4/25/18
Deputy District Director*, Design**	[signature]	Date: 5/11/18
Deputy District Director, Project Management	[signature]	Date: 4/24/18

Prior to PS&E (Required for Capital Projects and Major Maintenance Projects)

Project Manager	_____	Date: _____
Deputy District Director*, Design**	_____	Date: _____
Deputy District Director*, Construction	_____	Date: _____
Deputy District Director*, Right of Way	_____	Date: _____
Deputy District Director*, Environmental	_____	Date: _____
Deputy District Director, Project Management**	_____	Date: _____

RE File Hand-off (Recommended for Capital Projects and Major Maintenance Projects)

Project Manager	_____	Date: _____
Deputy District Director*, Design**	_____	Date: _____
Deputy District Director*, Construction	_____	Date: _____
Deputy District Director, Project Management**	_____	Date: _____

*or the respective Project Delivery Division Chief signatures in the North Region or Central Region

**or Deputy District Director, Maintenance signature for HM Projects designed by the District Maintenance Division

EA 0K122 (0815000244) EA 0K122 SBD-15 Rehab Existing Mainline And Ramp Pavement In Hesperia And Victorville From Oak Hill Rd To 0.1 Mi S/ ACTIVE RISK REGISTER

Risk 010 Additional Right of Way to Accommodate Permanent BMPs RBS: R/W Owner: Maria Lamere Updated: 1-25-2018

Description: As a result of the new National Pollutant Discharge Elimination System (NPDES) requirements, additional right of way may be needed to accommodate for permanent treatment Best Management Practices (BMPs), which would lead to a delay in schedule and increase in cost.

Status: It is assumed at this time that the BMPs can be accommodated for within the existing right of way.

Response Options: If additional right of way is required, a project change request will be prepared to delay the schedule and increase right of way support and capital costs.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 011 Additional Environmental Studies RBS: EnvironmentalOwner: Gabrielle Duff Updated: 1-25-2018

Description: If Risk No. 10 (Additional Right of Way to Accommodate Permanent BMPs) is materialized, environmental re-validation will be necessary. There's a potential for obtaining 2081 (Incidental Take) permit that will require a higher level Environmental Document resulting in project schedule delay.

Status: It is assumed that the environmental document will remain as CE/CE.

Response Options: This risk depends on Risk No. 10. Efforts will be made to strategically place the BMPs to avoid environmental impact.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 012 Culverts Repair RBS: Design Owner: Mustapha Raouf Updated: 12-20-2017

Description: If existing culverts show significant damage or deterioration, they will need to be repaired or replaced, which would lead to an increase in project support and capital costs.

Status It is assumed that the project's contingency funds can cover this item.

Response Options Drainage inspection will be expedited.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 014 Increase in Material and Labor Cost Due to Market Forces RBS: PPM Owner: Raghuram Radhakrishnan Updated: 4-24-2018

Description If Senate Bill 1 (SB1) passes, and the hike in fuel taxes and registration fees go into effect, an increase in materials and labor costs may occur, which would lead to reduction of project outputs. The recently imposed tariffs on imports can increase the cost of materials such as steel, and could have a major impact on the capital cost.

Status The current estimate of construction capital has been adjusted for inflation at a rate of 4.2% per year up to the mid-point of construction. The assumption is that inflation in material and labor costs due to the measures of SB1 will stay within the the assumed inflation rate of 4.2%.

Response Options Towards the end of PS&E, the construction capital estimate will be re-evaluated. If the updated cost is within 20% of the original cost, the increase can be accommodated in the Funds Request. Significant increase in capital costs due to tariffs on imports may lead to PCR or supplemental funds requests in the future.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 015 Additional Right of Way for Curb Ramps RBS: Design Owner: Mustapha Raouf Updated: 1-04-2018

Description Upgrading the existing ramps might require additional right of way, which would lead to increase in cost and delay in schedule.

Status It is assumed that the upgrades will be done within the existing right of way.

Response Options

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 017 Curb Ramps Impact on Utilities RBS: Design Owner: Mustapha Raouf Updated: 1-25-2018

Description As a result of lack of survey data and a more detailed design, the need for utility relocation is not known at this time and will be addressed during the PS&E phase. Utility conflicts encountered during the final design stage have the potential to delay the schedule and increase the cost.

Status Utility impacts are not anticipated at this time.

Response Options If additional funds are not available during the PS&E phase, the project limits may need to be reduced to remain within the programmed amount.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 018 Permanent BMPs Cost RBS: Design Owner: Alan Bisi Updated: 1-25-2018

Description As a result of the new National Pollutant Discharge Elimination System (NPDES) requirements and lack of survey data, final BMP design may result in a delay in schedule and increase in cost.

Status At this time, it is assumed that the estimated cost would be sufficient for the permanent BMPs.

Response Options If this risk occurs, a PCR may be processed to increase the construction cost and delay the schedule. Another option would be to reduce the project limits to remain within the programmed amount.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 019 Railroad Involvement RBS: Design Owner: Mustapha Raouf Updated: 5-07-2018

Description As a result of the proposed improvements to the West Hesperia Overhead (Bridge No. 54 0664L/R), railroad involvement may be needed. Due to review and approval process, delays may occur.

Status Based on discussion with the District's Rail Road Coordinator, District Geometrician (Sergio Avila) and HQ Project Coordinator (Luis Betancourt), it is assumed that the design exception for non-standard bridge shoulder widths will be approved.

Response Options It was determined to replace inner and outer bridge railings. A design exception will be pursued to not widen the bridge/add piles. This scope does not require railroad involvement.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 020 Staff Rotation RBS: Design Owner: Mustapha Raouf Updated: 3-29-2018

Description Since multiple team members are subject to rotation, losing critical staff at crucial point of the project may occur, which would lead to delay in schedule.

Status Multiple team members, including the project engineer, are required to rotate to other divisions within the Department.

Response Options Additional team members that are not subject to rotation should be included in the project to facilitate transition.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 021 ADL Mitigation Cost RBS: Design Owner: Mustapha Raouf Updated: 4-10-2018

Description As a result of ADL survey delay, accurate cost estimates to mitigate for ADL would not be available at the PA&ED stage, which would lead to potential

increase in cost in the PS&E stage.

Status

Response Options An amount of $1.0 million to $1.5 million will be reserved for ADL mitigation.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 022 Proposed Drainage System Impact on Utilities RBS: Design Owner: Mustapha Raouf Updated: 4-17-2018

Description The I-15 segment between Ranchero Road Interchange and West Hesperia Overhead shows signs of excessive erosion within the clear recovery zone. This excessive erosion is caused by large volumes of water coming from the Ranchero Road IC concrete channels. Improving the drainage system in that area will impact utilities, which may delay schedule.

Status During the field review, multiple utilities were found.

Response Options Utilities unit is working on identifying the utilities.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 023 Pavement Construction RBS: Construction Owner: Bacson Quach Updated: 4-17-2018

Description As a result of using uncommon type of pavement (Continuously Reinforced Concrete Pavement), construction challenges may occur, which may lead to a delay in schedule and increase in cost.

Status

Response Options Pre-construction meetings and training can be utilized to reduce the impact of the challenges that may arise.

Impacts Costs (dollars) Delays (days)

	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

Risk 024 Cost Estimate of Drainage Improvements RBS: Design Owner: Mustapha Raouf Updated: 4-19-2018

Description Due to lack of survey data and drainage analysis, the cost of drainage system improvements was estimated as a lump sum. Once the needed information becomes available, the cost may increase depending on the details of the improvements.

Status The lump sum cost estimate includes the assumption that the channels within the clear recovery zone will be modified to improve safety and the assumption that pipes will be installed between Ranchero Road IC and West Hesperia OH.

Response Options If additional capital funds are needed and the increase cannot be accommodated by the Funds Request, a Project Change Request may be processed to obtain more funds.

Impacts

		Costs (dollars)		Delays (days)	
	Probability	Capital	Support	Development	Construction
Optimistic	%				
Most Likely					
Pessimistic	%				

Assessment Notes

ATTACHMENT “K”
STORM WATER DATA REPORT
SIGNED COVER SHEET

Dist-County-Route: 08-SBD-15
Post Mile Limits: R28.60/37.50
Type of Work: Rehabilitate Existing Mainlines and Ramps (3R)
Project ID (EA): (0815000244) 0K1220
Program Identification: 201.122(HA22)
Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): Lahontan, Region-6
Total Disturbed Soil Area: 165.58 ac. PCTA: 117.85 ac.
Alternative Compliance (acres): ATA 2 (50% Rule)? Yes ☐ No ☒
Estimated Const. Start Date: 10/29/2020 Estimated Const. Completion Date: 05/10/2023
Risk Level: RL 1 ☐ RL 2 ☒ RL 3 ☐ WPCP ☐ Other:
Is MWELO applicable? Yes ☐ No ☒
Is the Project within a TMDL watershed? Yes ☐ No ☒
TMDL Compliance Units (acres): N/A
Notification of ADL reuse (if yes, provide date): Yes ☐ Date: No ☐

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

Rajnikant B. Patel, Registered Project Engineer — 4/18/2018 Date

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

Raguram Radhakrishnan, *Project Manager* — 4-18-18 *Date*

Leonard Estrella, *Designated Maintenance Representative* — 4/18/2018 *Date*

Rose Bishop, *Designated Landscape Architect* — 4/19/18 *Date*

[Stamp Required at PS&E only]

Jon Bumps, *District 8, SW Coordinator or Designee* — 5/1/18 *Date*

AN 4/20/2018 5/1/2018

ATTACHMENT "L"
INITIAL SITE ASSESSMENT (ISA) CHECKLIST

WBS 150.20.10 INITIAL SITE ASSESSMENT (ISA) CHECKLIST

----------PROJECT ENGINEER MUST FILL OUT ALL INFORMATION THROUGH # 2 BELOW----------

DATE: April 10, 2018

PROJECT INFORMATION

District 8 County SBd Route 15 KiloPost (PM) PM R28.60 to 37.50 EA. 0K1220

Description of Work: It is proposed to replace the existing Asphalt Concrete (AC) traveled ways and shoulders to 40-year rigid pavement design with Continuous Reinforced Concrete Pavement (CRCP). It is also proposed to cold plane and overlay the existing AC ramps and to construct ramp termini. This project also encompasses upgrading existing nonstandard bridge railings, replacing joint seals, and adding paving notch extensions and approach slabs at West Hesperia Overheads (Bridge No. 54-0664L/R)

Project Engineer Hoon Park Telephone (909) 388-7307

Environmental Coordinator (if known) Telephone ( )

DATE ISA NEEDED **ASAP**

Attach the project location map and an aerial photo to this checklist to show the location of proposed R/W and all known and/or potential hazardous waste sites.

1. Project Features: New R/W? No Excavation? Yes, Replacement of existing AC freeway sections including traveled ways and shoulders to CRCP, construction of temporary median bypass lanes, Reconstruction of Midwest Guardrail System Railroad Involvement? No
   Structure Demolition/Modification? No Utility Relocation? No
2. Project Setting: Rural _____ Urban Yes
   Current Land Uses: Highway
   Adjacent Land Uses: _____
   (Industrial, light industry, commercial, agriculture, residential, other [describe other])

----------THE REMAINDER OF THIS FORM TO BE FILLED OUT BY DISTRICT HAZARDOUS WASTE COORDINATOR ONLY----------

3. Check Federal, State, and local environmental and health regulatory agency records as necessary to see if any known hazardous waste site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets as needed to provide all information available pertinent to the proposed project. IS PROJECT
4. AFFECTING SITES LISTED ON CORTESE LIST? NO IF YES, DESCRIBE SITE: _____
5. Conduct Field Inspection Field and Geo tracker Date 04-10-2018

Storage Structures/Pipelines: N/A				**Contamination: (spills, leaks, illegal dumping, etc)**		**Hazardous Materials: (asbestos, lead, etc.) N/A**	
UST's				Surface Staining	**Not Seen**	Buildings	
Surface tanks				Oil Sheen	**Not Seen**	Sprayed-on Fireproofing	
Sumps		Ponds		Odors	**None**	Pipe Wrap	
Drums		Basins		Vegetation damage	**Not Seen**	Friable Tile	
Transformers				Other	**Not Seen**	Acoustical Plaster	
Landfill						Serpentine	
Other						Paint	Other

Other comments and/or observations

ISA DETERMINATION:

Does the project have potential hazardous waste involvement? **Low Risk**

If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the Preliminary Site Investigation? If yes, explain, and give estimate of additional time required:

ISA CONDUCTED/CONCURRED BY: DANIEL To / OLUFEMI ODUFALU DATE: 4/11/18