

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT
I-5 Pavement Anchor Project (10-1E300)

Resolution

SHOPP-P-2122-07B

(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 *I-5 Pavement Anchor Project (10-1E300)*, effective on, June 29, 2022 (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 May 13, 2020 meeting the Commission approved the State Highway Operation and Protection Program, and included in this program of projects the *I-5 Pavement Anchor Project (10-1E300)*, 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-20-40, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated 05/13/2020
 - 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

I-5 Pavement Anchor Project (10-1E300)

Resolution

SHOPP-P-2122-07B

Dennis T. Agar

Digitally signed by Dennis T. Agar
Date: 2022.03.25 16:35:13 -07'00'

March 25, 2022

Dennis T. Agar

Date

District Director

California Department of Transportation

Michael D. Keever

APPROVED
By Michael Keever at 5:18 pm, Jun 07, 2022

for Steven Keck

Date

Acting Director

California Department of Transportation

Mitchell Weiss

07/06/2022

Mitchell Weiss

Date

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: 05/23/22 02:47:13 PM

District	EA	Project ID		PPNO	Project Manager	
10	1E300	1018000273		3427	BURLAZA, CHRIS	
County	Route		Begin Postmile	End Postmile	Implementing Agency	
SJ	5		32.5	49.8	PA&ED	Caltrans
					PS&E	Caltrans
					Right of Way	Caltrans
					Construction	Caltrans

Project Nickname

I-5 PAVEMENT ANCHOR PROJECT

Location/Description

In and near Stockton, from Hammer Lane to the Sacramento County line (PM 49.819). Rehabilitate roadway, upgrade lighting, guardrail and bridge railing, install Transportation Management System (TMS) elements, replace signs, rehabilitate drainage systems, enhance highway worker safety, and upgrade facilities to Americans with Disabilities Act (ADA) standards.

Legislative Districts

Assembly: 12 Senate: 05 Congressional: 09

PERFORMANCE MEASURES

	Primary Asset	Good	Fair	Poor	New	Total	Units
Existing Condition	Pavement		82.4	1		83.4	Lane-miles
Programmed Condition	Pavement	83.4				83.4	Lane-miles

Project Milestone	Actual	Planned
Project Approval and Environmental Document Milestone	01/26/22	
Right of Way Certification Milestone		05/15/23
Ready to List for Advertisement Milestone		06/16/23
Begin Construction Milestone (Approve Contract)		02/01/24

FUNDING (Allocated amounts are shaded)

Component	Fiscal Year	SHOPP				Total
PA&ED	20/21	2,108				2,108
PS&E	21/22	4,153				4,153
RW Support	21/22	162				162
Const Support	22/23	10,953				10,953
RW Capital	22/23	69				69
Const Capital	22/23	98,116				98,116
Total		115,561				115,561

3R Rehabilitation Project Report

For

Project Approval

On Route 5 in San Joaquin County

Between Hammer Lane Undercrossing

And Sacramento County Line

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

Cristin Hallissy

CRISTIN HALLISSY, ACTING DEPUTY DISTRICT DIRECTOR,
ENVIRONMENTAL AND RIGHT OF WAY, DISTRICT 10

APPROVAL RECOMMENDED:



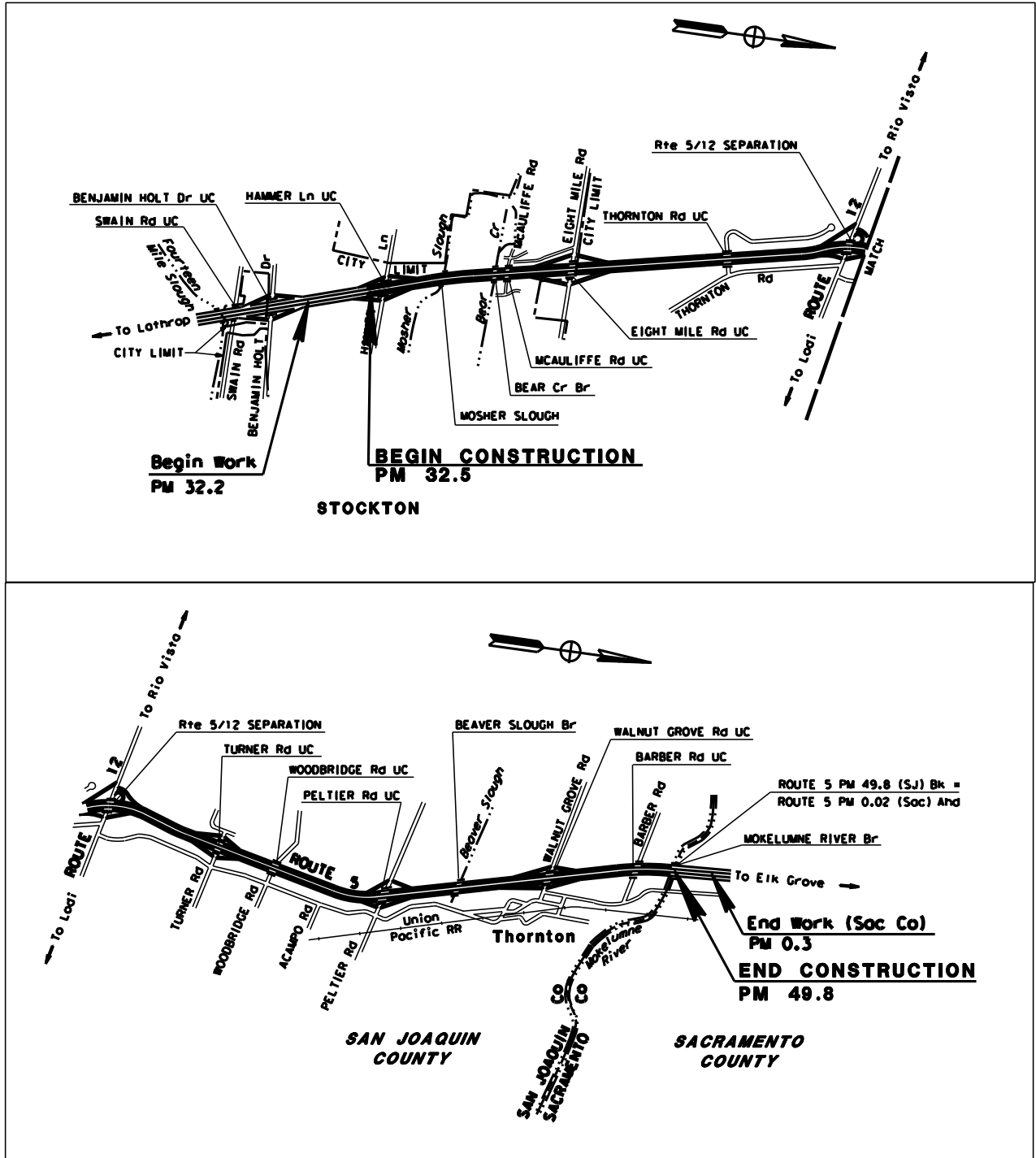
CHRIS BURLAZA, PROJECT MANAGER

PROJECT APPROVED:

Dennis T. Agar
DENNIS T. AGAR, DISTRICT 10 DIRECTOR

01/26/22
DATE

Vicinity Map



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



REGISTERED CIVIL ENGINEER

1/20/2022

DATE



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1. INTRODUCTION, WORK DESCRIPTION AND SUMMARY TABLE

Project Description:

This Pavement Anchor Project proposes to rehabilitate Interstate 5 (I-5) in and near the City of Stockton, San Joaquin County from Hammer Lane undercrossing (UC) (PM 32.5) to the Sacramento County line (PM 49.8). The proposed scope of work incorporates 9 satellite assets that include guardrail upgrade, bridge rail replacement, culvert replacement, operational improvements, sign replacements, Transportation Management System (TMS) elements, roadside safety improvements, lighting, and American with Disabilities Act (ADA) improvements.

The escalated total capital outlay cost estimate for the Build Alternative is \$98,185,000 which consists of \$98,116,740 for construction capital and \$69,900 for right-of-way capital. This project has been assigned a Project Development Category of 5 as it falls under the category of projects with minimal economic, social, or environmental significance. This project is programmed into the 2020 State Highway Operation and Protection Program (SHOPP) under the Pavement Resurfacing, Restoring, Rehabilitation (3R) Program (201.120) for delivery in the 2022/2023 fiscal year.

Project Limits	10-SJ-5	
	PM 32.5/49.8	
	Current Cost Estimate:	Escalated Cost Estimate:
Capital Outlay Support	\$15,674,000	\$17,376,000
Capital Outlay Construction	\$92,713,000	\$98,116,000
Capital Outlay Right-of-Way	\$63,000	\$69,000
Funding Source*	20.10.201.120 Pavement Rehabilitation 3R	
Funding Year	2022/23	
Type of Facility	Freeway	
Number of Structures	14	
SHOPP Project Output	83.4 Lane Miles	
Anticipated Environmental Determination or Document	CE/CE	
Legal Description	In San Joaquin County, In and near the City of Stockton from Hammer Lane Undercrossing (UC) to Sacramento County Line.	
Project Development Category	5	

2. RECOMMENDATION

It is recommended that this project be approved using the 3R Rehabilitation strategy alternative and that the project proceed to the design phase.

3. BACKGROUND

A Conceptual Report noting the facility deficiencies and recommending a resurfacing and restoration (2R) project was approved on March 29, 2018.

A Project Initiation Report recommending a Resurfacing, Restoring and Rehabilitation (3R) project was approved on June 17, 2019.

4. PURPOSE AND NEED

Purpose:

The purpose of this project is to rehabilitate and extend the pavement service life, repair the infrastructure, and improve mobility on I-5 in San Joaquin County, in and near the City of Stockton from Hammer Lane Undercrossing to the Sacramento County line.

Need:

I-5 throughout the project limits shows signs of deterioration that has resulted in rough riding pavement and higher maintenance costs. In addition, other highway infrastructures and assets have been identified to be non-compliant with current specifications and safety standards.

4A. Problem, Deficiencies, Justification

The existing Portland Cement Concrete (PCC) pavement within the project limits have developed third stage cracking, but has not been rehabilitated due to funding constraints. Panel replacement projects have been undertaken on the facility in 2012 and 2018.

4B. Regional and System Planning

Route Description

Interstate 5 (I-5) is the principal south/north freeway traversing California. I-5 begins at the Mexican border and continues north to the Oregon border. In addition to providing interregional, commuter, and local travel, I-5 provides primary access for the movement of people, goods, and services through the Central Valley. I-5 is considered a major lifeline transportation route for industrial, commercial, and agricultural products of the communities in the Central Valley of California. I-5 is also a major connector for all west/east

routes throughout the Central Valley, providing linkages between the San Francisco Bay area, the Central Valley, Foothill communities, and Sierra Nevada Mountains.

Route Designation

The Federal Highway Administration (FHWA) has functionally classified I-5 as an interstate that is on the Federal Highway System (FHS) and is a component of Strategic Highway Network (STRAHNET). I-5 is also on the National Network consistent with Surface Transportation Assistance Act (STAA).

4C. Traffic

Current and Forecasted Traffic

The forecasted average daily traffic (ADT) volume for opening year (2026) is 70,100 vehicles, and for design year (2066) is 121,000 vehicles. The peak hour volume for 2020 is 6,550 vehicles. The peak hour directional split is 54%, and the truck percentage is 16.8% (see Attachment J).

Collision Analysis

A Traffic Safety Analysis was conducted for the project using Table B statistics for I-5 traffic between postmiles 32.7 and 49.8. The accident rates were determined for the most recent, complete three-year period (1/1/2017 to 12/31/2019), and indicate that Actual Fatal and Total rates are lower than the Statewide Average for similar roadways with like traffic volumes. The Fatal + Injury Accident Rate was found to be lower than the Statewide Average. The Table B analysis for the project intersection found a total of 464 collisions (8 - Fatal, 151 - Injury, 305 - Property Damage Only). Of the 464 collisions, the “rear end” collisions were the most significant with 160 incidents, followed by “hit object” with 149 incidents. The most significant collision factor was “improper turn,” followed by “speeding,” “other violations,” “influence of alcohol,” “other than driver,” “too close,” “unknown,” and “failure to yield.”

The accident rates per million vehicle miles (MVM) within the project limits for the most recent 3-year study period between January 1, 2017 and December 31, 2019 are as follows:

Accident Type	Actual	Average
Fatal	0.007	0.008
Fatal + Injury	0.13	0.19
Total	0.39	0.55

The following list of ramps within the project limits and the collision history for the same three-year study period for these ramps indicates that actual collision rates are below the statewide average rates for most of the ramps, except Hammer Lane and Eight miles Road.

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB on fr. Hammer Ln PM 32.515	0.00	0.06	0.82	0.002	0.23	0.63

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 NB off to Hammer Ln PM 32.516	0.00	0.36	0.97	0.008	0.39	1.03

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB off to Hammer Ln PM 32.849	0.00	0.74	2.72	0.008	0.39	1.03

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 NB on fr. Hammer Ln PM 32.85	0.00	0.00	0.73	0.002	0.23	0.63

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB on fr. Eight Mile Rd. PM 35.147	0.00	0.41	0.82	0.000	0.23	0.63

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	0.26 F+I	Total
I-5 NB off to Eight Mile Rd. PM 35.148	0.00	1.13	3.14	0.008	0.39	1.03

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB off to Eight Mile Rd. PM 35.495	0.00	0.21	0.53	0.008	0.39	1.03

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 NB on fr. Eight Mile Rd. PM 35.513	0.00	0.33	0.98	0.017	0.24	0.64

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 NB off to SR 12 PM 39.315	0.00	0.20	1.31	0.005	0.28	0.85

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB on fr. EB SR 12 PM 39.36	0.203	0.81	1.02	0.020	0.24	0.53

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB on fr WB SR 12 PM 39.599	0.00	0.30	0.30	0.000	0.23	0.55

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 NB on fr. SR 12 PM 39.926	0.00	0.18	0.35	0.036	0.23	0.55

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB off to SR 12 PM 39.945	0.00	0.00	0.34	0.005	0.28	0.85

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 NB off to Turner Rd. PM 41.449	0.00	0.00	1.30	0.012	0.49	1.35

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 NB on fr. Turner Rd. PM 41.830	0.00	0.00	0.00	0.017	0.24	0.64

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB off to Turner Rd. PM 41.848	0.00	0.00	0.00	0.012	0.49	1.35

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB on fr. Turner Rd. PM 41.492	0.00	0.00	0.00	0.017	0.24	0.64

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 NB off to Peltier Rd PM 44.528	0.00	0.00	0.00	0.012	0.49	1.35

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB on fr. Peltier Rd. PM 44.549	0.00	0.00	0.00	0.017	0.24	0.64

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 NB on fr. Peltier Rd. PM 44.885	0.00	0.00	1.38	0.017	0.24	0.64

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+1	Total	Fatal	F+I	Total
I-5 SB off to Peltier Rd. PM 34.945	0.00	0.00	1.32	0.012	0.49	1.35

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+I	Total	Fatal	F+I	Total
I-5 NB off to Walnut Grove PM 47.411	0.00	0.47	0.47	0.012	0.49	1.35

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+I	Total	Fatal	F+I	Total
I-5 SB on fr. Walnut Grove PM 47.448	0.00	0.00	0.00	0.036	0.23	0.55

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+I	Total	Fatal	F+I	Total
I-5 NB on fr. Walnut Grove PM 47.784	0.00	0.00	0.00	0.017	0.24	0.64

Ramp	Actual (MVM)			Average (MVM)		
	Fatal	F+I	Total	Fatal	F+I	Total
I-5 SB off to Walnut Grove PM 47.821	0.00	2.13	4.27	0.012	0.49	1.35

5. ALTERNATIVES

5A. Preferred Alternative

3R Rehabilitation

This Pavement Anchor project is a Resurfacing, Restoring, and Rehabilitation (3R) project which proposes to rehabilitate the travel way and shoulders along I-5 from the Hammer Lane UC to the Sacramento County Line in San Joaquin County. As an Anchor project, there are also 9 satellite needs being addressed. The scope of work pertaining to each program are listed below:

Pavement (201.120)

The proposed pavement strategy is to replace the existing pavement with Continuously Reinforced Concrete Pavement (CRCP) lanes and Jointed Plain Concrete Pavement (JPCP) outside shoulders in both the northbound and southbound directions from Hammer Lane UC (PM 32.5) to Eight Mile Road UC (PM 35.5).

Replacement of the existing concrete pavement with CRCP will also require the approach slabs and joint seals within this section to be replaced. Five bridges have been identified within the CRCP limits where the approach slabs would require replacement.

The inside shoulder, from PM 32.5 to PM 35.5, will be reconstructed with Hot Mix Asphalt (HMA), widened to 10 ft and structurally strengthened to accommodate traffic handling requirements during construction.

The pavement for the remainder of the project limits will be addressed with individual slab replacement using Rapid Strength Concrete (RSC) in various locations along I-5 with diamond grinding to meet smoothness requirements across all lanes in both the northbound and southbound directions from Eight Mile Rd (PM 35.5) to the Sacramento County line (PM 49.8).

The ramps within the project limits are proposed to be cold planed 0.25 feet and overlaid with 0.25 feet HMA.

This pavement strategy addresses the pavement needs and also allows the District financial flexibility to fund projects from other programs. This strategy has been discussed with the District Pavement Manager and Asset Manager who have provided concurrence.

Bridge rail upgrade (201.112)

The bridge rails at the Hammer Lane Undercrossing will be replaced to meet current standards. This includes the following:

- Removing the existing Type 9 barrier railings.
- Removing and reconstructing the existing overhangs.
- Temporary formwork supported from the existing bridge.
- Partial removal of each wingwall and excavation on the outside of each wingwall.
- Construction of a Manual for Assessing Safety Hardware (MASH) conforming Concrete Barrier Type 836 or 842 at the existing edge of the shoulder.
- Replacement of the transition rail and approach rail.
- Electrical conduits in the bridge railings will be replaced.

Culvert restoration (201.151)

Two locations (PM 46.27 and 48.45) will require culvert rehabilitation between Beaver Slough and Mokelumne River. Note: If a pending re-inspection of these culverts show them to be in good condition, they will be dropped from the project. The project does not propose any culvert work that would require R/W acquisition or temporary construction easements.

Operational improvements (201.310)

Widen NB and SB ramp termini at the I-5/Peltier Road and I-5/Thornton-Walnut Grove interchanges to accommodate STAA truck turning.

Traffic Management Systems (TMS) (201.315)

Install Changeable Message Signs (CMS), Closed Circuit Television (CCTV), Vehicle Detector Stations (VDS), Extinguishable Message Signs (EMS), Highway Advisory Radios (HAR), and Roadway Weather Information Systems (RWIS) within the project limits.

Americans with Disabilities Act (ADA) improvements (201.361)

Reconstruct non-compliant curb ramps at the corners of the I-5/Hammer Lane and I-5/8 Mile Road ramp termini. It is also proposed to install APS which requires replacement of the existing traffic signals due to the age of the traffic poles.

Roadside safety (201.235)

Construction of Maintenance Vehicle Pullouts (MVP), Gore and slope paving along I-5 at the following locations:

- Turner Road U/C
- Peltier Road UC
- Walnut Grove Road/Thornton Road UC

Slope paving is proposed at the McAuliffe Road UC, Thornton Road Connector UC, and Woodbridge Road UC.

Guardrail improvements (201.015)

Upgrade existing Midwest Guardrail System (MGS), end treatments, and terminal systems at the bridge approach and departure. Upgrade of existing thrie beam barrier within the median will not be included as part of this project.

Roadside signs (201.170)

Remove and replace approximately 200 roadside signs and nine overhead sign structures within the project limits.

Lighting (201.170)

Ramp lighting is to be replaced along I-5 at the following locations:

- Route 12
- Turner Road
- Peltier Road
- Walnut Grove Road/Thornton Road

This project proposes to maintain existing standard and nonstandard features within the project limits, which have been identified using the current version of the 7th Edition of the Highway Design Manual (HDM), Design Information Bulletin (DIB) 78-04 (Design Checklist for the Development of Geometric Plans), and DIB 79-04 (Design Guidance and Standards for Major Pavement Roadway Rehabilitation Projects).

Per DIB 79, a Design Standard Decision Document has been prepared for this project and has been reviewed and in the process of obtaining signatures from Caroline Reyes, Chief, Caltrans Central Region Office of Design VII, and Paul Gennaro, Project Delivery Coordinator, Headquarters Division of Design.

Subsequent to the development of the preferred 3R Alternative, two alternate 3R strategies were considered and rejected by the Project Development Team, (PDT).

The first alternative strategy proposed to replace the #2 and #3 lanes from PM 32.2 (Hammer Lane) to PM 39.5 (Route 12) in lieu of the Preferred Alternative Strategy of replacing Lanes 1-3 with CRCP from PM 32.2 to PM 35.5 (Eight Mile Rd.). From PM 32.2 to PM 39.5, the #1 lane would have had RSC panel replacement, and the outside shoulder replacement with JPCP would have been extended to PM 39.5. This strategy would have increased project costs by roughly 47%.

The second alternative strategy proposed to retain the CRCP from the Preferred Alternative Strategy and proposed to replace the #2 and #3 lanes and outside shoulder from PM 32.2 to PM 39.5 with JPCP in lieu of RSC panel replacement in the #2 and #3 lanes. This strategy would have increased project costs by roughly 53%.

Both alternate strategies would have introduced issues with design standards, constructability, and scheduling.

5B. Rejected Alternatives

No Build Alternative:

There are no proposed improvements in the No Build Alternative. The existing pavement would remain unchanged, and the existing drainage facilities, guardrail, roadside signs and TMS elements would not be upgraded. The pavement condition would continue to deteriorate, which would result in higher operational and maintenance costs and may accelerate the need for major rehabilitation. The No Build Alternative does not meet the Need and Purpose of the project.

6. CONSIDERATIONS REQUIRING DISCUSSION

01/26/22

6A. Hazardous Waste

An Initial Site Assessment (ISA) was performed for the project. Per the ISA, there are no open remediation site cases within the project area with the potential to affect the project. Therefore, the potential to encounter contaminated soil on this project is considered minimal.

Asbestos Containing Materials (ACM) are known to occur in bridge bearing pads, shims, mastic material, and/or concrete. All of the bridges in the project limits are expected to be

impacted, therefore, a project specific ACM survey will be conducted on each of the structures prior to construction activities. The ISA indicates that it is unlikely to encounter Naturally Occurring Asbestos (NOA) within the project area.

Removed treated wood posts from guardrail removal will be disposed of at a Class 1 recycling facility.

A Preliminary Site Investigation (PSI) for aerially deposited lead and lead-based paint will be performed during the PS&E Phase.

6B. Value Analysis

A Value Analysis (VA) was performed for the project in March of 2021. Five alternatives were studied and two were recommended to be adopted. It was recommended to use Rapid Set Concrete near ramps to allow quicker reopening to traffic. It was also recommended that existing and temporary striping be removed by water blasting in lieu of grinding in order to avoid ghost striping, which increases road noise and motorist confusion. Both alternatives increase the cost of the project, but it was the consensus of the VA study team that the increases are more than offset by their benefits.

6C. Resource Conservation

The contractor will have the option of using recycled asphalt and concrete paving and scrap tires for asphalt rubber for this project.

6D. Right-of-Way Issues

A Right-of-Way Data Sheet (Attachment I) has been prepared for this project. The project proposes two CMS that will require connection to existing power sources within the existing R/W. The project will not require right-of-way acquisition or temporary construction easements.

No utility relocation will be required as part of this project. No publicly owned or privately owned public utilities will be constructed as part of this project. No utility relocations or exceptions to Caltrans policy on encroachments will be required.

6E. Environmental Compliance

01/26/22

This project is Categorical Exempt under the California Environmental Quality Act (CEQA) and Categorical Excluded under the National Environmental Policy Act (NEPA). See the Categorical Exemption/Categorical Exclusion Determination Form (Attachment F).

6F. Air Quality Conformity

The project is exempt from all project-level conformity requirements per Table 2 of 40 CFR 93.126 under the project type Safety: Pavement resurfacing and/or rehabilitation.

6G. Title VI Considerations

This project does not propose changes to existing conditions that would adversely affect low mobility, low-income or minority groups. The project proposes to reconstruct non-compliant curb ramps at the corners of the I-5 / Hammer Lane and I-5 / 8 Mile Road ramp termini and install Accessible Pedestrian Signals (APS).

6H. Noise Abatement Decision Report

A Noise Abatement Decision Report (NADR) is not required for this project. The proposed project is not likely to introduce a potential for long term traffic noise impacts as described in the Type I projects under section 3 of Caltrans' Traffic Noise Analysis Protocol (Protocol, 2020). Therefore, this is not considered a Type I project.

6I. Life-Cycle Cost Analysis

A Life Cycle Cost Analysis (LCCA) was prepared for this project on January 17, 2019.

6J. Reversible Lanes

This project does not qualify as a capacity increasing or a major street or highway realignment project, and therefore, reversible lanes are not being considered.

6K. NPDES/Storm Water

The Storm Water Data Report has been prepared and has identified appropriate construction site Best Management Practices to be incorporated into the project to limit pollutant discharges outside of State's R/W. A Soil Erosion Risk Assessment was performed on this project and it was determined that this project has a Risk Level of 2.

7. OTHER CONSIDERATIONS AS APPROPRIATE**7A. Public Hearing**

This project does not require a Public Hearing.

7B. Route Matters

There are no revisions required to highway route agreements within the project limits.

7C. Permits

The following regulatory permits and/or approval would be required prior to project construction:

- Central Valley Flood Protection Board (Maintenance Authorization)
- Clean Water Act Section 401

7D. Cooperative Agreements

There are no cooperative agreements with other agencies or parties for this project. Cooperation with the City of Stockton and San Joaquin County will be required during the PS&E and Construction phases in order to minimize disruption of traffic on local streets.

7E. Transportation Management Plan

Preliminary traffic impacts and mitigation for this project have been outlined in the Transportation Management Plan Data Sheet (TMP Data Sheet) (Attachment K). Costs associated with the traffic impact mitigation measures listed in the TMP Data Sheet have been included in this document's estimate.

A TMP for this project is required and should be requested when the design is complete enough to determine specific traffic impacts, yet early enough to make design changes/additions required for traffic mitigation.

Lane requirement charts and a detailed TMP will be provided during PS&E stage. Nighttime work and daytime work outside peak hours is anticipated for this project.

7F. Stage Construction

This project will require staged construction. Construction of CRCP lanes from Hammer Lane UC (PM 32.5) to Eight Mile Road UC (PM 35.5) will require the detour of the #1 lane and the lateral shifting of all other lanes in both directions using Temporary Railing Type K (K-Rail) and median crossovers. Preliminary Stage Construction plans have been prepared and reviewed by Construction, Traffic Design and Traffic Safety, and will be revisited and refined during the PS&E Phase.

Other work throughout the project limits and panel replacement work from PM 35.5 to the end of construction at PM 49.8 will be performed under temporary traffic control with cones and attenuator vehicles.

7G. Accommodation of Oversize Loads

I-5 can accommodate oversize loads. The encroachment permit office, which handles oversize loads will coordinate with construction staff to ensure permitted oversize loads can pass through the project limits during construction.

7H. Asset Management

The performance objectives in this project are consistent with the 2017 State Highway System Management Plan (SHSMP) and SHOPP Ten-Year Plan. The performance objectives identified in this project are ADA Pedestrian Infrastructure, Bridge Rail Replacement and Upgrade, Collision Severity Reduction, Drainage System Restoration, Lighting Rehabilitation, Operational Improvements, Pavement Class I, Roadside Safety Improvements, Sign Panel Replacement, Transportation Management Systems.

The District 10 performance target for Pavement Class I in fair and poor condition are 238 and 110 lane miles respectively. The project program build alternative will improve 78.7 fair and 4.7 poor lane miles which accounts for 33.1% and 4.3% of the fair and poor targets.

The poor condition ADA Pedestrian Infrastructure performance target for District 10 is 177 locations. The project program build alternative will improve 13 locations of poor condition ADA Pedestrian Infrastructure which accounts for 7.34 % of the target. There is no new asset ADA Pedestrian Infrastructure performance target for District 10. The project program build alternative will improve 19 locations of ADA Pedestrian Infrastructure.

There is no fair condition Bridge Rail Replacement and Upgrade performance target for District 10. The project program build alternative will improve 747 linear feet of fair condition Bridge Rail Replacement and Upgrade.

The poor condition Collision Severity Reduction performance target for District 10 is 115 injuries. The project program build alternative will improve 6 injuries of poor condition Collision Severity Reduction which accounts for 5.2% of the target.

The poor condition Drainage System Restoration performance target for District 10 is 56,704 linear feet. The project program build alternative, pending culvert re-inspections, will improve 280.96 linear feet of poor condition Drainage System Restoration which accounts for 0.5% of the target.

The poor condition Lighting Rehabilitation performance target for District 10 is 384 each. The project program build alternative will improve 60 each of poor condition Lighting Rehabilitation signs which accounts for 15.6% of the target.

There is no poor condition Operational Improvements performance target for District 10. The project program build alternative will improve 2 daily vehicle hours of delay of poor condition Operational Improvements.

The poor condition Roadside Safety Improvements performance target for District 10 is 94 locations. The project program build alternative will improve 37 locations of poor condition Roadside Safety Improvements which accounts for 39.4% of the target.

The poor condition Sign Panel Replacement performance target for District 10 is 804 each. The project program build alternative will improve 209 each of poor condition Sign Panel Replacement which accounts for 26.0% of the target.

The new and poor condition Transportation Management Systems performance target for District 10 are 27 and 508 elements respectively. The project program build alternative will address 9 new and 1 poor Transportation Management System which accounts for 33% and 0.2% of the new and poor targets.

Primary Asset Classes

- Performance Measure: *Pavement Class I (201.120)*

	Unit	Good	Fair	Poor	Quantity
Existing Condition	Lane Miles		78.7	4.7	83.4
Post Condition	Lane Miles	83.4			83.4

Secondary Asset Classes

- Performance Measure: ADA Pedestrian Infrastructure

	Unit	Good	Fair	Poor	Quantity
Existing Condition	Each			13	13
Post Condition	Each	13			13

- Performance Measure: Bridge Rail Replacement and Upgrade

	Unit	Good	Fair	Poor	Quantity
Existing Condition	Linear Feet		747		747
Post Condition	Linear Feet	747			747

- Performance Measure: Collision Severity Reduction

	Unit	Good	Fair	Poor	Quantity
Existing Condition	F/S Injury Collisions			6	6
Post Condition	F/S Injury Collisions	6			6

- Performance Measure: Drainage System Restoration (Pending)

	Unit	Good	Fair	Poor	Quantity
Existing Condition	Linear Feet			280.96	280.96
Post Condition	Linear Feet	280.96			280.96

- Performance Measure: Lighting Rehabilitation

	Unit	Good	Fair	Poor	Quantity
Existing Condition	Each			60	60
Post Condition	Each	60			60

- Performance Measure: Operational Improvements

	Unit	Good	Fair	Poor	Quantity
Existing Condition	DVHD			2.4	2.4
Post Condition	DVHD	2.4			2.4

- Performance Measure: Roadside Safety Improvements

	Unit	Good	Fair	Poor	Quantity
Existing Condition	Locations			37	37
Post Condition	Locations	37			37

- Performance Measure: Sign Panel Replacement

	Unit	Good	Fair	Poor	Quantity
Existing Condition	Each			209	209
Post Condition	Each	209			209

- Performance Measure: Transportation Management Systems

	Unit	Good	Fair	Poor	Quantity
Existing Condition	Each	6		1	7
Post Condition	Each	16			16

See Attachment L for the SHOPP Performance Output.

7I. Complete Streets

The existing facility is a controlled-access freeway with no pedestrian or bicycle access. There are no existing pedestrian, bicycle, transit, or park-and-ride facilities.

7J. Climate Change Considerations

A GHG study using the FHWA Infrastructure Carbon Estimator (ICE) Tool was prepared for this project during the PID Phase and was included in the approved Project Initiation Report. This project will generate the following Construction & Maintenance GHG Emissions:

1. 11,505 MT CO₂e Unmitigated GHG Emissions
2. 11,646 MT CO₂e Proposed Mitigated GHG Emission, an 0.7% reduction in GHG Emissions due to alternative construction and maintenance techniques.

Disclaimer: The resulting GHG emission calculation was obtained using the FHWA Carbon Estimator Tool. This is an estimate using data inputs in the planning phase, before details about specific facility dimensions, materials and construction practices are known. The tool may not be appropriate to inform engineering analysis and pavement selection. Although Caltrans will continue considering the benefits of utilizing the FHWA Carbon Estimator Tool, at this time this estimate should not be used as a benchmark for GHG calculations in future phases of project development beyond the PID phase. The term mitigation relates to only the limited number of items used in the FHWA ICE tool as GHG reduction measures and does not necessarily reflect all measures that could be included in the development process to reduce greenhouse gas emissions. Nor does the use of the word mitigation apply to the CEQA or NEPA process/determination for the proposed project.

7K. Broadband and Advance Technologies

Advanced communications (autonomous vehicles, vehicle-to-infrastructure) and zero emissions vehicle fueling features are outside the scope of this 3R project.

8. FUNDING, PROGRAMMING AND ESTIMATE

Funding

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

Programming

Fund Source	Fiscal Year Estimate							
	20.XX.201.120	Programmed	Prior	21/22	22/23	23/24	Future	Total
Component	In thousands of dollars (\$1,000)							
PA&ED Support	2,108	2,108						2,108
PS&E Support	4,153			4,153				4,153
Right-of-Way Support	162			162				162
Construction Support	10,953				10,953			10,953
Right-of-Way	49				69			69
Construction	81,169				98,116			98,116
Total	98,594	2,108		4,315	109,138			115,561

Values are escalated to mid-point of the duration of each component.

The support cost ratio is 17.7%. An escalation rate is 3.2% for capital costs and 3.2% for support costs in FY 19/20 through 21/22 and 2% each year afterwards, applied to the mid-point of the duration of each component except for the right of way capital which is escalated at 5.0%.

Estimate

A preliminary cost estimate has been prepared for the project (Attachment E). As is consistent with a 3R project, the largest costs are for pavement structural section work and roadway contingencies. The cost estimate was updated for current construction costs and in greater detail from the PIR cost estimate, and there was an increase in the amount of Roadway Excavation and Traffic Electrical work included in the project. As a result, the escalated construction capital cost has increased by \$16,878,000 (21%) over the programmed amount. Satellite assets and estimate will be re-evaluated during PS&E to reduce cost, and a PCR submitted for any remaining changes.

9. DELIVERY SCHEDULE

Project Milestones		Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
PROGRAM PROJECT	M015	06/25/2020	Actual
BEGIN ENVIRONMENTAL	M020	09/15/2020	Actual
PA & ED	M200	01/28/22	Target
BEGIN DESIGN	M210	01/31/22	Target
BEGIN STRUCTURE	M215	01/31/22	Target
PS&E TO DOE	M377	12/16/2022	Target
RIGHT OF WAY CERTIFICATION	M410	05/15/2023	Target
READY TO LIST	M460	06/16/2023	Target
AWARD	M495	12/15/2023	Target
APPROVE CONTRACT	M500	02/01/2024	Target
CONTRACT ACCEPTANCE	M600	10/30/2026	Target
END PROJECT EXPENDITURES	M800	12/29/2028	Target
FINAL PROJECT CLOSEOUT	M900	09/30/2030	Target

10. RISKS

No major project risks have been identified to date. Moderate and minor risks are discussed in the Risk Management Plan (Attachment H). Investigation of potential risks will continue through the PS&E phase of the project.

1. Risk associated with Utilities is related to any conflicts between the existing underground utilities and proposed culvert replacement, new pavement structural section and new CMS foundation. Possibility of this risk is low.
2. Replacement culvert inlet/outlets that may require temporary construction easement or additional right of way will be dropped from the project.

11. EXTERNAL AGENCY COORDINATION

This project is assigned in accordance with the current FHWA and Department of Transportation (Caltrans) Joint Stewardship and Oversight Agreement.

The project requires the following coordination:

Regional Water Quality Control Board
Clean Water Act Section 401
Water Quality Certification

Central Valley Flood Control Board (Maintenance Authorization)

12. PROJECT REVIEWS

Scoping team field review _____	Date	9-30-18
Safety field review _____	Date	_____
District Program Advisor _____	Tanya Sanguinetti	Date _____
Headquarters SHOPP Program Advisor _____	Amy Fong	Date _____
District Maintenance _____	Joe Norman	Date _____
Headquarters Project Delivery Coordinator _____	Paul Gennaro	Date 11-4-21 _____
Project Manager _____	Chris Burlaza	Date _____
FHWA _____		Date _____
District Safety Review _____	Amit Mistry	Date 7-6-21 _____
Constructability Review _____		Date 11-23-21 _____

13. PROJECT PERSONNEL

Name	Title	Phone #
Chris Burlaza	Project Manager	209-639-6446
Nicholas Chan	Design Manager	559-974-3063
Manjit Singh	Construction Manager	559-470-2053
Rene Sanchez	Maintenance Engineer	559-488-4225
Jaycee Azevedo	Environmental Manager	209-992-9824
Jerry Prigmore	Project Engineer	559-401-9809
Jon Russell	Surveys Manager	559-284-4789
James Gonzalez	Right of Way Manager	209-948-7844

14. ATTACHMENTS
(Number of Pages = 115)

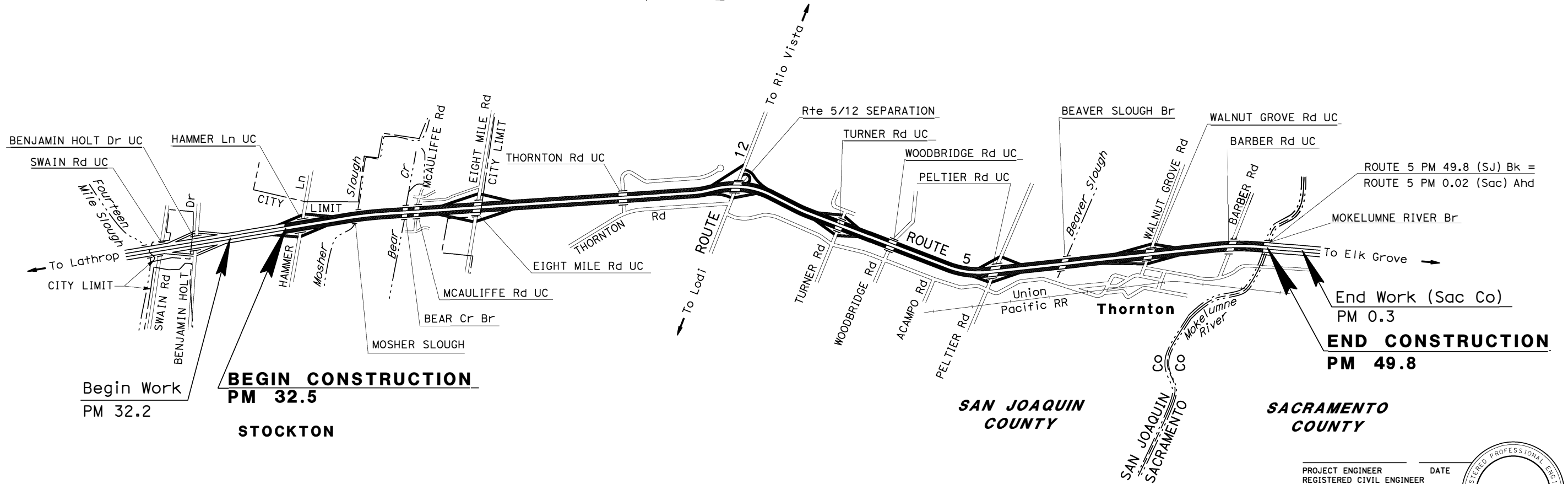
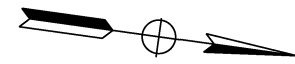
- A. Location map (1)
- B. Typical Cross Sections (2)
- C. Layouts (20)
- D. Storm Water Data Report (33)
- E. Preliminary Cost Estimate (10)
- F. CE/CE Determination Form (5)
- G. Preliminary Structural Section Recommendation (19)
- H. Risk Management Plan (2)
- I. Right of Way Data Sheet (6)
- J. Design Designation / T.I. (2)
- K. Transportation Management Plan Data Sheet (13)
- L. SHOPP Performance Report (1)
- M. TMS Elements Summary (1)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PROJECT PLANS FOR CONSTRUCTION ON
 STATE HIGHWAY**
 IN SAN JOAQUIN COUNTY
 IN AND NEAR STOCKTON
**FROM HAMMER LANE UNDERCROSSING
 TO SACRAMENTO COUNTY LINE**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2018

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	32.5/49.8	1	

LOCATION MAP



PROJECT MANAGER: CHRIS BURLAZA
 DESIGN MANAGER: NICHOLAS CHAN

PROJECT ENGINEER: _____ DATE: _____
 REGISTERED CIVIL ENGINEER

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



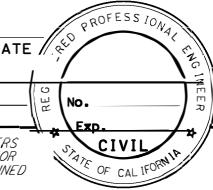
THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

NO SCALE

Attachment A

CONTRACT No.	10-1E3004
PROJECT ID	1018000273

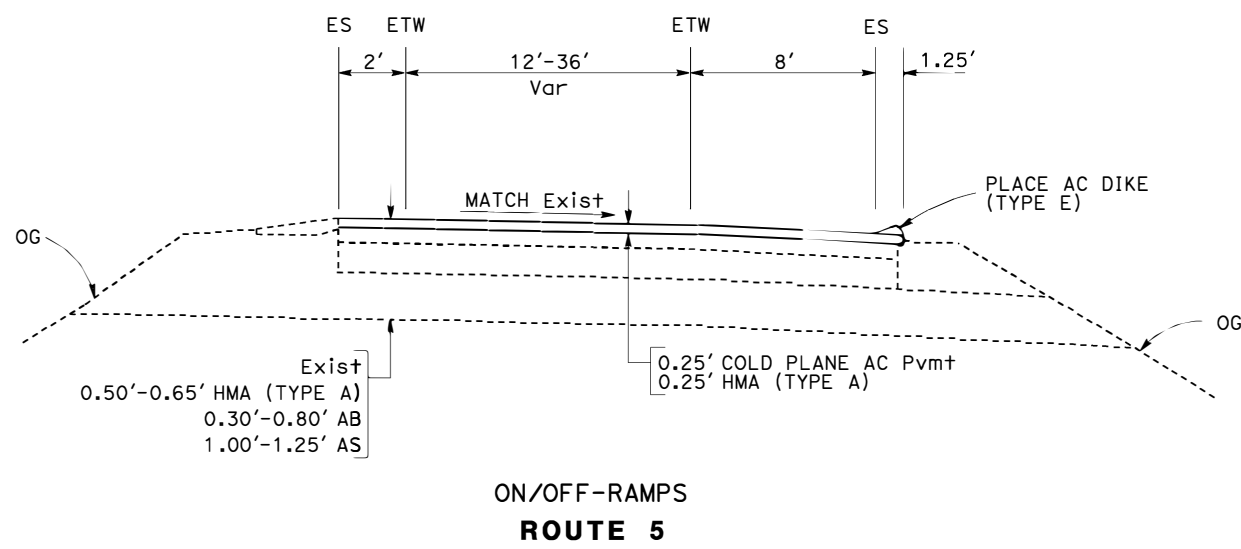
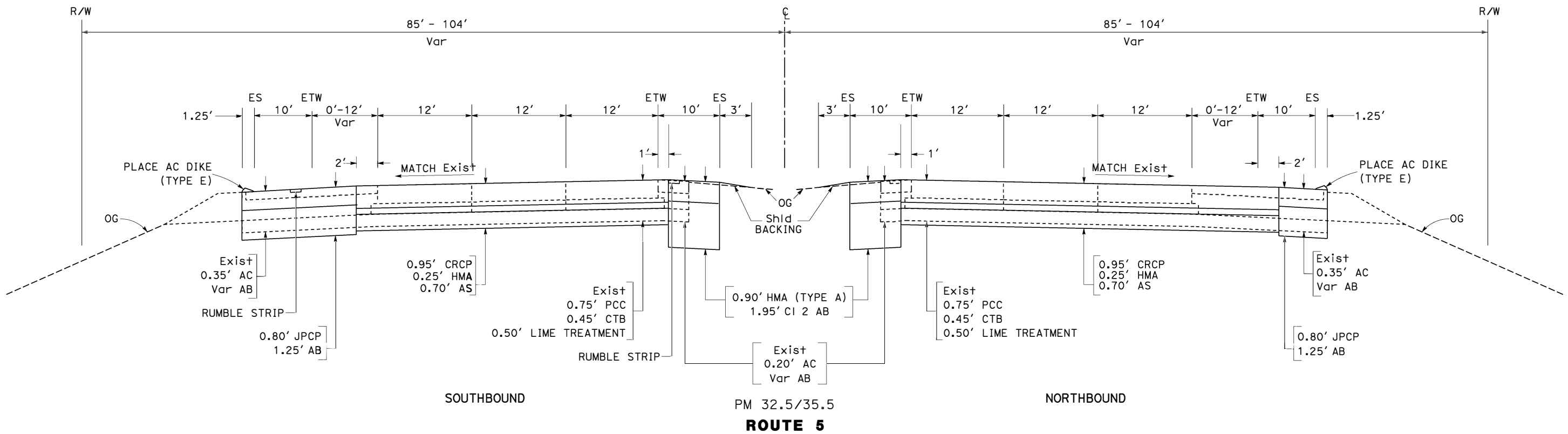
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REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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NOTES:

- DIMENSIONS OF PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- INDIVIDUAL SLAB REPLACEMENT LOCATIONS WILL BE DETERMINED IN THE DESIGN PHASE.

PAVEMENT CLIMATE REGION
INLAND VALLEY



TYPICAL CROSS SECTIONS
NO SCALE
Attachment B
X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 06 - DESIGN
 FUNCTIONAL SUPERVISOR: NICHOLAS CHAN
 CHECKED BY: JERRY PRIGMORE
 DESIGNED BY: INDERPAL GILL
 REVISIONS: REVISOR, DATE, REVISIONS
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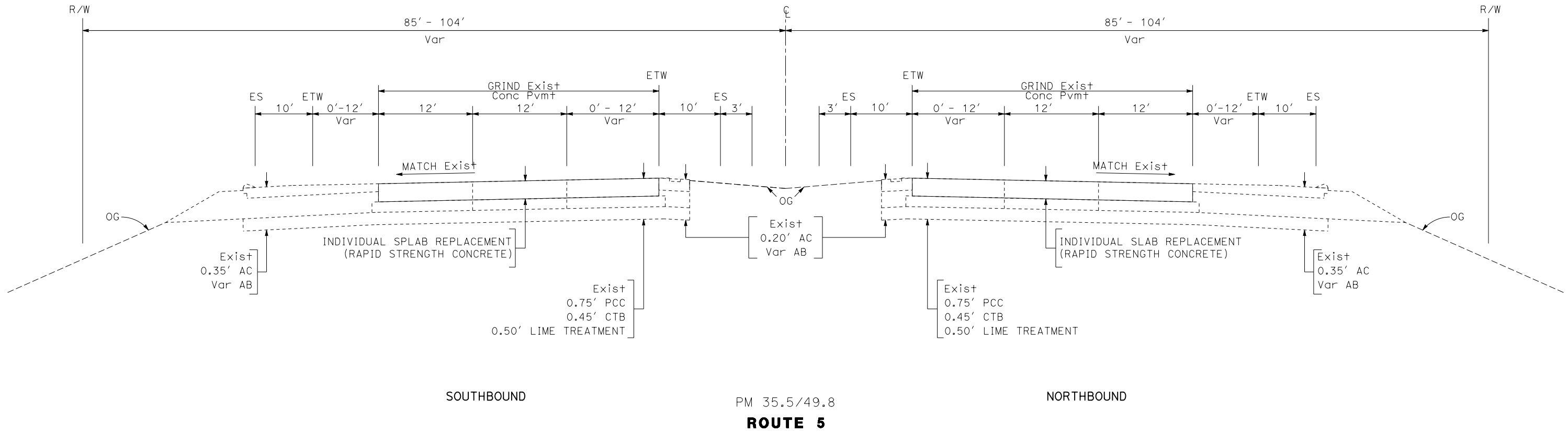
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DIST		COUNTY		ROUTE		POST MILES		SHEET		TOTAL	
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						32.5/49.8					

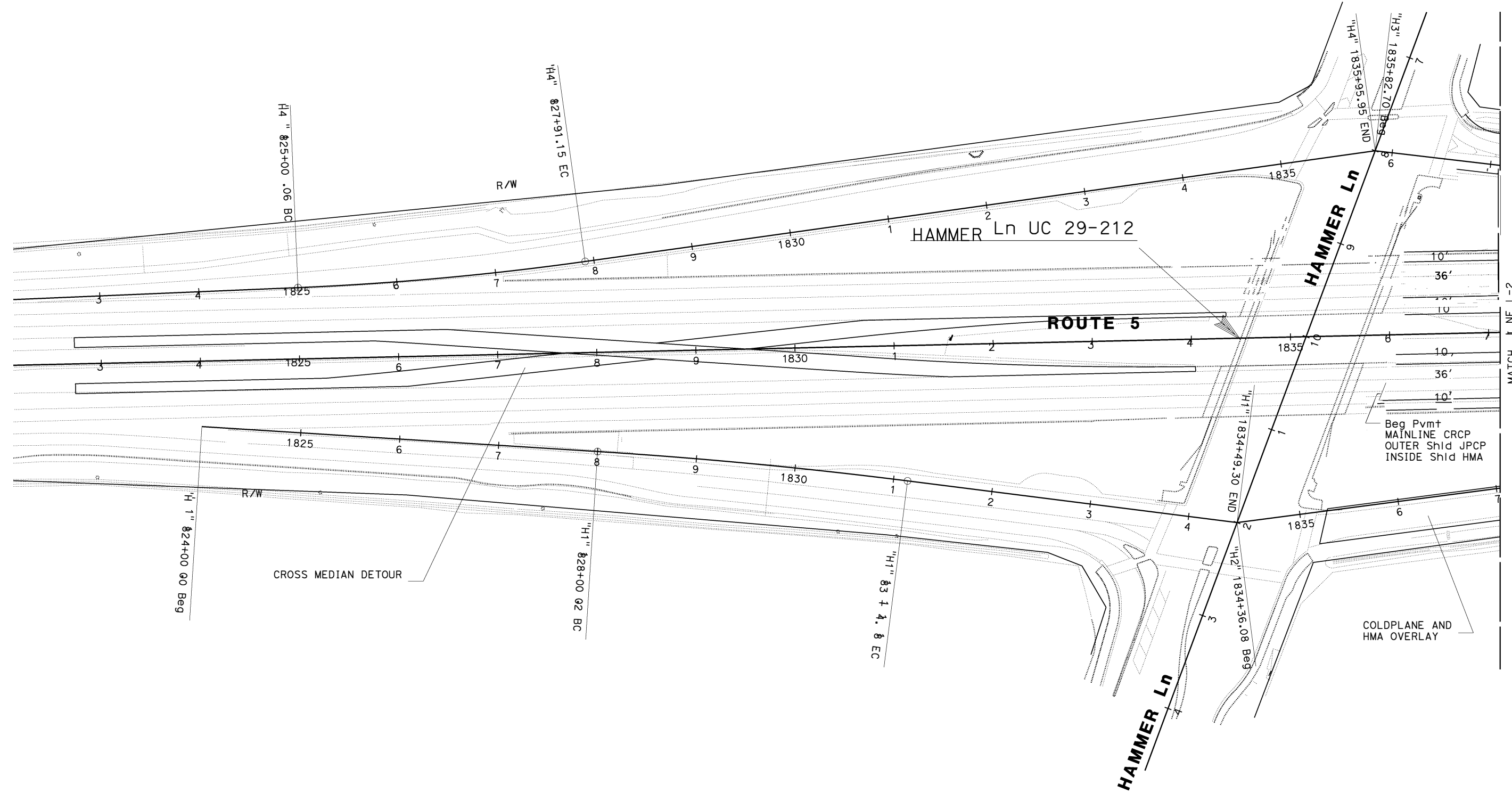
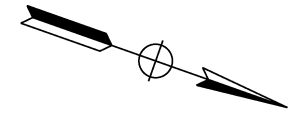
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CIVIL ENGINEER STATE OF CALIFORNIA



Attachment C LAYOUT
 SCALE: 1"=50'
L-1

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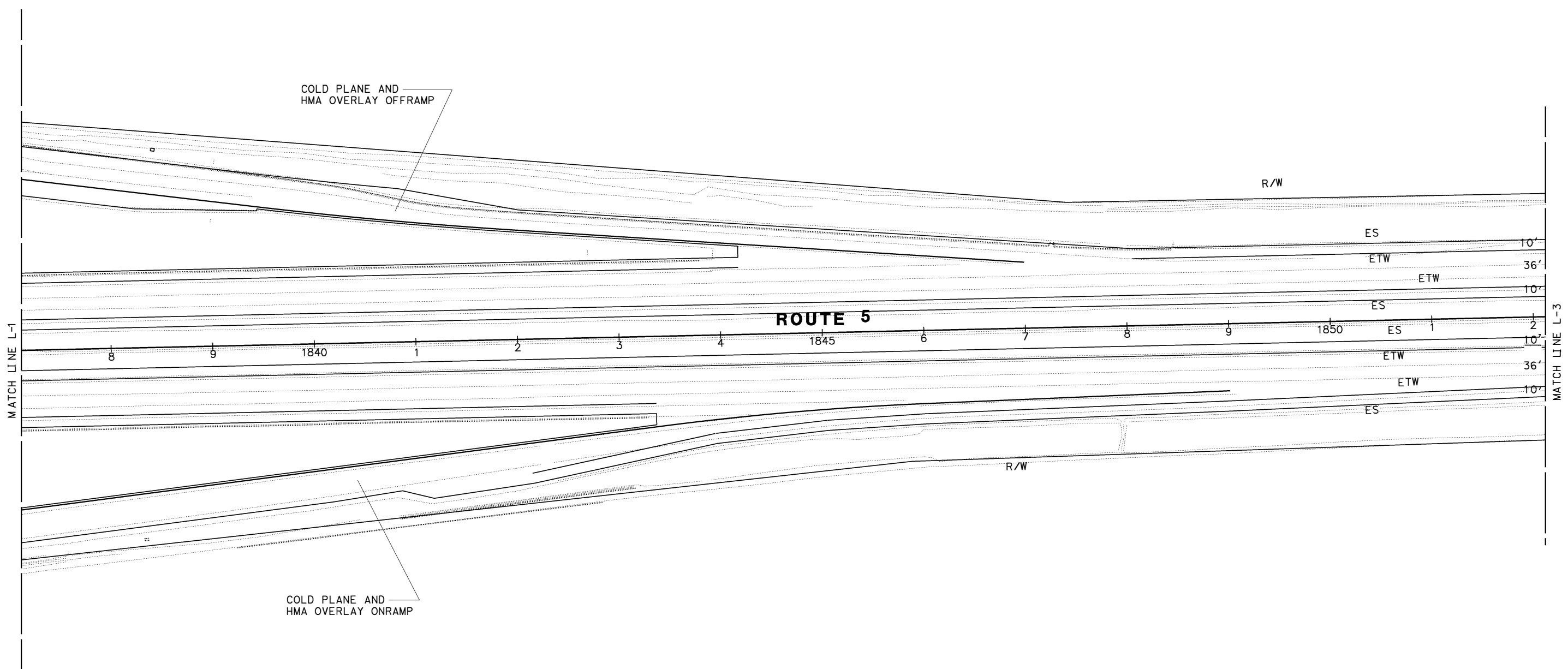
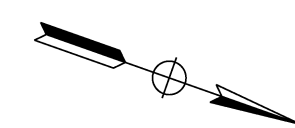
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REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

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



Attachment C LAYOUT
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L-2

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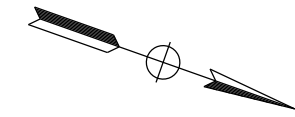
FUNCTIONAL SUPERVISOR
 NICHOLAS CHAN

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 CHECKED BY

INDERPAL GILL
 JERRY PRIGMORE

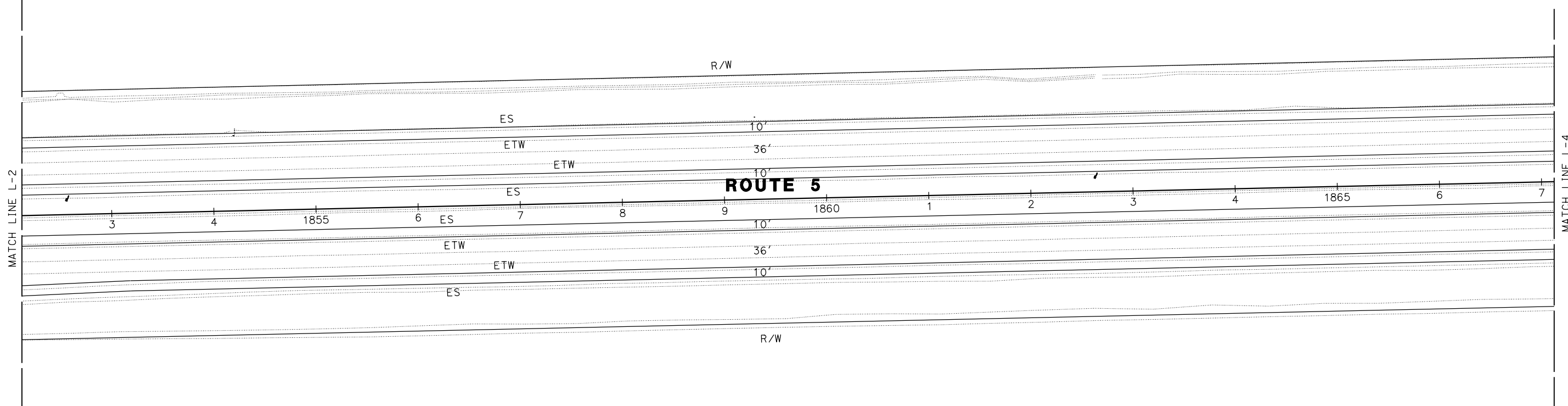
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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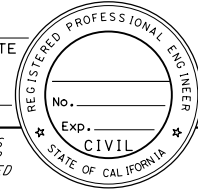
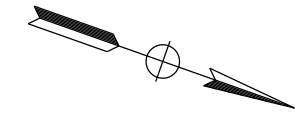
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REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

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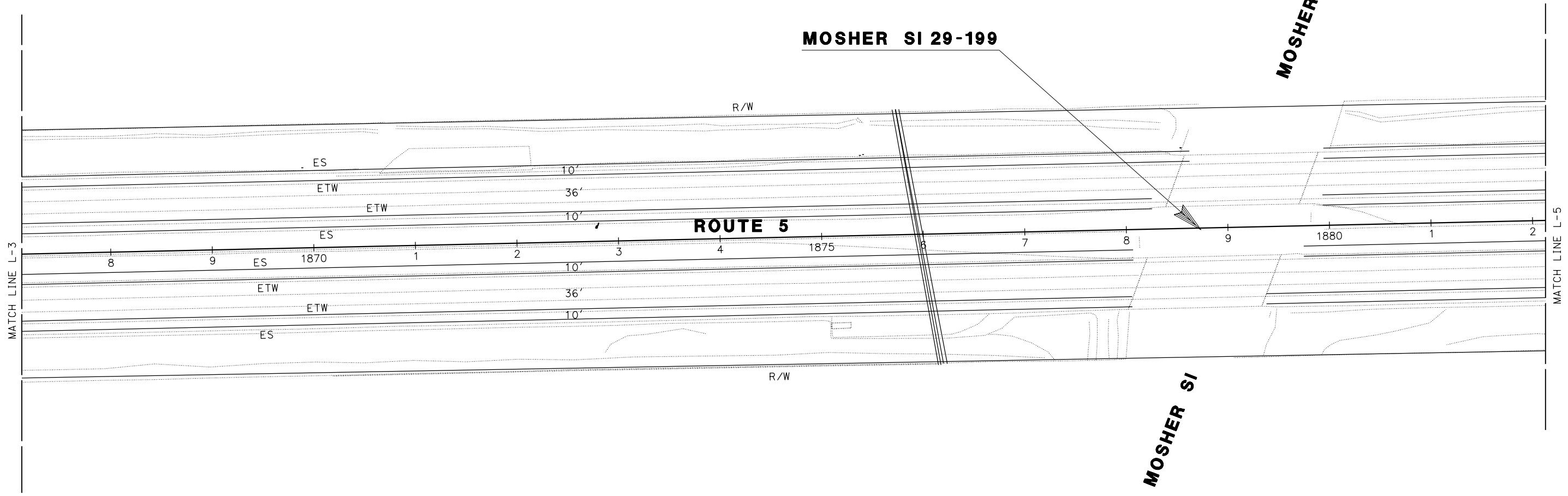
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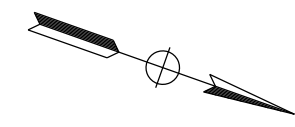
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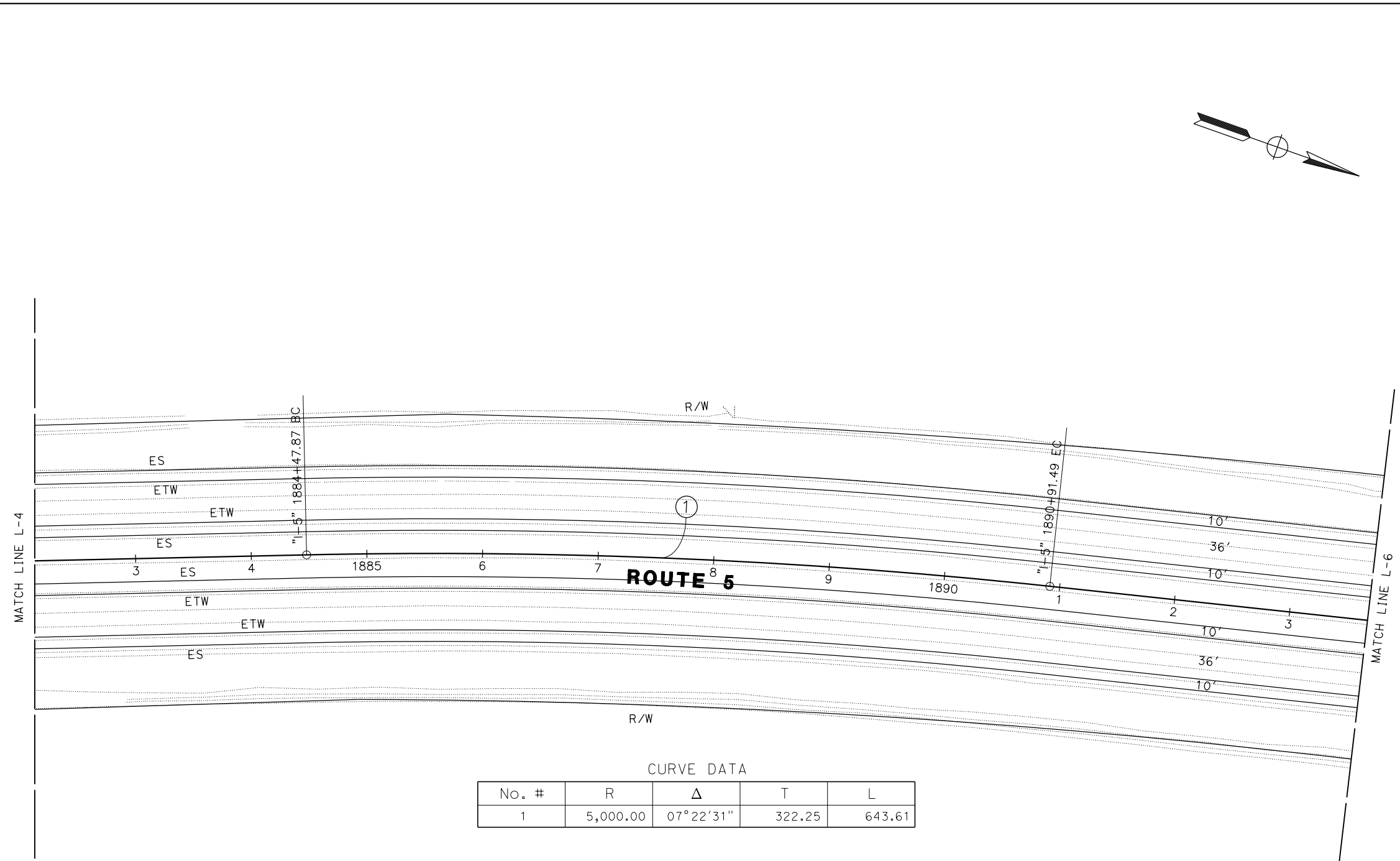


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LAYOUT L-4
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St. Gobans
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CURVE DATA

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L-6

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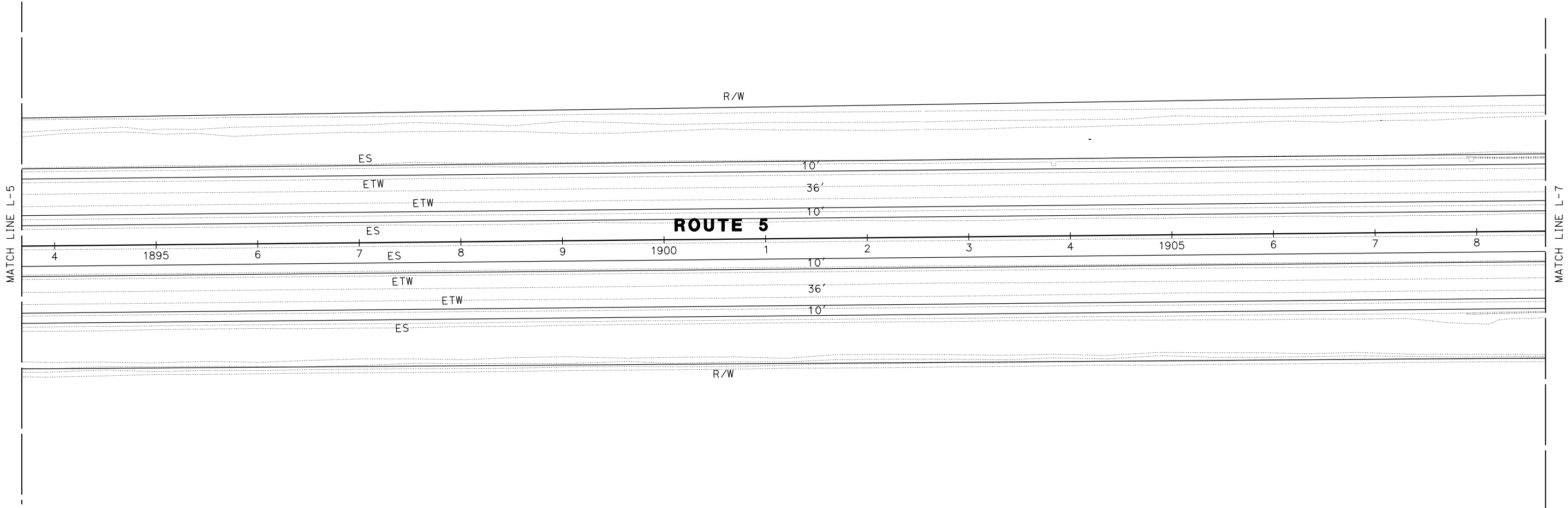
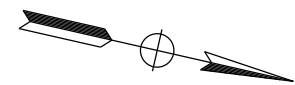
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER DATE _____

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Attachment C
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LAYOUT L-6

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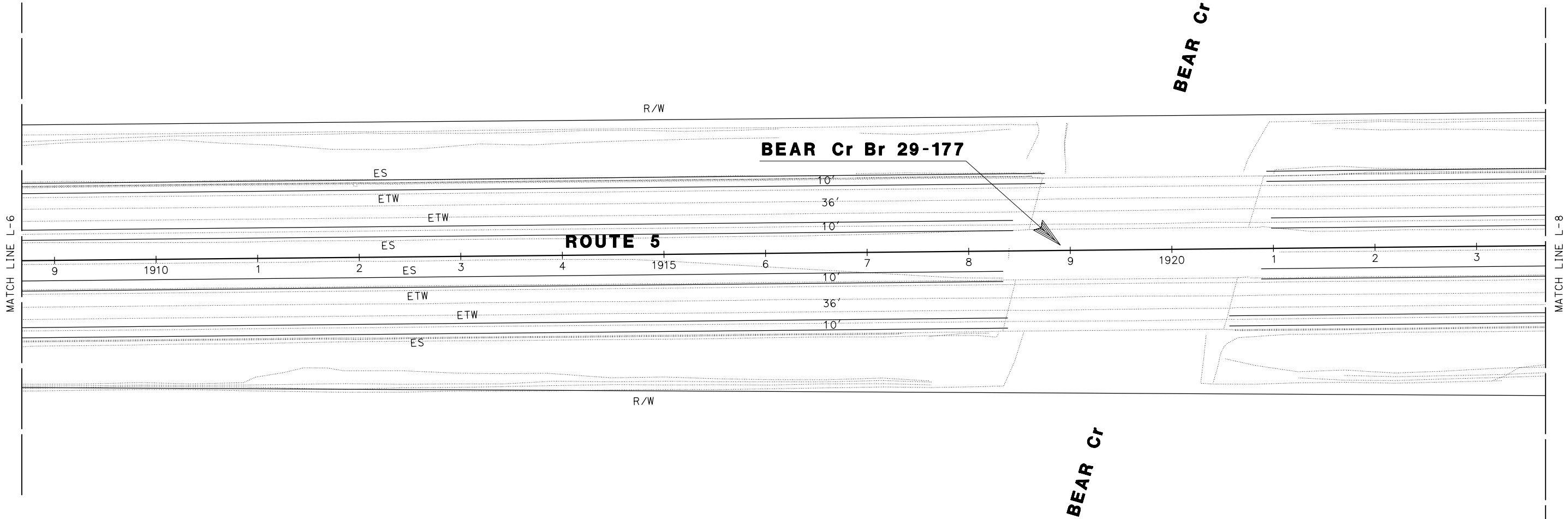
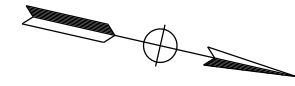
INDERPAL GILL
 JERRY PRIGMORE

REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		

REGISTERED CIVIL ENGINEER DATE _____
 PLANS APPROVAL DATE _____

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Attachment C
LAYOUT L-7
 SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
 06 - DESIGN

FUNCTIONAL SUPERVISOR
 NICHOLAS CHAN

CALCULATED-DESIGNED BY
 CHECKED BY

INDERPAL GILL
 JERRY PRIGMORE

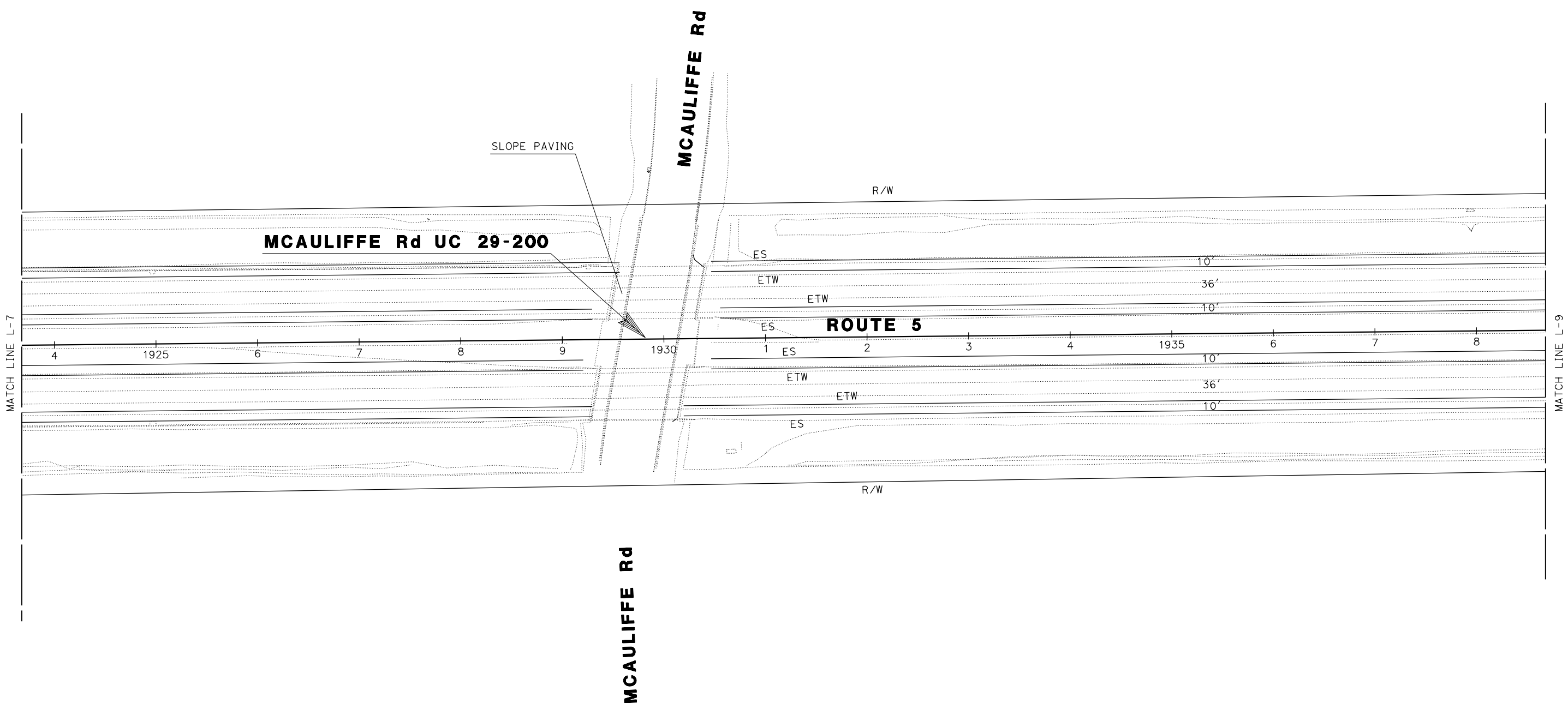
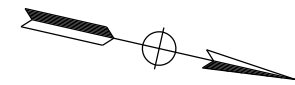
REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		

REGISTERED CIVIL ENGINEER DATE _____

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Attachment C
LAYOUT
 SCALE: 1"=50'
L-8

LAST REVISION DATE PLOTTED => 20-OCT-2021 TIME PLOTTED => 10:14

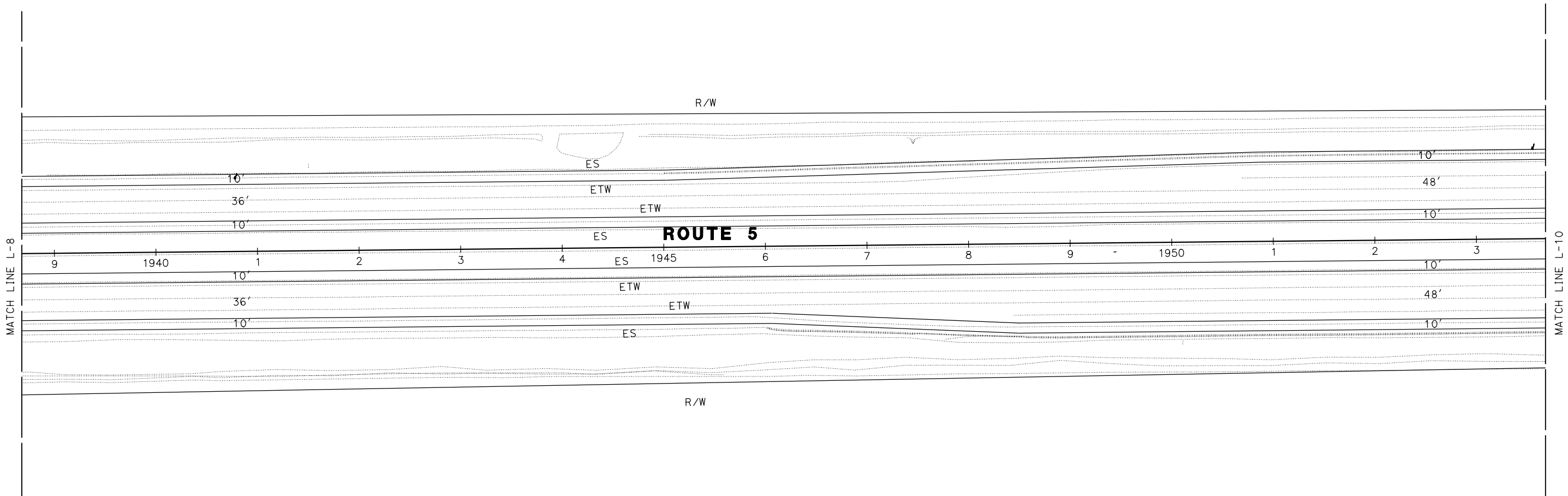
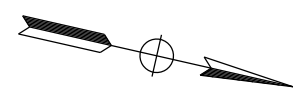
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobran
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 FUNCTIONAL SUPERVISOR
 NICHOLAS CHAN
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 Inderpal Gill
 JERRY PRIGMORE
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 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

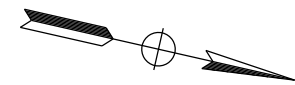
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Attachment C
LAYOUT
L-9
 SCALE: 1"=50'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE			No.		
			Exp.		
			CIVIL		
			STATE OF CALIFORNIA		

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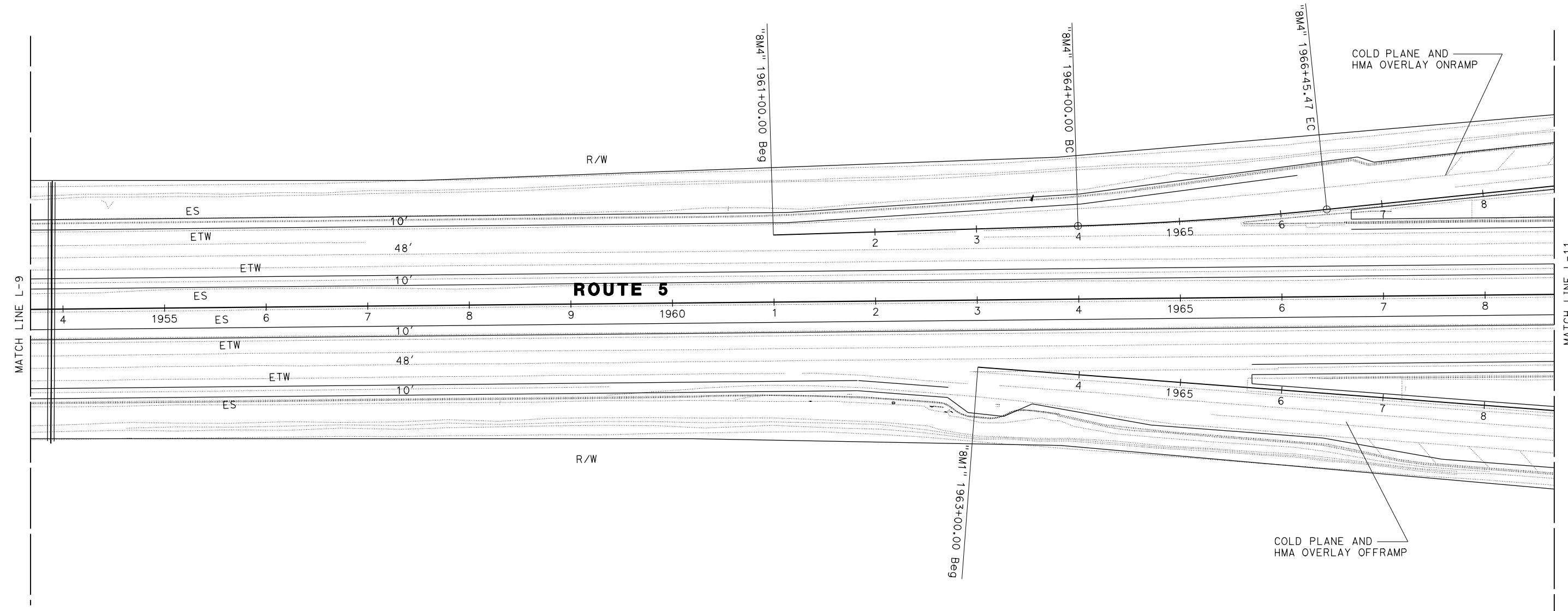
FUNCTIONAL SUPERVISOR
 NICHOLAS CHAN

CALCULATED BY
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REVISOR BY
 DATE REVISED

INDERPAL GILL
 JERRY PRIGMORE



Attachment C
LAYOUT
 SCALE: 1"=50'
L-10

LAST REVISION DATE PLOTTED => 20-OCT-2021 TIME PLOTTED => 10:14

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 JERRY PRIGMORE

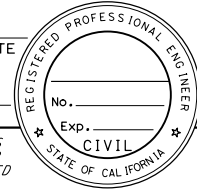
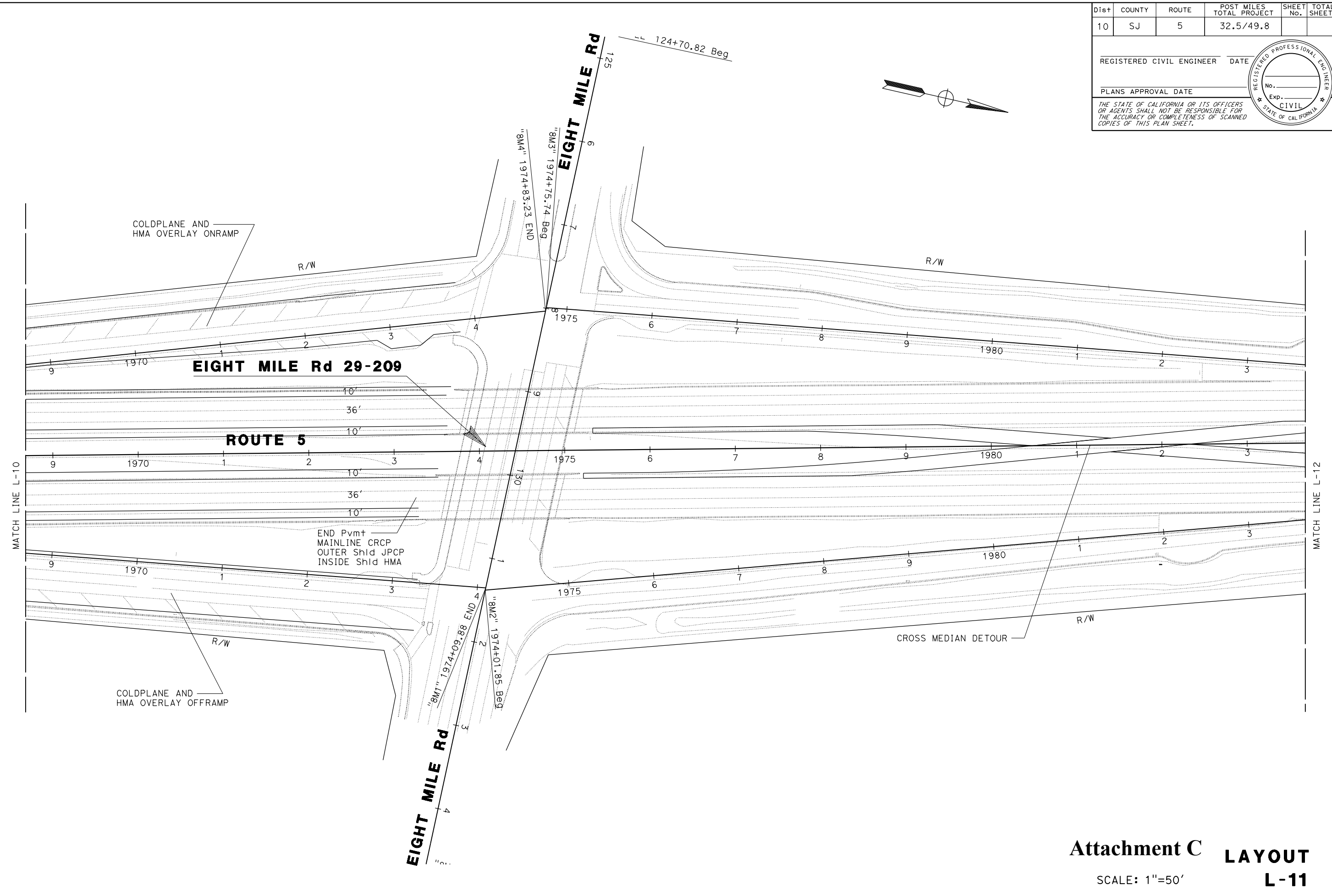
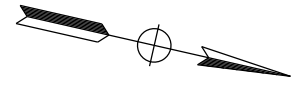
REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		

REGISTERED CIVIL ENGINEER DATE _____

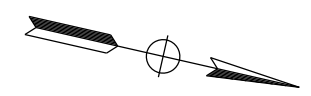
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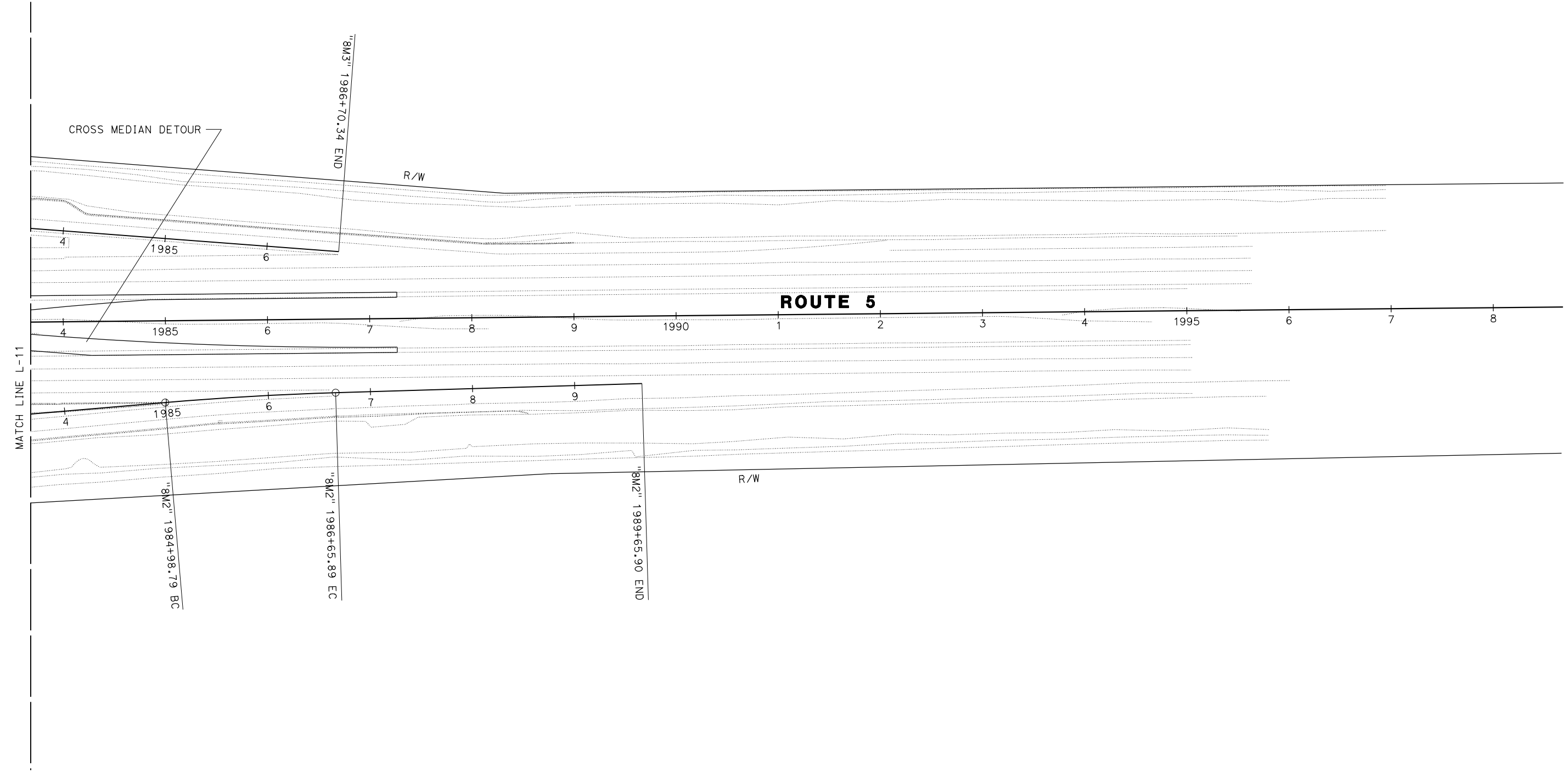



Attachment C LAYOUT L-11
 SCALE: 1"=50'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR
Gilbane	NICHOLAS CHAN	CHECKED BY	DATE
06 - DESIGN			



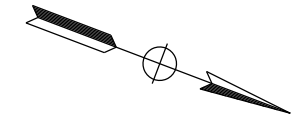
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L-12
SCALE: 1"=50'

LAST REVISION 10-19-21 DATE PLOTTED => 20-OCT-2021
 TIME PLOTTED => 10:14

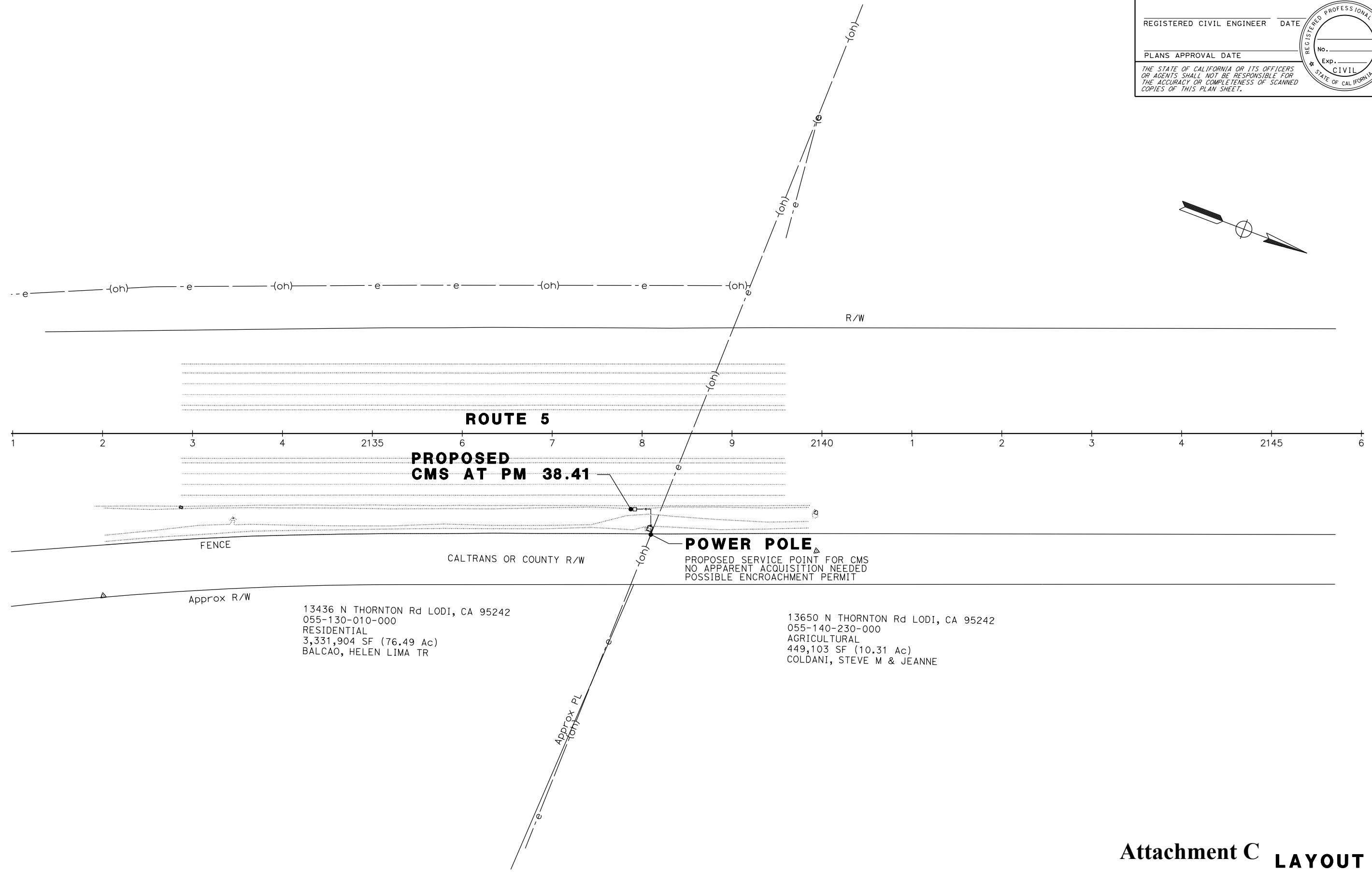
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		

REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	

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Caltrans
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 FUNCTIONAL SUPERVISOR: NICHOLAS CHAN
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 REVISIONS: [Blank]
 REVISOR: [Blank]
 DATE: [Blank]
 REVISION: [Blank]



13436 N THORNTON Rd LODI, CA 95242
 055-130-010-000
 RESIDENTIAL
 3,331,904 SF (76.49 Ac)
 BALCAO, HELEN LIMA TR

13650 N THORNTON Rd LODI, CA 95242
 055-140-230-000
 AGRICULTURAL
 449,103 SF (10.31 Ac)
 COLDANI, STEVE M & JEANNE

POWER POLE
 PROPOSED SERVICE POINT FOR CMS
 NO APPARENT ACQUISITION NEEDED
 POSSIBLE ENCROACHMENT PERMIT

ROUTE 5
PROPOSED CMS AT PM 38.41

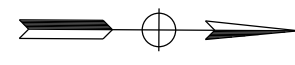
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LAST REVISION: 10-19-21 DATE PLOTTED => 20-OCT-2021 TIME PLOTTED => 10:14

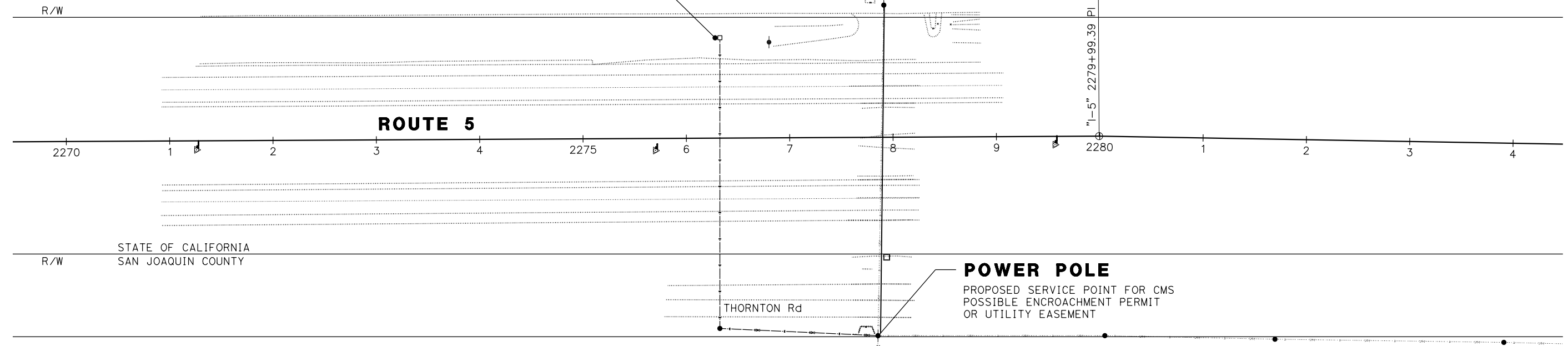
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		

REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	

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**PROPOSED
CMS AT PM 41.07**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
06 - DESIGN

FUNCTIONAL SUPERVISOR
 NICHOLAS CHAN

CALCULATED-DESIGNED BY
 CHECKED BY

INDERPAL GILL
 JERRY PRIGMORE

REVISOR BY
 DATE REVISED

**Attachment C LAYOUT
 L-14**
 SCALE: 1"=50'

LAST REVISION DATE PLOTTED => 20-OCT-2021 TIME PLOTTED => 10:14

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St. Gobans
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FUNCTIONAL SUPERVISOR
 NICHOLAS CHAN

CALCULATED-DESIGNED BY
 CHECKED BY

INDERPAL GILL
 JERRY PRIGMORE

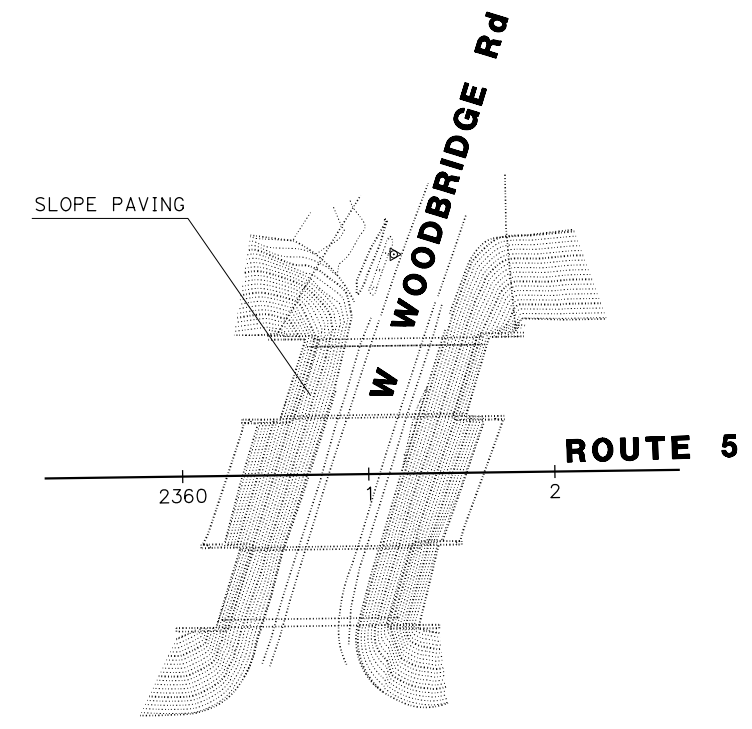
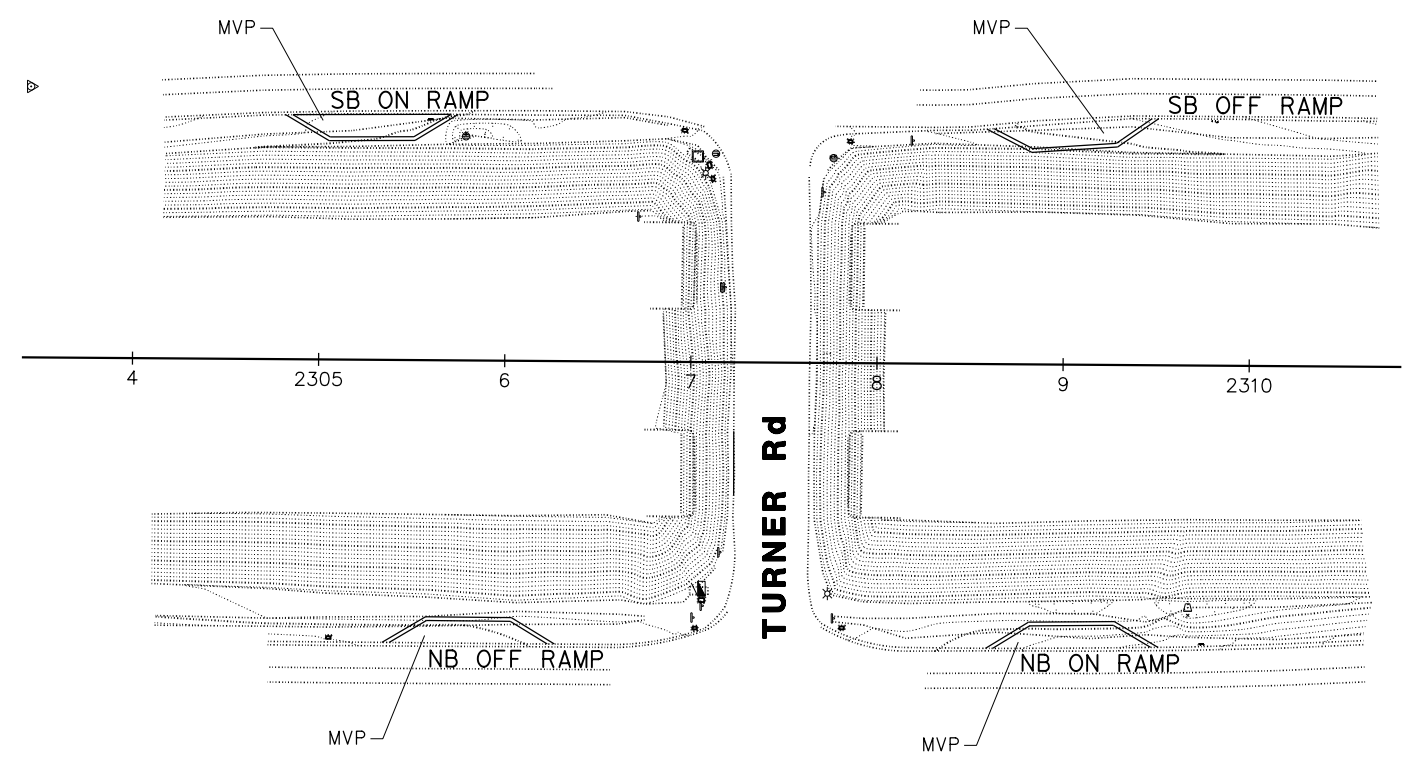
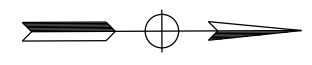
REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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Attachment C
LAYOUT L-15
 SCALE: 1"=50'

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St. Gobran
06 - DESIGN

FUNCTIONAL SUPERVISOR
 NICHOLAS CHAN

CALCULATED-DESIGNED BY
 CHECKED BY

INDERPAL GILL
 JERRY PRIGMORE

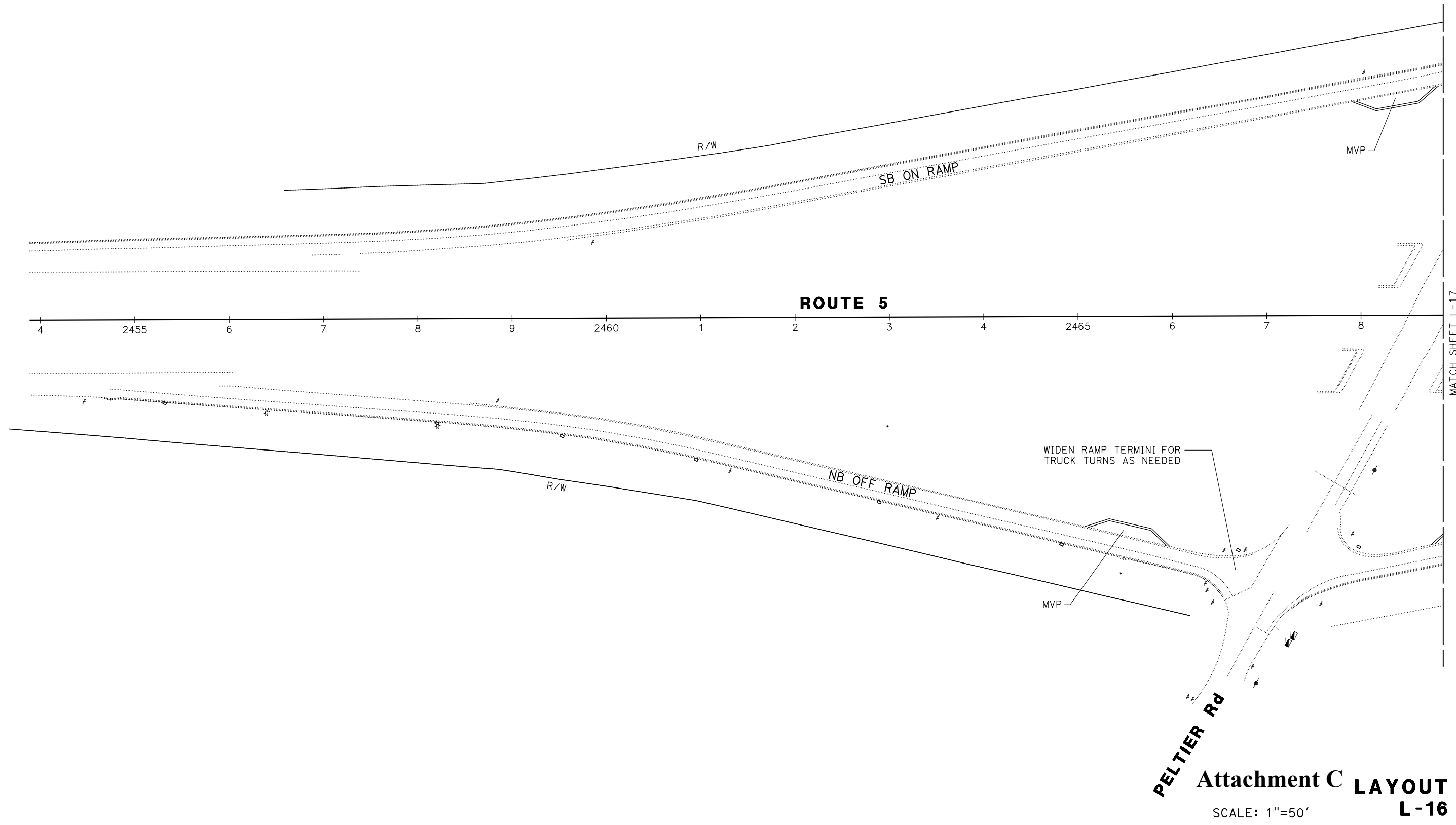
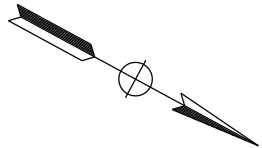
REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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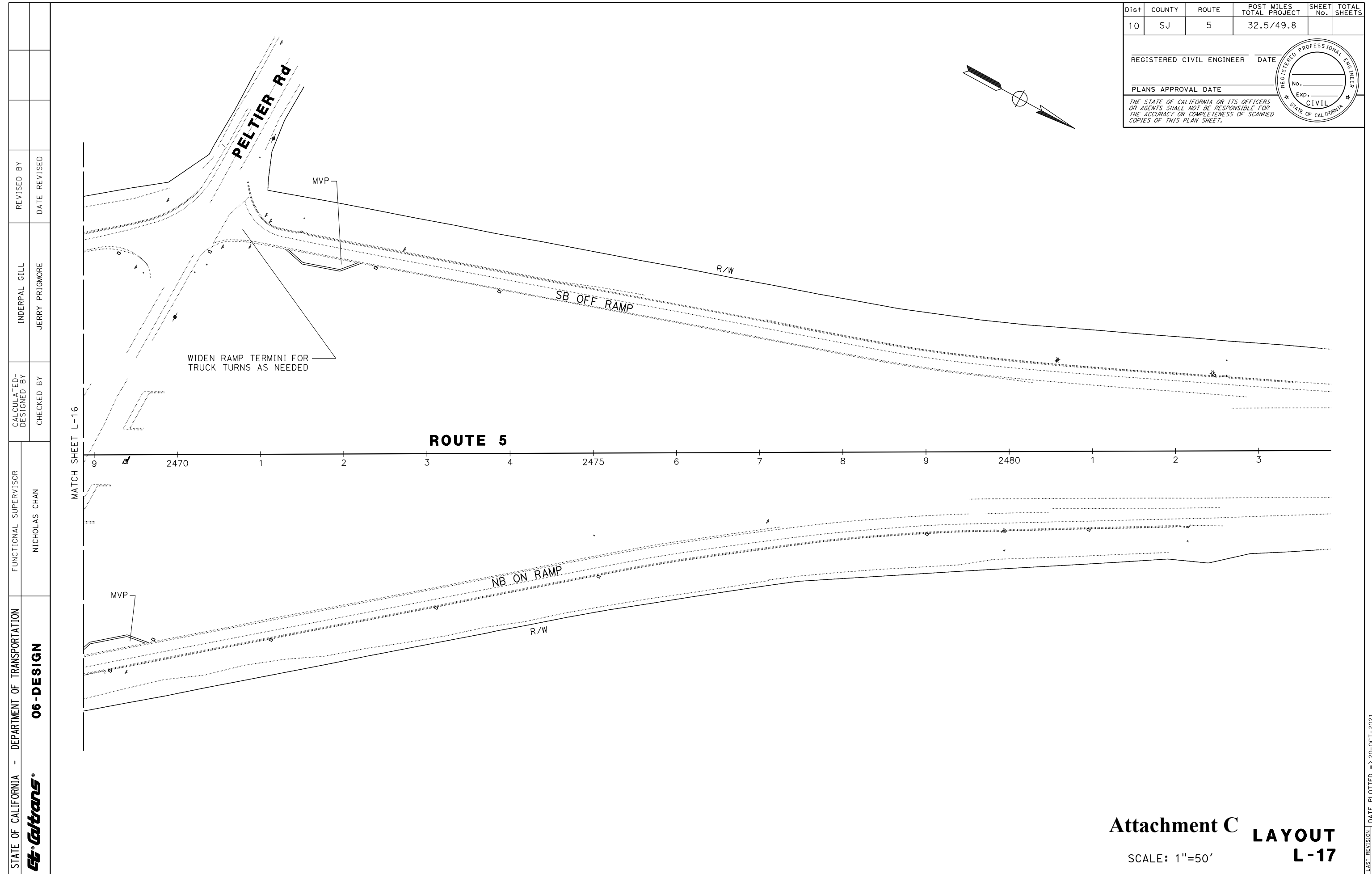
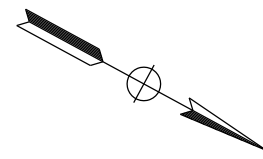
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
St. Gobran	NICHOLAS CHAN	CHECKED BY	DATE
06 - DESIGN			
		INDERPAL GILL	JERRY PRIGMORE

Attachment C LAYOUT L-17

SCALE: 1"=50'

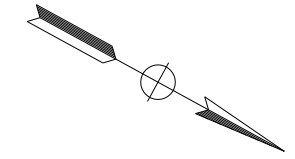
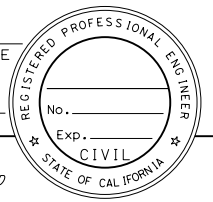
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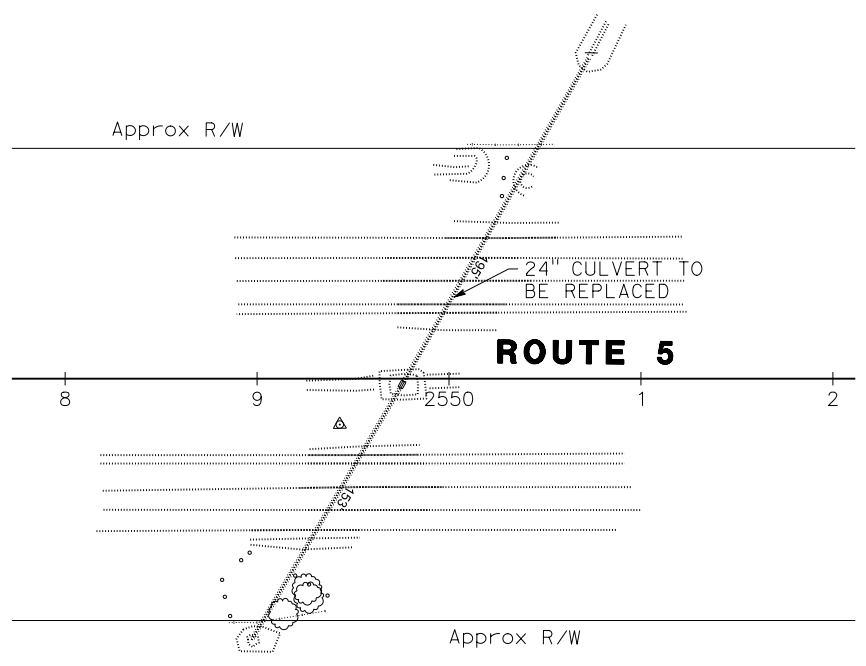
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PLANS APPROVAL DATE _____

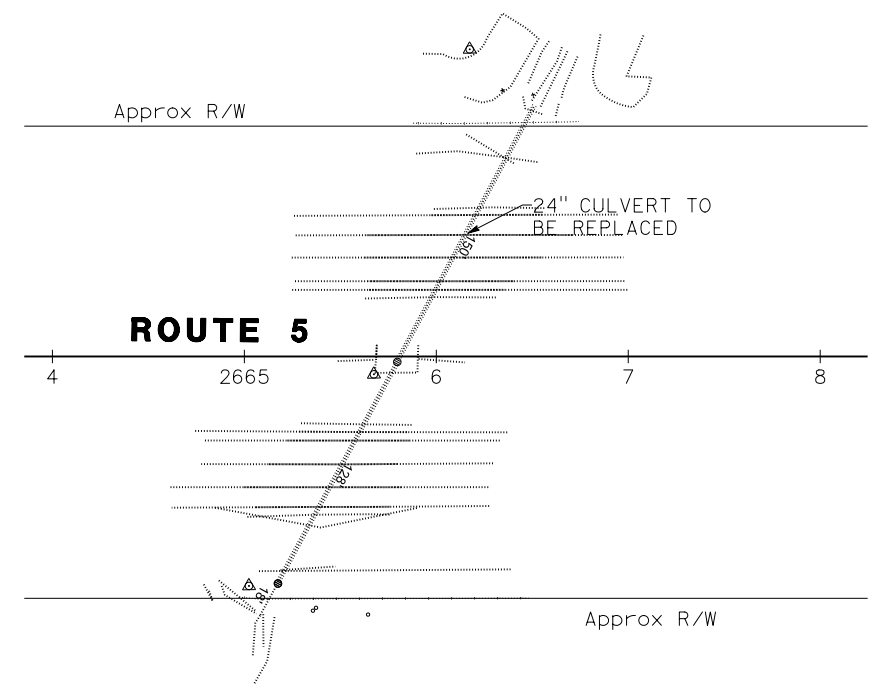
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Caltrans	NICHOLAS CHAN	CHECKED BY	DATE
06 - DESIGN			
		INDERPAL GILL	JERRY PRIGMORE



PM 46.27



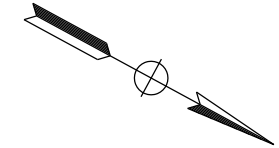
PM 48.45

Attachment C LAYOUT L-18

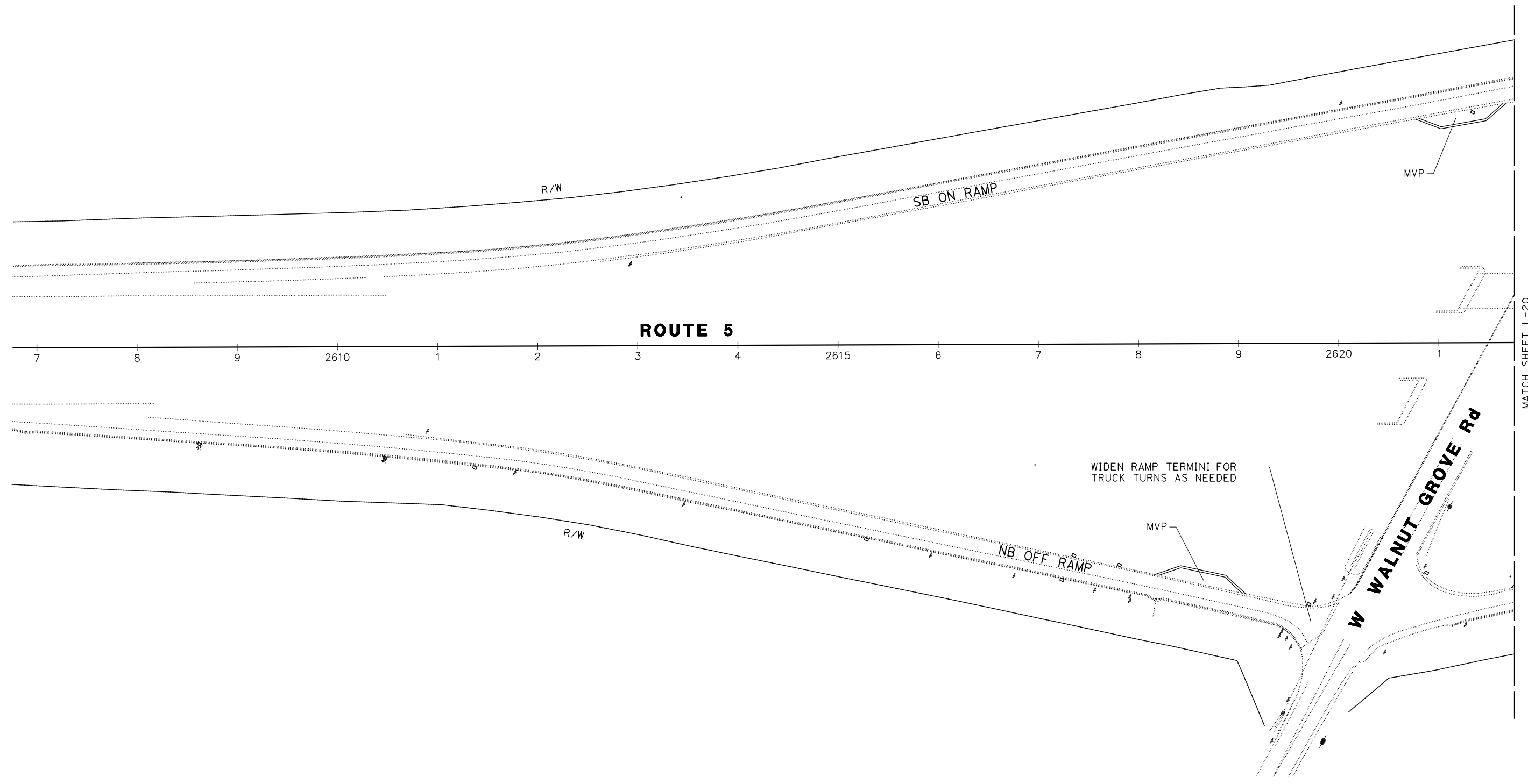
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LAST REVISION | DATE PLOTTED => 15-DEC-2021
10-19-21 | TIME PLOTTED => 17:38

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10	SJ	5	32.5/49.8		
REGISTERED CIVIL ENGINEER			DATE		
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 INDERPAL GILL
 JERRY PRIGMORE
 REVISED BY
 DATE REVISED



Attachment C LAYOUT
L-19
 SCALE: 1"=50'

LAST REVISION
 DATE PLOTTED => 20-OCT-2021
 10-19-21
 TIME PLOTTED => 10:15

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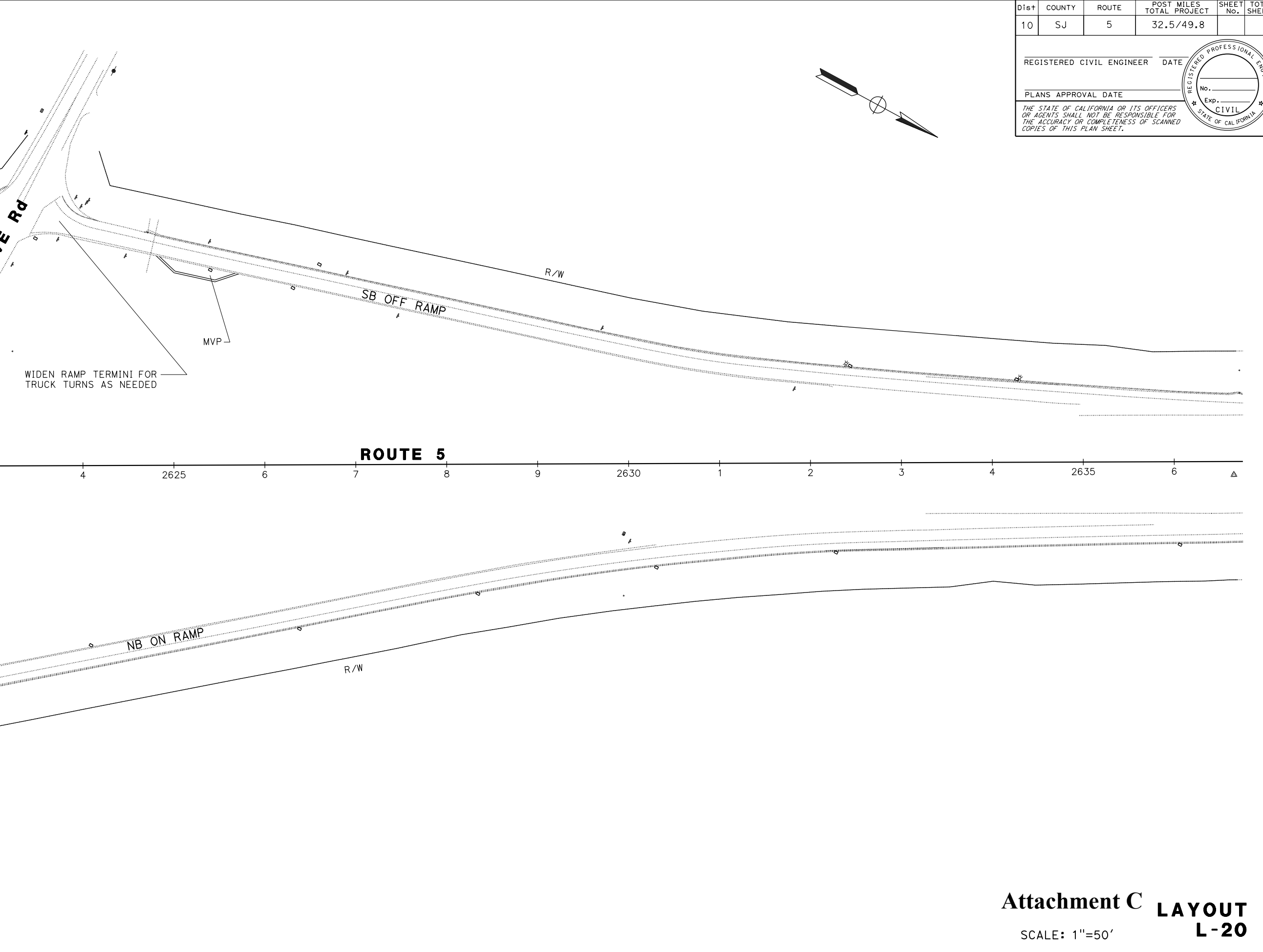
FUNCTIONAL SUPERVISOR
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 JERRY PRIGMORE

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MATCH SHEET L-19



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	32.5/49.8		

REGISTERED CIVIL ENGINEER DATE _____

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 Exp. _____
 CIVIL
 STATE OF CALIFORNIA

Attachment C LAYOUT L-20
 SCALE: 1"=50'

LAST REVISION 10-19-21 DATE PLOTTED => 20-OCT-2021 TIME PLOTTED => 10:15



Dist.-County-Route: 10-SJ-5
Post Mile Limits: 32.5/49.8
Type of Work: Pavement Anchor Project (3R)
Project ID (EA): 1018000273 (10-1E3000)
Program Identification: 201.120
Phase: PID PA/ED PS&E

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

Total Disturbed Soil Area: 47.69 acres PCTA: 39.9 acres

Alternative Compliance (acres): NA ATA 2 (50% Rule)? Yes No

Estimated Const. Start Date: 2/1/2024 Estimated Const. Completion Date: 10/30/2026

Risk Level: RL 1 RL 2 RL 3 WPCP Other: _____

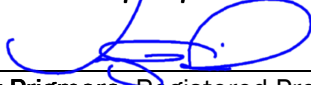
Is MWELO applicable? Yes No

Is the Project within a TMDL watershed? Yes No

TMDL Compliance Units (acres): NA


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.



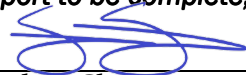
Jerry Prigmore, Registered Project Engineer 10/6/2021
Date

I concur with the Construction water pollution control strategy and selected temporary BMPs in this report:




Mohammad Hajeer, District Construction SW Coordinator 10/7/21
Date


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



Burlaza Chris, Project Manager 10/7/2021
Date




Robert Shanks, Designated Maintenance Representative 10/8/2021
Date



for/ Brad Cole, Designated Landscape Architect Representative 10/21/2021
Date

[Stamp Required at PS&E only]



Mazin Al Ali, Regional SW Coordinator 11/01/2021
Date

1. Project Description

- This project proposes to rehabilitate Interstate 5 (I-5) in and near the City of Stockton from Hammer Lane undercrossing (UC) (PM 32.5) to the Sacramento County line (PM 49.8), in San Joaquin County.
- This Resurfacing, Restoring, and Rehabilitation (3R) project proposes to remove the entire roadway structural section and replace the I-5 travel way with Continuously Reinforced Concrete Pavement (CRCP) in both the northbound and southbound directions from the Hammer Lane UC (PM 32.5) to the Eight Mile Road UC (PM 35.5). The outside shoulders will be removed and replaced with Jointed Plain Concrete Pavement (JPCP). The proposed structural section will be thicker than the existing structural section exposing subbase material within this segment of the project. Random Slab replacement with diamond grind is proposed from Eight Mile Rd (PM 35.5) to the Sacramento County line (PM 49.8). The slab replacement within this segment of the project will not remove the base material to expose the sub-base material, so RIS and DSA does not apply. The ramps within the project limits will be cold planed 0.25' and overlaid with 0.25' HMA (Type A).
- The project also proposes bridge rail upgrade at the Hammer Lane Undercrossing to meet current standards, culvert restoration at three locations (PM 46.27, 47.04, and 48.45) between Beaver slough and Mokelumne River, widen road for STAA truck turning radius, upgrade and install Traffic Management Systems (TMS) elements, upgrade Americans with Disabilities Act (ADA) features, construction of three Maintenance Vehicle Pullouts (MVP), and guardrail improvements. Proposed drainage work includes removing and replacing existing 8" CSP (Corrugated Steel Pipe) downdrains with 18" CSP downdrains and placing new RSP at the outlets. A temporary one-lane cross median detour will be constructed during the stage construction of the project. Total DSA for the detour is 0.33 acre. Upon completion of construction, the detour pavement will be removed.
- Total Disturbed Soil Area (DSA) for this project is 47.69 acres. The DSA was calculated by summing the areas for slope paving, gore areas, drainage work, cross median detour, disturbance from pavement removal exposing sub-base surface, vegetation control for Midwest guardrail system and roadway widening. The DSA also includes 1.0 acres for contractor staging areas.

Summary of Project Areas

	Area (acre)
Disturbed Soil Area (Acres)	47.69
Pre- project Impervious Area (Acres)	58.0
Post project Impervious Area (Acres)	59.89
Increase in Impervious (NNI) Area (Acres)	1.89
Amount of Replaced Impervious (RIS) surfaces	38.01
Total New Impervious Surfaces (NNI + RIS)	39.9

• Temporary Staging and Disturbed Soil Areas

The contractor could be authorized by the Caltrans Resident Engineer to use areas within the 'Right-of-way' for staging purposes, pursuant to Standard Specifications 5-1.32, "if not state-owned area is designated for the Contractors use, you may arrange for temporary storage with

the Department.” In conformance with Standard Specifications 5-1.36, if the vegetation is not designated for removal, then it is to be preserved and protected. If any vegetation/property is disturbed/damaged by the contractor, they are responsible for restoration/repair. In the event that the contractor requests and is authorized to utilize ‘right-of-way’ for Contractor Support Facilities, 0.25 acres of soil disturbance associated with these facilities has been accounted for in this DSA total for planning purposes to minimize the likelihood of discrepancies in risk assessment.

This estimate does not:

- Indicate that the contractor is entitled to use of any Department R/W for any Contract Support Facility.
- Relieve the contractor from restoring any disturbed/damaged areas.
- The Construction General Permit fee was determined to be \$7,599 total.
- The contract construction will be administered by Caltrans.
- There are no Treatment BMPs being incorporated within this project to address TMDLs.

2. **Site Data and Storm Water Quality Design Issues**

- This project is located within the following hydrologic areas:

Hydrologic Unit	Hydrologic Area	Sub-Area
San Joaquin Delta	undefined	#544.00
North Valley Floor	Lower Mokelumne	#531.20

- The surface water bodies within the project limits include Lower Mokelumne River, Delta Waterways (eastern portion), Pixley Slough, Mosher Slough and White Slough River/Bear Creek Overflow.
- The following water bodies are 303(d) listed for the following pollutants:
 - Delta Waterways (eastern portion) for Chlorpyrifos, DDT, Diazinon, Group A Pesticides, Invasive Species, Mercury and Toxicity.
 - Pixley Slough for Disulfoton, Indicator Bacteria, DO, Toxicity, Chlorpyrifos and Diazinon.
 - Mosher Slough for Indicator Bacteria
- This project is located in the Delta, where Caltrans is named a stakeholder in the MethylMercury TMDL through Attachment IV of the Caltrans Statewide MS4.
- A 401 Water Quality Certification is not anticipated to be required for this project.
- There are no drinking water reservoirs and/or recharge facilities within the project limits.
- There are no RWQCB special requirements/concerns, including TMDLs or effluent limits associated with this project.
- There are no local agency concerns with this project.
- The project does not involve the reuse of soil containing Aerially Deposited Lead (ADL).

- The project soil erosion risk level was determined using the Individual Method – EPA Rainfall Erosion Calculator and Individual Data per Caltrans Project Risk Level Determination Guidance, December 2016. The project risk level has been determined to be Risk Level 2 based on using a calculated erosion R factor of 99.01, soil K factor of 0.28, LS factor of 0.12 with a soil loss estimate of 3.327 tons/acre and a high receiving water risk.
- This project does not require right-of-way acquisition.
- There are no existing permanent treatment BMPs within or adjacent to the project limits.
- This project is not within a significant trash generating area.
- The project lies within the City of Stockton and City of Lodi urban MS4 areas.

3. Construction Site BMPs to be used on Project

- This project will require the preparation of a Storm Water Prevention Plan (SWPPP). The SWPPP will be developed by the contractor and submitted to the Caltrans resident engineer for review and acceptance prior to the start of construction. The SWPPP incorporates the applicable temporary construction site BMPs for the project intended to reduce or eliminate pollutants in construction site storm water runoff.
- A Soil Erosion Risk Assessment was completed for this project and has been determined to have a Risk Level of 2.
- The following lump sum Construction Site Water Pollution Control BMPs are identified:
 - Prepare SWPPP
 - Job Site Management
 - Rain Event Action Plan
 - Stormwater Sampling & Analysis Day
 - Storm Water Annual Report
 - Temporary Concrete Washout
 - Street Sweeping and Vacuuming
 - Water Pollution Control Maintenance Sharing
 - Additional Water Pollution Control
 - Stormwater Sampling & Analysis
- The following temporary construction site BMPs will be incorporated into the project:
 - Move-in/Move-out (Temporary EC)
 - Temporary Hydraulic Mulch
 - Temporary Fiber Roll
 - Temporary DI Protection
 - Temporary Construction Entrance
 - Temporary Construction Roadway
- Non-Storm Water Management BMPs (such as equipment storage, staging areas, and paving and grinding operations) and Waste Management and Materials Pollution Control BMPs (such as material handling and stockpiles) will be addressed through Job Site Management.

- Temporary Construction Roadway is proposed to provide equipment access to drainage culverts that will need to be replaced by jacking.
- There is no dewatering required for this project.
- There are no active treatment systems (ATS) proposed to be used for the site, or portions thereof.

4. Maintenance BMPs

- Drain inlet stenciling is not required for this project as there will be no pedestrian traffic. . However, three MVPs and protective guardrails are proposed with this project.

5. Other Water Quality Requirements and Agreements

- There are no agreements with the Regional Water Quality Control Board, and none are anticipated.
- This project will require notification to the Board via the Stormwater Multi-Application Report Tracking System (SMARTS). Project registration documents will need to be filed and a WDID number will then be assigned to this project.

6. Permanent BMPs

Rapid Stability Assessment

- Caltrans' Statewide MS4 Permit states that Caltrans "...shall ensure that all new development and redevelopment projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels." Projects that create over 1 acre of NNIA must deploy a threshold based analysis determining what measures are to be taken to prevent decreases in channel stability. This project is not required to perform a Rapid Assessment of Channel Stability since there is no NNI surface area greater than 1.0 acre created with this project within any single watershed as determined by District Hydraulics.

Design Pollution Prevention (DPP) BMP Strategy

- This project will create 1.89 acres of new ISA within the State's R/W and will increase the volume and velocity of stormwater runoff from within the project limits. However, the stormwater runoff is not expected to create any flooding issues or cause hydraulic capacity of the existing drainage system to be exceeded.
- The highway storm water runoff within the project limits generally sheet flows to the edge of pavement or to existing drain systems that discharge into either side storage ditches or basins at interchanges within Caltrans Right of Way. The existing drainage patterns and features are adequate to prevent flooding, and the existing storm drain system will not be significantly modified.
- This project will modify existing slopes and will require both cut and fill.
- The existing side slope are 4:1 (H:V) or flatter and post-construction slope would match the current slope steepness. This project proposes rounding these side slopes and vegetating their surfaces with wood mulch, soil binder and/or hydroseeding, based on the recommendations from the District 6 Landscape Architect during the design phase .

- The project will likely use the 70% Final Cover Method for documenting final stabilization for termination of coverage under the General Permit. That determination will also be made by District Landscape during the design phase.
- Hard surfaces are proposed for this project as there is some slope paving.
- The existing minor vegetation and trees would be removed by clearing and grubbing, within the extent of the DSA area.
- The existing vegetation within the project limits will be preserved to the maximum extent possible. Vegetation requiring preservation will be identified on the project plans and appropriate BMPs will be implemented.

Treatment BMP Strategy

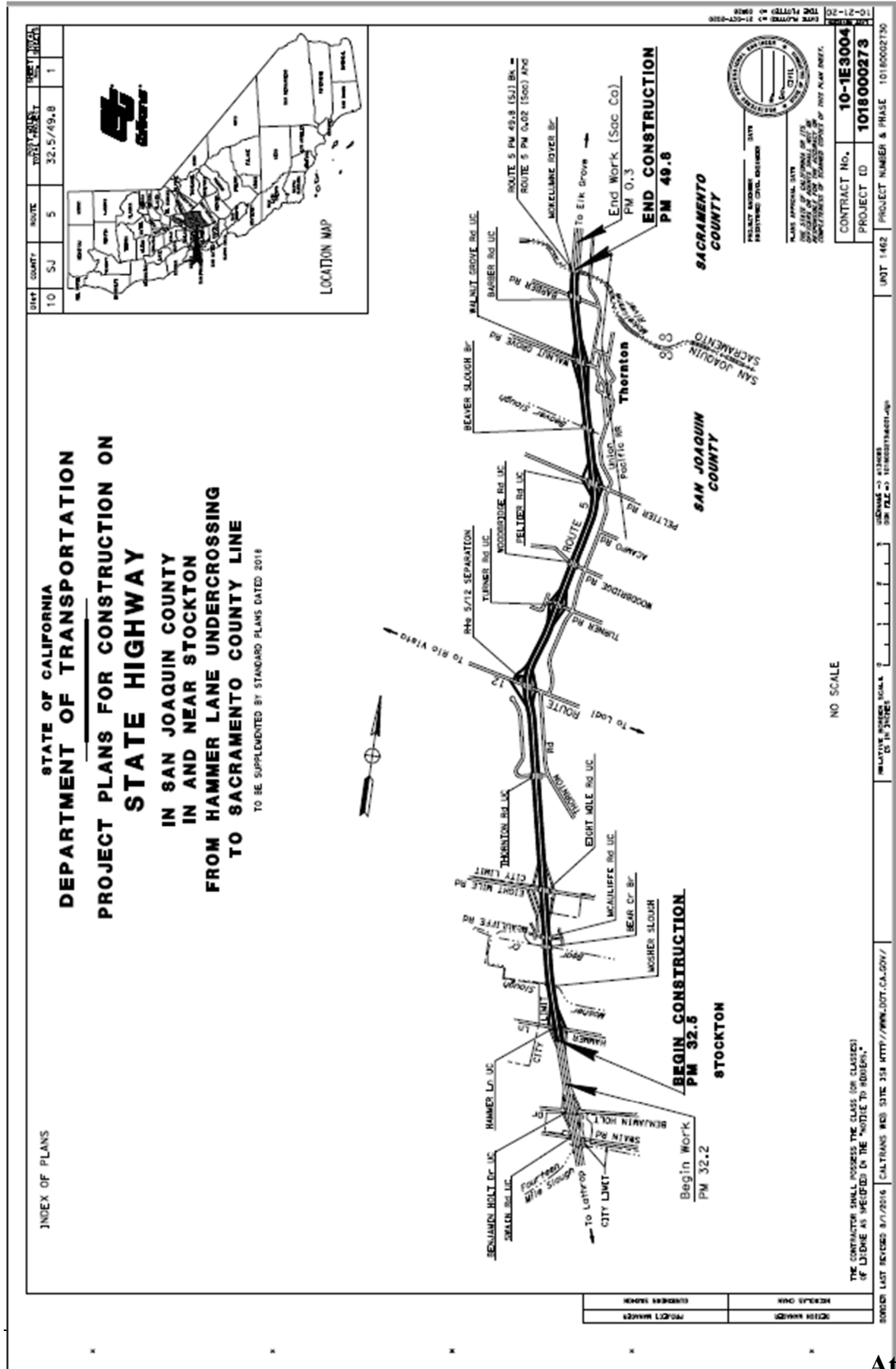
- Per the Evaluation Documentation Form, this project is required to consider permanent Treatment BMPs.
- This project is required to consider permanent treatment BMPs because there is more than 1.0 acres of NIS within the project limits with a discharge to a receiving water body. There are two segments within this project: one shorter segment (PM 32.7 35.5) where all existing pavement will be removed and replaced with a thicker structural section and a longer section (PM 35.5 to 49.8) where only localized failed panels within the roadway will be removed and replaced but will not remove base material exposing the base. Since the second segment does not have any DSA or NIS associated with it, permanent treatment BMPs are not practical or necessary. However, the first segment does have a water body (White Slough) that may receive stormwater runoff from the project area where there is a NIS increase of more than 1.0 acre within the segment. Permanent treatment BMPs will be considered for this segment at and near the discharge points to the water body. Determination of which Treatment BMPs to use within this project will be made early in the design phase.

Required Attachments

- Vicinity Map
- Evaluation Documentation Form (EDF)
- Risk Level Determination Documentation
- Construction Site BMP Cost Summary (for internal Caltrans use only)

Supplemental Attachments

- Checklist SW-1, Site Data Sources
- Checklist SW-2, Stormwater Quality Issues Summary
- Checklist SW-3, Measures for Avoiding or Reducing Potential Stormwater Impacts
- Checklist DPP-1, Parts 1–5 (Design Pollution Prevention BMPs)
- Checklist T-1, Part 1 (Treatment BMPs)



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SAN JOAQUIN COUNTY
IN AND NEAR STOCKTON
FROM HAMMER LANE UNDERCROSSING
TO SACRAMENTO COUNTY LINE
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2018

SHEET NO.	COUNTY	ROUTE	PROJECT NO.	SHEET TOTAL
10	SJ	5	32.5/49.8	1

PLANS APPROVAL STATE
THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
ACCEPTS THESE PLANS FOR THE PROJECT AND THE CONTRACTOR'S RESPONSIBILITY FOR THE ACCURACY OF THE PLANS IS NOT AFFECTED.

CONTRACT NO. 10-1E3004
PROJECT ID 1018000273
PROJECT NUMBER & PHASE 10180002730

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

ORDER LAST REVISED 8/7/2016 CALTRANS WEB SITE 318 HTTP://WWW.DOT.CA.GOV/

DATE: May 05, 2021

Project ID (EA): 1018000273 (10-1E3000)

No.	Criteria	Yes ✓	No ✓	Supplemental Information for Evaluation
1.	Begin Project evaluation regarding requirement for implementation of Treatment BMPs	✓		See Figure 4-1, Project Evaluation Process for Consideration of Treatment BMPs. Continue to 2.
2.	Is the scope of the Project to install Treatment BMPs (e.g., Alternative Compliance or TMDL Compliance Units)?		✓	If Yes , go to 8. If No , continue to 3.
3.	Is there a direct or indirect discharge to surface waters?	✓		If Yes , continue to 4. If No , go to 9.
4.	As defined in the WQAR or ED, does the project:		✓	If Yes to any , contact the District/Regional Design Storm Water Coordinator or District/Regional NPDES Coordinator to discuss the Department's obligations, go to 8 or 5. _____ (Dist./Reg. Coordinator initials) If No to all, continue to 5.
	a. discharge to areas of Special Biological Significance (ASBS), or		✓	
	b. discharge to a TMDL watershed where Caltrans is named stakeholder, or		✓	
	c. have other pollution control requirements for surface waters within the project limits?		✓	
5.	Are any existing Treatment BMPs partially or completely removed? (ATA condition #1, Section 4.4.1)		✓	If Yes , go to 8 AND continue to 6. If No , continue to 6.
6.	Is this a Routine Maintenance Project?		✓	If Yes , go to 9. If No , continue to 7.
7.	Does the project result in an increase of <u>one acre or more</u> of new impervious surface (NIS)? See Section 1 of SWDR	✓		If Yes , go to 8. If No , go to 9.
8.	Project is required to implement Treatment BMPs.	Complete Checklist T-1, Part 1.		
9.	Project is not required to implement Treatment BMPs. _____ (Dist./Reg. Design SW Coord. Initials) _____ (Project Engineer Initials) _____ (Date)	Document for Project Files by completing this form and attaching it to the SWDR.		

Sediment Risk Factor Worksheet EA: 10-1E3000		Entry
A) R Factor		
<p>Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.</p> <p>http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm</p>		
R Factor Value		99.01
B) K Factor (weighted average, by area, for all site soils)		
<p>The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.</p> <p>Site-specific K factor guidance</p>		
K Factor Value		0.28
C) LS Factor (weighted average, by area, for all slopes)		
<p>The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.</p> <p>LS Table</p>		
LS Factor Value		0.12
Watershed Erosion Estimate (=RxKxLS) in tons/acre		3.326736
Site Sediment Risk Factor Low Sediment Risk: < 15 tons/acre Medium Sediment Risk: >=15 and <75 tons/acre High Sediment Risk: >= 75 tons/acre		Low

Receiving Water (RW) Risk Factor Worksheet		Entry	Score
A. Watershed Characteristics		yes/no	
A.1. Does the disturbed area discharge (either directly or indirectly) to a 303(d)-listed waterbody impaired by sediment ? For help with impaired waterbodies please check the attached worksheet or visit the link below: 2006 Approved Sediment-impaired WBs Worksheet http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml		Yes	High
OR			
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? http://www.ice.ucdavis.edu/geowbs/asp/wbquse.asp			

Combined Risk Level Matrix				
		<u>Sediment Risk</u>		
		Low	Medium	High
<u>Receiving Water Risk</u>	Low	Level 1	Level 2	
	High	Level 2		Level 3

Project Sediment Risk: **Low**
 Project RW Risk: **High**
 Project Combined Risk: **Level 2**

Facility Information

Start Date: 02/01/2024	Latitude: 38.1384
End Date: 12/30/2024	Longitude: -121.3992

Calculation Results

Rainfall erosivity factor (R Factor) = **31.66**

Facility Information

Start Date: 01/01/2025	Latitude: 38.1384
End Date: 12/30/2025	Longitude: -121.3992

Calculation Results

Rainfall erosivity factor (R Factor) = **40.34**

Facility Information

Start Date: 01/01/2026	Latitude: 38.1384
End Date: 10/30/2026	Longitude: -121.3992

Calculation Results

Rainfall erosivity factor (R Factor) = **27.01**

Total Rainfall erosivity factor (R Factor) = 31.66 + 40.34 + 27.01 = 99.01

A rainfall erosivity factor of 5.0 or greater has been calculated for your site's period of construction.

You do NOT qualify for a waiver from NPDES permitting requirements and must seek Construction General Permit (CGP) coverage. If you are located in an [area where EPA is the permitting authority](#), you must submit a Notice of Intent (NOI) through the [NPDES eReporting Tool \(NeT\)](#). Otherwise, you must seek coverage under your state's CGP.

Water Pollution Control (SWPPP) DSA is >1 acre

Total cost of project \$ 75,200,000.00

ITEM	DESCRIPTION	UNIT	QTY	PRICE	AMOUNT
066595	WPC MAINTENANCE SHARING	LS	1		\$8,100
066596	ADDITIONAL WATER POLLUTION CONTROL	LS	1		\$5,000
066597	STORMWATER SAMPLING AND ANALYSIS	LS	1		\$1,000
066916	ANNUAL CON. GENERAL PERMIT FEES	LS	1		\$7,599
130100	JOB SITE MANAGEMENT	LS	1		\$250,000
130200	PREPARE WPCP	LS			
130300	PREPARE SWPPP	LS	1		\$10,000
<i>Items below determined from Caltrans Cost Database⁴</i>					
130310	RAIN EVENT ACTION PLAN	EA	93	\$500.00	\$46,000
130320	STORM WATER SAMPLING AND ANALYSIS DAY	EA	29	\$1,100	\$31,900
130330	STORM WATER ANNUAL REPORT	EA	4	\$2,000.00	\$8,000
130500 066595	TEMPORARY EROSION CONTROL BLANKET	SQ YD			
130505	MOVE-IN/MOVE-OUT (TEMPORARY EC)	EA	6	\$2,500	\$15,000

130510 066595 130505	TEMPORARY MULCH	SQ YD			
130520 066595 130505	TEMPORARY HYDRAULIC MULCH	SQ YD	22,796	\$3.00	\$68,388
130530 066595 130505	TEMPORARY HYDRAULIC MULCH (BFM)	SQ YD			
130535 066595 130505	TEMPORARY HYDRAULIC MULCH (CEMENTITIOUS BINDER)	SQ YD			
130540 066595 130505	TEMPORARY TACKED STRAW	SQ YD			
130550 066595 130505	TEMPORARY HYDROSEED	SQ YD			
130560 066595 130505	TEMPORARY SOIL BINDER	SQ YD			
130570	TEMPORARY COVER	SQ YD			
130610 066595	TEMPORARY CHECK DAM	LF			
130620 066595	TEMPORARY DRAINAGE INLET PROTECTION	EA	11	\$225.00	\$2,475
130640 066595	TEMPORARY FIBER ROLL	LF	29,568	\$3.00	\$88,704

130650 066595	TEMPORARY GRAVEL BAG BERM	LF			
130660 066595	TEMPORARY LARGE SEDIMENT BARRIER	LF			
130670 066595	TEMPORARY REINFORCED SILT FENCE	LF			
130680 066595	TEMPORARY SILT FENCE	LF			
130690	TEMPORARY STRAW BALE BARRIER	EA			
130710 066595	TEMPORARY CONSTRUCTION ENTRANCE	EA	6	\$3,000.00	\$18,000
130720	TEMPORARY CONSTRUCTION ROADWAY	SQ YD	200	\$85.00	\$17,000
130730	STREET SWEEPING	LS	1		\$80,000
130800	TEMPORARY ACTIVE TREATMENT SYSTEM	LS			
130900	TEMPORARY CONCRETE WASHOUT	LS	1		\$50,000
131103	WATER QUALITY SAMPLING & ANALYSIS DAY	EA			
131104	WATER QUALITY MONITORING REPORT	EA			
131105	WATER QUALITY ANNUAL REPORT	EA			
141000	TEMPORARY FENCE (TYPE ESA)	LF			
700617	DRAINAGE INLET MARKER	EA			

146005	TEMPORARY WETLAND PROTECTION MAT (EA)	EA			
146006	TEMPORARY WETLAND PROTECTION MAT (LS)	LS			
Permanent BMP's for Stormwater					
074061A	PERMANENT DRAINAGE INLET PROTECTION		nSSP		
074062A	PERMANENT CHECK DAM		nSSP		
074063A	PERMANENT DRAINAGE OUTLET PROTECTION		nSSP		
074064A	PERMANENT FLARED END SECTION PROTECTION		nSSP		

Total Construction Site BMPs \$ 707,166

The P.E. has prepared this estimate utilizing the guidance of Caltrans Storm Water Quality Handbooks, *Project Planning and Design Guide (PPDG)* and/or average bid costs using the Caltrans Cost Database. This cost estimate is based on the Standard Specifications, Contract Plans and Special Provisions determined by the P.E.

All Items specified below are found in Appendix F of the PPDG.

Checklist SW-1, Site Data Sources

Prepared by: Trigonio Leyva Date: 5-5-2021 District-Co-Route: 10-SJ-5

PM: 32.5-49.8 Project ID/EA: 1018000273 (10-1E3000) RWQCB: Central Valley Region (5-S)

Information for the following data categories should be obtained, reviewed and referenced as necessary throughout the project planning phase. Collect available project reports and any available documents pertaining to the category and list them and reference your data source. For specific examples of documents within these categories, refer to Section 6.4.3.2. Example categories have been listed below; add additional categories, as needed. Summarize pertinent information in Section 2 of the SWDR.

DATA CATEGORY/SOURCES	Date
Topographic	
<ul style="list-style-type: none"> Water Quality Planning Tool – Topographic Map 	3/2021
<ul style="list-style-type: none"> 	
Hydraulic	
<ul style="list-style-type: none"> 	
<ul style="list-style-type: none"> 	
Soils	
<ul style="list-style-type: none"> USGS Soil Survey 	
<ul style="list-style-type: none"> 	
Climatic	
<ul style="list-style-type: none"> Water Quality Planning Tool 	3/2021
<ul style="list-style-type: none"> 	
Water Quality	
<ul style="list-style-type: none"> Water Quality Planning Tool 	3/2021
<ul style="list-style-type: none"> 	
Other Data Categories	
<ul style="list-style-type: none"> Project Planning and Design Guide 	February 2017
<ul style="list-style-type: none"> Construction Site BMP Manual 	May 2017
<ul style="list-style-type: none"> SWPPP/WPCP Preparation Guide 	October 2017
<ul style="list-style-type: none"> USEPA Rainfall Erosivity Factor Calculator for Small Construction Sites, http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalclator.cfm 	June 2021
<ul style="list-style-type: none"> Risk Level Determination Worksheet – http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/costpermits/wqo_2009_0009_app_1.xls 	June 2021

Checklist SW-2, Stormwater Quality Issues Summary

Prepared by: Trigonio Leyva Date: 5-5-2021 District-Co-Route: 10-SJ-5

PM: 32.5-49.8 Project ID/EA: 1018000273 (10-1E3000) RWQCB: Central Valley Region (5-S)

The following questions provide a guide to collecting critical information relevant to project stormwater quality issues. Consult other Caltrans functional units (Environmental, Landscape Architecture, Maintenance, etc.) and the District/Regional Design Stormwater Coordinator as necessary. Summarize pertinent responses in Section 2 of the SWDR; do not discuss items identified as not applicable.

- | | | |
|--|--|-----------------------------|
| 1. Determine the receiving waters for the project. Lower Mokelumne River, Delta Waterways (eastern portion), Pixley Slough, Mosher Slough and White Slough River/Bear Creel Overflow | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 2. For the project limits, list the 303(d) impaired receiving water bodies and their constituents of concern. Delta Waterways (eastern portion) for Chlorpyrifos, DDT, Diazinon, Group A Pesticides, Invasive Species, Mercury and Toxicity. Pixley Slough for Disulfoton, Indicator Bacteria, DO, Toxicity, Chlorpyrifos and Diazinon. Mosher Slough for Indicator Bacteria. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 3. Determine if there are any municipal or domestic water supply reservoirs or groundwater percolation facilities within the project limits, as shown by DWP. None | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 4. Determine the RWQCB special requirements, including TMDLs, effluent limits, etc. None | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 5. Determine regulatory agencies seasonal construction and construction exclusion dates or restrictions required by federal, state, or local agencies. None | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 6. Determine if a 401 certification will be required. Not Anticipated | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 7. Identify rainy season. Oct 15- Apr 15 | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 8. If applicable, determine the general climate of the project area. Identify annual rainfall and rainfall intensity curves. Arid Climate | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 9. If considering Treatment BMPs, determine the soil classification, permeability, erodibility and depth to groundwater. To be determined at PS&E | <input type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 10. Determine contaminated soils within the project area. None identified | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 11. Determine the total disturbed soil area of the project. 47.69 acres | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 12. Describe the topography of the project site. Flat | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 13. List any areas outside of the Caltrans right-of-way that will be included in the project (e.g., contractor's staging yard, work from barges, easements for staging). None | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 14. Determine if additional right-of-way acquisition or easements and right-of-entry will be required for design, construction and maintenance of BMPs. If so, how much? None | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 15. Determine the estimated unit costs for right-of-way should it be needed for Treatment BMPs, stabilized conveyance systems, lay-back slopes, or interception ditches. To be determined at PS&E | <input type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 16. Determine if project area has any slope stabilization concerns. None | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 17. Describe the local land use within the project area and adjacent areas. Rural agricultural, business and commercial and residential | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 18. Evaluate the presence of dry weather flow. None | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |

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

Prepared by: Trigonio Leyva Date: 5-5-2021 District-Co-Route: 10-SJ-5

PM: 32.5-49.8 Project ID/EA: 1018000273 (10-1E3000) RWQCB: Central Valley Region (5-S)

The PE should confer with other functional units, such as Landscape Architecture, Hydraulics, Environmental, Materials, Construction and Maintenance, as needed to assess these issues. Summarize pertinent responses in Section 2 of the SWDR; do not discuss items identified as not applicable.

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

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

Design Pollution Prevention BMPs

Checklist DPP-1, Part 1

Prepared by: Trigonio Leyva Date: 5-5-2021 District-Co-Route: 10-SJ-5

PM: 32.5-49.8 Project ID/EA: 1018000273 (10-1E3000) RWQCB: Central Valley Region (5-S)

Consideration of Design Pollution Prevention BMPs

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

Will the project increase velocity or volume of downstream flow? Yes No NA

Will the project discharge to unlined channels? Yes No NA

Will the project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability? Yes No NA

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

Slope/Surface Protection Systems

Will the project create new slopes or modify existing slopes? Yes No NA

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

Concentrated Flow Conveyance Systems

Will the project create or modify ditches, dikes, berms, or swales? Yes No NA

Will project create new slopes or modify existing slopes? Yes No NA

Will it be necessary to direct or intercept surface runoff? Yes No NA

Will cross drains be modified? Yes No NA

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

Preservation of Existing Vegetation, Soils, and Stream Buffer Areas

It is the goal of the Stormwater Program to maximize the protection of desirable existing vegetation, soils, and stream buffer areas to provide erosion and sediment control benefits on all projects. Complete

Consider **Preservation of Existing Vegetation, soils, and stream buffer areas**, complete the Checklist DPP-1, Part 5.

Design Pollution Prevention BMPs

Checklist DPP-1, Part 2

Prepared by: Trigonio Leyva Date: 5-5-2021 District-Co-Route: 10-SJ-5

PM: 32.5-49.8 Project ID/EA: 1018000273 (10-1E3000) RWQCB: Central Valley Region (5-S)

Downstream Effects Related to Potentially Increased Flow

1. Review total paved area and reduce to the maximum extent practicable. Complete
2. Review channel lining materials and design for stream bank erosion control. Complete
 - (a) See Chapters 860 and 870 of the HDM. Complete
 - (b) Consider channel erosion control measures within the construction limits as well as downstream. Consider scour velocity. If erosion control measures are required downstream of construction limits obtain the appropriate permits and right of way documents to include work within the construction limits. Complete
3. Include, where appropriate, energy dissipation devices at culvert outlets. Complete
4. Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour. Complete
5. Include, if appropriate, peak flow attenuation basins or devices to reduce peak discharges. Complete
6. Calculate the water quality volume infiltrated within the project limits. These calculations will be used in the Checklist T-1, Part 1. **Treatment BMPs are required for this project. However, the evaluation for treatment BMPs will be completed during the design phase.** Complete

Design Pollution Prevention BMPs Checklist DPP-1, Part 3

Prepared by: Trigonio Leyva Date: 5-5-2021 District-Co-Route: 10-SJ-5

PM: 32.5-49.8 Project ID/EA: 1018000273 (10-1E3000) RWQCB: Central Valley Region (5-S)

Slope / Surface Protection Systems

1. What are the proposed areas of cut and fill? (attach plan or map) **By PS&E** Complete
2. Were benches or terraces provided on high cut and fill slopes to shorten slope length? **NA** Yes No
3. Were concentrated flows collected in stabilized drains or channels? Yes No
4. Are new or disturbed slopes > 4:1 horizontal:vertical (h:v)? Yes No
If Yes, District Landscape Architect is responsible for an erosion control strategy and may prepare an erosion control plan.
5. Are new or disturbed slopes > 2:1 (h:v)? Yes No
If Yes, DES Geotechnical Design unit must prepare a Geotechnical Design Report, and the District Landscape Architect should prepare or approve an erosion control plan. Concurrence must be obtained from the District Maintenance Stormwater Coordinator for slopes steeper than 2:1 (h:v).

VEGETATED SURFACES

1. Identify existing vegetation. Complete
2. Evaluate site to determine soil types, appropriate vegetation and planting strategies. Complete
3. How long will it take for permanent vegetation to establish? **TBD by PS&E** Complete
4. Plan transition BMPs from construction to permanent establishment. Complete
5. Have vegetated areas and supporting permanent irrigation systems been designed to comply with the Model Water Efficient Landscape Ordinance (MWELO)? **NA** Yes No
6. Minimize overland and concentrated flow depths and velocities. Complete

HARD SURFACES

1. Are hard surfaces minimized? Yes No
Review appropriate SSPs for Vegetated Surface and Hard Surface Protection Systems. Complete

Design Pollution Prevention BMPs Checklist DPP-1, Part 4

Prepared by: Trigonio Leyva Date: 5-5-2021 District-Co-Route: 10-SJ-5

PM: 32.5-49.8 Project ID/EA: 1018000273 (10-1E3000) RWQCB: Central Valley Region (5-S)

Concentrated Flow Conveyance Systems

Ditches, Berms, Dikes and Swales

1. Consider Ditches, Berms, Dikes, and Swales as per Topics 813, 834.3, 835, and Chapter 860 of the HDM. Complete
2. Review existing and proposed conditions to remove any dike not required for slope stability, erosion control, and water conveyance. Complete
3. Evaluate risks due to erosion, overtopping, flow backups or washout. Complete
4. Consider outlet protection where localized scour is anticipated. Complete
5. Examine the site for run-on from off-site sources. Complete
6. Consider permissible shear and velocity when selecting lining material (See Table 865.2 in the HDM). Complete

Overside Drains

1. Consider downdrains, as per Index 834.4 of the HDM. Complete
2. Consider paved spillways for side slopes flatter than 4:1 h:v. Complete

Flared Culvert End Sections

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

Outlet Protection/Velocity Dissipation Devices

1. Consider outlet protection/velocity dissipation devices at outlets, including cross drains, as per Chapters 827 and 870 of the HDM. Complete
- Review appropriate SSPs for Concentrated Flow Conveyance Systems. Complete

Design Pollution Prevention BMPs

Checklist DPP-1, Part 5

Prepared by: Trigonio Leyva Date: 5-5-2021 District-Co-Route: 10-SJ-5

PM: 32.5-49.8 Project ID/EA: 1018000273 (10-1E3000) RWQCB: Central Valley Region (5-S)

Preservation of Existing Vegetation, Soils, and Stream Buffer Areas

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

Treatment BMPs Checklist T-1, Part 1

Prepared by: Trigonio Leyva Date: 5-5-2021 District-Co-Route: 10-SJ-5

PM: 32.5-49.8 Project ID/EA: 1018000273 (10-1E3000) RWQCB: Central Valley Region (5-S)

Consideration of Treatment BMPs

This checklist is used for projects that require the consideration of Approved Treatment BMPs, as determined from the process described in Section 4 (Treatment Consideration) and the Evaluation Documentation Form (EDF). This checklist will be used to determine which Treatment BMPs should be considered for each BMP contributing drainage area within the project. Supplemental data will be needed to verify siting and design applicability for final incorporation into a project.

Complete this checklist for each phase of the project. This will help to determine if any changes to the BMP strategy are necessary, based on site specific information gathered during later phases. Use the responses to the questions as the basis of developing the narrative in Section 6 of the Stormwater Data Report to document that Treatment BMPs have been appropriately considered and/or incorporated.

Before evaluating an area for treatment capabilities or to incorporate a Treatment BMP, calculate the numeric sizing requirement for each contributing drainage area (WQV from the 85th percentile 24-hour storm event or WQF rate). Soil and geometric information for the project area will be necessary to use this Checklist.

Identify the overall project PCTA

Refer to Section 4.4 Treatment Areas for more information on defining these areas.

PCTA = NNI + RIS + ATA (1 Impervious) + ATA (2)

NNI = Net New Impervious Area

RIS = Replaced Impervious Surface

ATA (1 Impervious) = Additional Treatment Area required for existing Treatment BMPs that were removed or modified as part of the project

ATA (2) = Additional Treatment Area required when NNI is 50 percent or greater than total project impervious

What is the PCTA for the project? 39.9 acres (A in Table E-1)

The PCTA is the impervious area required to be treated by the project. The PE is to incorporate BMPs until the summation of the treated impervious area of all the BMPs is equivalent to the PCTA for the Project.

Once this area and any ATA 1 (Pervious) has been treated, the project is in compliance with the post construction treatment requirement.

Total Maximum Daily Load (TMDL) Retrofit Projects

If the project is installing Treatment BMPs to only address TMDL requirements, then there is no required PCTA. The Treatment BMPs for a TMDL retrofit project should be designed to treat the impervious and pervious contributing drainage areas, as they are both eligible for compliance unit (CU) credits.

Overall Project Evaluation

Answer all questions, unless otherwise directed.

A. Overall Project Consideration

1. Is the project in a watershed with prescriptive Treatment BMP requirements in an adopted TMDL implementation plan or are there any other requirements for project area (e.g., District, Regional Board, Lawsuit)? Yes No

If Yes, consult the District/Regional Design Stormwater Coordinator or District/Regional NPDES Coordinator to determine if there are written agreements related to specific Treatment BMPs. In this case, determine if the rest of this checklist needs to be followed to address other post construction requirements. If not, document BMP(s) in the Individual Treatment BMP Summary Table, provide information on the basis of the BMP requirement and any regulatory coordination in the SWDR narrative, and complete Table E-2. Otherwise, continue.

If No, continue.

2. Does the receiving water have a TMDL for litter/trash, or is there a region-specific requirement related to trash? **Project lies outside of current critical areas for trash** Yes No

If Yes, first evaluate BMPs that can treat other pollutants and are considered to be full capture devices (GSRDs or other) for litter/trash. If other BMPs cannot be sited, consult with the District/Regional Design Stormwater Coordinator or District/Regional NPDES Coordinator to determine if standalone full capture devices (GSRDs or other) are required to be incorporated. If standalone devices are required and no other Treatment BMPs are being considered, go to question 6 of "Individual BMP Evaluation".

If No, continue.

3. Is the project located in an area that uses traction sand more than twice a year? Yes No

If Yes, first consider BMPs that can treat other pollutants and can capture traction sand. If other BMPs cannot be sited, consult the District/Regional Design Stormwater Coordinator to determine if standalone traction sand trap devices should be incorporated.

If standalone devices are required and no other Treatment BMPs are being considered, go to question 6 of "Individual BMP Evaluation". Otherwise, continue with this checklist to identify Treatment BMPs that provide traction sand and other pollutant removal, or to design Treatment BMPs in series.

If No, continue.

B. Dual Purpose Facilities

Does the project have (or propose to include) any dual-purpose facilities that could meet treatment requirements (e.g., Dry Weather Flow Diversion, flood control basins, etc.)? Yes No

If Yes and 100 percent of the PCTA and ATA 1 (Pervious) will be treated by the dual-purpose facility, go to question 6 of "Individual BMP Evaluation".

If Yes, but 100 percent of the PCTA and ATA 1 (Pervious) has not been addressed, continue.

If No, continue.

C. Evaluate overall project area for infiltration opportunities using existing and proposed roadside surfaces (DPP Infiltration Areas). Assure the DPP Infiltration Area is stabilized to handle highway drainage design flows, for both sheet and concentrated flows (See HDM Section 800).

Document DPP Infiltration Areas on the "Individual Treatment BMP Summary Table" located at the end of this checklist.

1. Based on site conditions, do the DPP Infiltration Areas infiltrate 100 percent of the WQV generated by the PCTA and ATA 1 (Pervious) for the project? Yes No

Yes, go to question 6 of "Individual BMP Evaluation".

If No, account for area infiltrated and continue. **Note: TBD**

2. Can infiltration for these areas be increased by using soil amendments or other means? Yes No

If Yes, and 100 percent of the WQV generated by the PCTA and ATA 1 (Pervious) is infiltrated, go to question 6 of "Individual BMP Evaluation".

If Yes, but 100 percent of the WQV generated by the PCTA and ATA 1 (Pervious) is not infiltrated, continue with this checklist to identify Treatment BMPs that will treat the remaining PCTA and ATA 1 (Pervious).

If No, continue.

Individual BMP Evaluation

Answer the following questions for each Treatment BMP location being considered. The following process must be followed until the PCTA and ATA 1 (Pervious) or desired treatment area (Alternative Compliance or CUs) has been achieved; for TMDL CUs, consider both impervious and pervious contributing drainage areas. Use the Individual Treatment BMP Summary Table at the end of the checklist to summarize the selected BMP(s) based on the findings of the following questions for each BMP contributing drainage area.

1. Infiltration Devices (Infiltration Basin, Trench, or other device)

- a. Can 100 percent of the BMP contributing drainage area WQV (or remaining WQV, if in series with a DPP Infiltration Area or other BMP) be infiltrated? Yes No

If Yes, go to question 6.

If No, continue.

2. Biofiltration Devices (Biofiltration Strips and Swales)

- a. Is this a TMDL retrofit project or is the project within a TMDL watershed or 303(d) impaired receiving water body area? Yes No

If Yes, when designing the biofiltration device, determine the percent WQV infiltrated from both the impervious and pervious BMP contributing drainage areas. Consider using existing or amended soils:

- i. If infiltration is >50 percent, continue to b.
- ii. If infiltration is ≤50 percent, go to question 3.

If No, continue to b.

- b. Can biofiltration devices be designed to: Yes No

- i. Treat 100 percent of the WQF/WQV (or remainder, if in series with a DPP Infiltration Area or other BMP) from the BMP contributing drainage area, and
- ii. Meet the siting and design criteria of the Caltrans biofiltration device design guidance.

If Yes, continue to c.

If No, go to question 3.

- c. Biofiltration devices are considered to be an effective method of treatment, go to question 6.

3. Earthen type BMPs (Detention Devices, Media Filters, or other devices)

- a. Is this a TMDL retrofit project or is the project within a TMDL watershed or 303(d) impaired receiving water body area? Yes No

If Yes, when designing the earthen type BMP, determine the percent WQV infiltrated from both the impervious and pervious BMP contributing drainage area. Consider using existing or amended soils:

- i. If infiltration is >50 percent, continue to b.
- ii. If infiltration is ≤50 percent, go to question 4.

If No, continue to b.

- b. Can earthen type BMPs (standalone or in series with other approved Treatment BMPs) be designed to: Yes No

- iii. Treat 100 percent of the WQV (or remainder, if in series with a DPP Infiltration Area or other BMP) from the BMP contributing drainage area, and
- iv. Meet the criteria of the Caltrans design guidance for the treatment device being considered.

If Yes, continue to c.

If No, go to question 4.

- c. Earthen type BMPs are considered to be an effective method of treatment, go to question 6.

4. Targeted Design Constituent (TDC)

This approach will compare the effectiveness of individual BMPs and allow the PE to use judgment when evaluating BMP feasibility (site constraints, safety, maintenance requirements, life-cycle costs, etc.).

- a. Does the project discharge to a 303(d) impaired receiving water or a receiving water in a TMDL watershed where Caltrans is a named stakeholder? Yes No
>>need to determine if Caltrans is a named stakeholder

If Yes, is the identified pollutant(s) considered to be a TDC (check all that apply below)? Continue to b. Yes No

- | | |
|-------------------------------------|---|
| <input type="checkbox"/> sediments | <input type="checkbox"/> copper (dissolved or total) |
| <input type="checkbox"/> phosphorus | <input type="checkbox"/> lead (dissolved or total) |
| <input type="checkbox"/> nitrogen | <input type="checkbox"/> zinc (dissolved or total) |
| | <input type="checkbox"/> general metals (dissolved or total) ¹ |

If No or if no TDC is identified, use Matrix A to select BMPs and go to question 5.

- b. Treating Only Sediment. Is sediment a TDC? Yes No

If Yes, use Matrix A to select BMPs and go to question 5.

If No, continue to c.

- c. Treating Only Metals. Are copper, lead, zinc, or general metals listed TDCs? Yes No

If Yes, use Matrix B to select BMPs, and go to question 5.

If No, continue to d.

- d. Treating Only Nutrients. Are nitrogen and/or phosphorus listed TDCs? Yes No

If Yes, use Matrix C to select BMPs, and go to question 5.

If No, continue e.

- e. Treating both Metals and Nutrients. Is copper, lead, zinc, or general metals AND nitrogen or phosphorous a TDC? Yes No

If yes, use Matrix D to select BMPs, and go to question 5.

If No, continue.

¹ General metals is a designation used by Regional Water Boards when specific metals have not yet been identified as causing the impairment.

BMP Selection Matrix A: General Purpose Pollutant Removal			
Consider BMPs (or combinations of) to treat the contributing drainage area WQV with BMPs listed in this table. First evaluate Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility. BMPs are chosen based on the infiltration category determined for BMP contributing drainage area. BMPs in other infiltration categories should be ignored.			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Strip: HRT > 5 Austin filter (concrete) Austin filter (earthen) Delaware filter	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches Biofiltration Strip	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches Biofiltration Strip Biofiltration Swale
Tier 2	Strip: HRT < 5 Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Swale	Austin filter (concrete) Delaware filter
<p>HRT = hydraulic residence time (min)</p> <p>All BMPs shown are considered to be effective, but some more than others. The PE should use professional judgment when selecting BMPs based on overall feasibility.</p> <p>All BMPs are shown to demonstrate equivalent effectiveness.</p>			

BMP Selection Matrix B: Any metal is the TDC, but not nitrogen or phosphorous			
Consider BMPs (or combinations of) to treat the contributing drainage area WQV with BMPs listed in this table. First evaluate Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility. BMPs are chosen based on the infiltration category determined for BMP contributing drainage area. BMPs in other infiltration categories should be ignored.			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Austin filter (earthen) Austin filter (concrete) Delaware filter	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches Biofiltration Strip Biofiltration Swale
Tier 2	Strip: HRT > 5 Strip: HRT < 5 Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale	Austin filter (concrete) Delaware filter
<p>HRT = hydraulic residence time (min)</p> <p>All BMPs shown are considered to be effective, but some more than others. The PE should use professional judgment when selecting BMPs based on overall feasibility.</p> <p>All BMPs are shown to demonstrate equivalent effectiveness.</p>			
BMP Selection Matrix C: Phosphorous and / or nitrogen is the TDC, but no metals are the TDC			

Consider BMPs (or combinations of) to treat the contributing drainage area WQV with BMPs listed in this table. First evaluate Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility. BMPs are chosen based on the infiltration category determined for BMP contributing drainage area. BMPs in other infiltration categories should be ignored.			
BMP ranking for infiltration category:			
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Austin filter (earthen) Austin filter (concrete) Delaware filter*	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches Biofiltration Strip Biofiltration Swale
Tier 2	Biofiltration Strip Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale	Austin filter (concrete) Delaware filter
All BMPs shown are considered to be effective, but some more than others. The PE should use professional judgment when selecting BMPs based on overall feasibility. All BMPs are shown to demonstrate equivalent effectiveness.			
*Delaware filters would be ranked in Tier 2 if the TDC is nitrogen only, as opposed to phosphorous only or both nitrogen and phosphorous.			

BMP Selection Matrix D: Any metal, plus phosphorous and / or nitrogen are the TDCs			
Consider BMPs (or combinations of) to treat the contributing drainage area WQV with BMPs listed in this table. First evaluate Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility. BMPs are chosen based on the infiltration category determined for BMP contributing drainage area. BMPs in other infiltration categories should be ignored.			
BMP ranking for infiltration category:			
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Austin filter (earthen) Austin filter (concrete) Delaware filter*	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches Biofiltration Strip Biofiltration Swale
Tier 2	Biofiltration Strip Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale	Austin filter (concrete) Delaware filter
All BMPs shown are considered to be effective, but some more than others. The PE should use professional judgment when selecting BMPs based on overall feasibility. All BMPs are shown to demonstrate equivalent effectiveness.			
*In cases where earthen BMPs also infiltrate, Delaware filters are ranked in Tier 2 if the TDC is nitrogen only, but they are Tier 1 for phosphorous only or both nitrogen and phosphorous.			

5. Does the project discharge to a 303(d) receiving water that is listed for mercury or low dissolved oxygen? Yes No

If Yes, contact the District/Regional NPDES Coordinator to determine if standing water in a Delaware Media Filter or Wet Basin would be a risk to downstream water quality. Continue to question 6.

If No, continue to question 6.

6. Identify the Treatment BMPs being considered and complete the Individual Treatment BMP Summary Table and Overall Project Treatment Summary Table on the following pages. Refer to Appendix B of the PPDG and review the checklists identified below for every Treatment BMP under consideration. Complete

Document the basis of design in the SWDR narrative and complete Table E-2.

___ DPP Infiltration Areas: Checklist T-1, Part 11

X Infiltration Devices: Checklist T-1, Part 2 **To be completed at PS&E**

X Biofiltration Strips and Biofiltration Swales: Checklist T-1, Part 3 **To be completed at PS&E**

___ Detention Devices: Checklist T-1, Part 4

___ Traction Sand Traps: Checklist T-1, Part 5

___ Dry Weather Diversion: Checklist T-1, Part 6

___ GSRDs: Checklist T-1, Part 7

___ Media Filter [Austin Sand Filter and Delaware Filter]: Checklist T-1, Part 8

Note:

Multi-Chamber Treatment Train (MCTT) is not listed here because Caltrans has found that other approved BMPs are equally effective and more sustainable due to lower life cycle costs.

Wet Basins are not listed here due to feasibility issues due to site feasibility and issues with long term operation and maintenance.

MCTT and Wet Basins may be considered or implemented upon the recommendation of the District/Regional Design Stormwater Coordinator.

7. Prepare cost estimate, including right-of-way, and identify any pertinent site-specific determination of feasibility for selected Treatment BMPs and include in the SWDR for approval. **To be determined at design phase** Complete

Individual Treatment BMP Summary Table

List the selected BMPs based on the findings of this checklist and the treated areas associated with each BMP in Table E-2. For projects with multiple BMPs, add rows (if needed), or attach a separate sheet displaying the following information.

Complete

Each BMP must be tracked in Table E-2. Districts may use a modified table based upon their needs. See Section 6.6 for additional information.

Note: Table will be completed at the design phase

Table E-2. Individual Treatment BMP Summary Table ¹						
BMP Identifier-Number	BMP Type	Treated Impervious Area (CT RW) (ac)	Treated Impervious Area (Outside CT RW) (ac)	Treated Pervious Area (CT RW) (ac)	Treated Pervious Area (Outside CT RW) (ac)	Treated WQV/WQF (%)
Total Area to be Treated (acre)		(B in Table E-1)	(C in Table E-1)			

¹ The treated areas identified in this table are a product of the BMP CDA and Treated WQV/WQF (%).

**PROJECT
PLANNING COST ESTIMATE**

EA: 10-1E3000

EA: 10-1E3000 PID: 1018000273

PID: 1018000273

District-County-Route: 10-SJ-5

PM: 32.5/49.8

Type of Estimate : PA&ED

Program Code : 201.120

Project Limits : PM 32.5/49.8

Project Description: I-5 Pavement Anchor Project

Scope : pavement rehab, upgrade bridge rail, replace culverts, upgrade guardrails, widen road for STAA truck turning radius, sign replacements, upgrade and install TMS elements, texture and slope paving, upgrade ADA features.

Alternative : 1

SUMMARY OF PROJECT COST ESTIMATE

	Current Year Cost	Escalated Cost
TOTAL ROADWAY COST	\$ 86,260,700	\$ 91,285,738
TOTAL STRUCTURES COST	\$ 6,389,000	\$ 6,761,185
SUBTOTAL CONSTRUCTION COST	\$ 92,649,700	\$ 98,046,920
TOTAL RIGHT OF WAY COST	\$ 62,500	\$ 68,906
TOTAL CAPITAL OUTLAY COSTS	\$ 92,713,000	\$ 98,116,000
PR/ED SUPPORT	\$ 1,979,000	\$ 2,108,000
PS&E SUPPORT	\$ 3,778,000	\$ 4,153,000
RIGHT OF WAY SUPPORT	\$ 147,000	\$ 162,000
CONSTRUCTION SUPPORT	\$ 9,770,000	\$ 10,953,000
TOTAL SUPPORT COST	\$ 15,674,000	\$ 17,376,000

TOTAL PROJECT COST	\$ 109,000,000	\$ 116,000,000
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If Project has been programmed enter Programmed Amount \$ 98,594,000

Month / Year

Date of Estimate (Month/Year) _____ 12 / 2021

Estimated Construction Start (Month/Year) _____ 4 / 2024

Number of Working Days = 360

Estimated Mid-Point of Construction (Month/Year) _____ 7 / 2024

Estimated Construction End (Month/Year) _____ 10 / 2025

Number of Plant Establishment Days

Estimated Project Schedule

PID Approval	6/15/2019
PA/ED Approval	1/14/2022
PS&E	12/16/2022
RTL	6/15/2023
Begin Construction	4/15/2024

Reviewed by District O.E. or
Cost Estimate Certifier

xx/xx/xxxx

(xxx) xxx-xxxx

Office Engineer / Cost Estimate Certifier

Date

Phone

Approved by Project Manager

xx/xx/xxxx

(xxx) xxx-xxxx

, Project Manager

Date

Phone

PROJECT

EA: 10-1E3000 PID: 1018000273

I. ROADWAY ITEMS SUMMARY

	Section	Cost
1	Earthwork	\$ 6,850,000
2	Pavement Structural Section	\$ 46,632,400
3	Drainage	\$ 816,700
4	Specialty Items	\$ 502,700
5	Environmental	\$ 846,700
6	Traffic Items	\$ 7,379,000
7	Detours	\$ 1,501,800
8	Minor Items	\$ -
9	Roadway Mobilization	\$ 6,453,000
10	Supplemental Work	\$ 1,945,800
11	State Furnished	\$ 1,361,200.00
12	Time-Related Overhead	\$ 720,000.00
13	Roadway Contingency	\$ 11,251,400.00
TOTAL ROADWAY ITEMS		\$ 86,260,700

Estimate Prepared By :

TE (Range D)

Date

Phone:

Estimate Reviewed By :

TE (Range D)

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.

PROJECT

EA: 10-1E3000 PID: 1018000273

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price (\$)		Cost
190101	Roadway Excavation	CY	135,000	x	50.00	= \$	6,750,000
19010X	Roadway Excavation (Type X) ADL	CY		x		= \$	-
194001	Ditch Excavation	CY		x		= \$	-
19801X	Imported Borrow	CY/TON		x		= \$	-
192037	Structure Excavation (Retaining Wall)	CY		x		= \$	-
193013	Structure Backfill (Retaining Wall)	CY		x		= \$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		= \$	-
170103	Clearing & Grubbing	LS/ACRE	1	x	100,000.00	= \$	100,000
170101	Develop Water Supply	LS		x		= \$	-
19801X	Imported Borrow	CY/TON		x		= \$	-
210130	Duff	ACRE		x		= \$	-
XXXXXX	Obliterate Surfacing	SQYD		x	5.00	= \$	-

TOTAL EARTHWORK SECTION ITEMS	\$ 6,850,000
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SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price (\$)		Cost
401050	Jointed Plain Concrete Pavement	CY	7,920	x	270.00	= \$	2,138,400
400050	Continuously Reinforced Concrete Pavement	CY	42,800	x	290.00	= \$	12,412,000
404092	Seal Pavement Joint	LF		x		= \$	-
411105	Individual Slab Replacement (RSC)	CY	23,800	x	800.00	= \$	19,040,000
413117	Seal Concrete Pavement Joint (Silicone)	LF		x		= \$	-
413118	Seal Pavement Joint (Asphalt Rubber)	LF		x		= \$	-
280010	Rapid Strength Concrete Base	CY		x		= \$	-
410095	Dowel Bar (Drill and Bond)	EA		x		= \$	-
390132	Hot Mix Asphalt (Type A)	TON	71,100	x	80.00	= \$	5,688,000
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON		x		= \$	-
39300X	Geosynthetic Pavement Interlayer (Type X)	SQYD		x		= \$	-
260203	Class 2 Aggregate Base	CY	32,300	x	45.00	= \$	1,453,500
205201	Class 2 Aggregate Subbase	CY	31,500	x	40.00	= \$	1,260,000
250401	Class 4 Aggregate Subbase	CY		x		= \$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		= \$	-
397005	Tack Coat	TON	80	x	800.00	= \$	64,000
377501	Slurry Seal	TON		x		= \$	-
3750XX	Screenings (Type XX)	TON		x		= \$	-
374492	Asphaltic Emulsion (Polymer Modified)	TON		x		= \$	-
370001	Sand Cover (Seal)	TON		x		= \$	-
731530	Minor Concrete (Textured Paving)	CY		x		= \$	-
731502	Minor Concrete (Miscellaneous Construction)	CY		x		= \$	-
39407X	Place Hot Mix Asphalt Dike (Type X)	LF		x		= \$	-
150771	Remove Asphalt Concrete Dike	LF		x		= \$	-
420201	Grind Existing Concrete Pavement	SQYD	466,048	x	6.00	= \$	2,796,288
150860	Remove Base and Surfacing	CY		x		= \$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		= \$	-
15312X	Remove Concrete	LF/CY/LS		x		= \$	-
394090	Place Hot Mix Asphalt (Miscellaneous Area)	SQYD		x		= \$	-
153103	Cold Plane Asphalt Concrete Pavement	SQYD	175,800	x	4.00	= \$	703,200
394053	Shoulder Rumble Strip (HMA, X-In Indentations)	STA		x		= \$	-
413113	Repair Spalled Joints, Polyester Grout	SQYD		x		= \$	-
420102	Groove Existing Concrete Pavement	SQYD		x		= \$	-
390136	Minor Hot Mix Asphalt	TON		x		= \$	-
394095	Roadside Paving (Miscellaneous Areas)	LS	1	x	945,000.00	= \$	945,000
XXXXXX	ADA FEATURES:CURB RAMPS,DWS &APS	LS	1	x	132,000.00	= \$	132,000

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS	\$ 46,632,400
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PROJECT

EA: 10-1E3000 PID: 1018000273

SECTION 3: DRAINAGE

Item code	Unit	Quantity	Unit Price (\$)	Cost
710150 Remove Inlet	EA	3	x 1,500.00 = \$	4,500
710132 Remove Culvert	LF	450	x 55.00 = \$	24,750
155232 Sand Backfill	CY		x = \$	-
15020X Abandon Culvert	EA/LF		x = \$	-
710196 Adjust Inlet	EA	25	x 3,300.00 = \$	82,500
155003 Cap Inlet	EA		x = \$	-
510501 Minor Concrete	CY		x = \$	-
510502 Minor Concrete (Minor Structure)	CY		x = \$	-
5105XX Minor Concrete (Type XX)	CY		x = \$	-
620XXX XX" Alternative Pipe Culvert (Type X)	LF		x = \$	-
6411XX XX" Plastic Pipe	LF		x = \$	-
XXXXXX 24" RCP (Jacked)	LF	450	x 1,500.00 = \$	675,000
6650XX XX" Corrugated Steel Pipe (0.XXX" Thick)	LF		x = \$	-
68XXX XX" Plastic Pipe (Edge Drain)	LF		x = \$	-
69011X 18" Corrugated Steel Pipe Downdrain (0.XXX" Thi	LF		x = \$	-
70321X XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF		x = \$	-
70XXXX Flared End Section	EA		x = \$	-
705206 24" Concrete Flared End Section	EA	6	x 2,000.00 = \$	12,000
XXXXXX Drainage Inlet	EA	3	x 1,500.00 = \$	4,500
729011 Class 8 RSP Fabric	SQFT	480	x 10.00 = \$	4,800
723080 RSP Class II, Method B	CY	32	x 270.00 = \$	8,640
721420 Concrete (Ditch Lining)	CY		x = \$	-
XXXXXX Replace Existing DD	CY		x = \$	-
XXXXXX DI relocation and bring DI to grade	LS		x = \$	-
XXXXXX Culvert Repair	LS		x = \$	-

TOTAL DRAINAGE ITEMS	\$ 816,700
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SECTION 4: SPECIALTY ITEMS

Item code	Unit	Quantity	Unit Price (\$)	Cost
080050 Progress Schedule (Critical Path Method)	LS	1	x 2,000.00 = \$	2,000
582001 Sound Wall (Masonry Block)	SQFT		x = \$	-
510530 Minor Concrete (Wall)	CY		x = \$	-
15325X Remove Sound Wall	LF/LS		x = \$	-
070030 Lead Compliance Plan	LS	1	x 2,000.00 = \$	2,000
141120 Treated Wood Waste	LB		x = \$	-
153221 Remove Concrete Barrier	LF		x = \$	-
150662 Remove Metal Beam Guard Railing	LF		x = \$	-
150668 Remove Flared End Section	EA		x = \$	-
8000XX Chain Link Fence (Satellite Need Recom)	LS		x = \$	-
80XXXX XX" Chain Link Gate (Type CL-6)	EA		x = \$	-
832006 Midwest Guardrail System (Steel Post)	LF	2,000	x 40.00 = \$	80,000
839301 Single Thrie Beam Barrier	LF		x = \$	-
839221 Double MGS (Wood Post)	LF	700	x 50.00 = \$	35,000
839543 Transition Railing (Type WB 31)	LF	24	x 4,300.00 = \$	103,200
8395XX Terminal System	EA		x = \$	-
839585 Alternative Flared Terminal System	EA		x = \$	-
839584 Alternative In-line Terminal System	EA	19	x 3,500.00 = \$	66,500
4906XX CIDH Concrete Piling (Insert Diameter)	LF		x = \$	-
839XXX Crash Cushion (Insert Type)	EA		x = \$	-
83XXXX Concrete Barrier (Insert Type)	LF		x = \$	-
520103 Bar Reinforced Steel (Retaining Wall)	LB		x = \$	-
510060 Structural Concrete, Retaining Wall	CY		x = \$	-
513553 Retaining Wall (Masonry Wall)	SQFT		x = \$	-
511035 Architectural Treatment	SQFT		x = \$	-
598001 Anti-Graffiti Coating	SQFT		x = \$	-
203070 Rock Stain	SQFT		x = \$	-
5136XX Reinforced Concrete Crib Wall (Type X)	SQFT		x = \$	-
83954X Transition Railing (Type X)	EA		x = \$	-
597601 Prepare and Stain Concrete	SQFT		x = \$	-
839745 Concrete Block (Concrete Barrier Transition)	EA	24	x 4,000.00 = \$	96,000
832070 Vegetation Control	SQYD	1,300	x 60.00 = \$	78,000
XXXXXX Alternative Crash Cushion	EA	5	x 8,000.00 = \$	40,000

TOTAL SPECIALTY ITEMS	\$ 502,700
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PROJECT

EA: 10-1E3000 PID: 1018000273

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code	Unit	Quantity		Unit Price (\$)		Cost
Biological (Exclusionary Netting)	LS	1	x	50,000.00	= \$	50,000
130670 Temporary Reinforced Silt Fence	LF		x		= \$	-
141000 Temporary Fence (Type ESA)	LF		x		= \$	-
<i>Subtotal Environmental Mitigation</i>						\$ 50,000

5B - LANDSCAPE AND IRRIGATION

Item code	Unit	Quantity		Unit Price (\$)		Cost
20XXXX Highway Planting	LS		x		= \$	-
20XXXX Landscape & Irrigation	LS	1	x	50,000.00	= \$	50,000
204099 Plant Establishment Work	LS		x		= \$	-
204101 Extend Plant Establishment Work	LS		x		= \$	-
20XXXX Follow-up Landscape Project	LS		x		= \$	-
150685 Remove Irrigation Facility	LS		x		= \$	-
20XXXX Maintain Existing (Irrigation or Planted Areas)	LS		x		= \$	-
206400 Check and Test Existing Irrigation Facilities	LS		x		= \$	-
21011X Imported Topsoil (X)	CY/TON		x		= \$	-
20XXXX Rock Blanket, Rock Mulch, DG, Gravel Mulch	SQFT/SQYD		x		= \$	-
200122 Weed Germination	SQYD		x		= \$	-
208304 Water Meter	EA		x		= \$	-
2087XX XX" Conduit (Use for Irrigation x-overs)	LF		x		= \$	-
XXXXXX EXTEND A CONDUIT (USE FOR EXTENSION OF IRRIGATION SYSTEM)	LF		x		= \$	-
<i>Subtotal Landscape and Irrigation</i>						\$ 50,000

5C - EROSION CONTROL

Item code	Unit	Quantity		Unit Price (\$)		Cost
210010 Move In/Move Out (Erosion Control)	EA	2	x	4000	= \$	8,000
210350 Fiber Rolls	LF		x		= \$	-
210360 Compost Sock	LF		x		= \$	-
2102XX Rolled Erosion Control Product (X)	SQFT		x		= \$	-
21025X Bonded Fiber Matrix	QFT/ACRE		x		= \$	-
210300 Hydromulch	SQFT	95,000	x	0.15	= \$	14,250
210420 Straw	SQFT		x		= \$	-
210430 Hydroseed	SQFT	95,000	x	0.1	= \$	9,500
210600 Compost	SQFT	294	x	100	= \$	29,400
210630 Incorporate Materials	SQFT		x		= \$	-
<i>Subtotal Erosion Control</i>						\$ 61,150

5D - NPDES

Item code	Unit	Quantity		Unit Price (\$)		Cost
130100 Job Site Management	LS	1	x	250,000.00	= \$	250,000
130300 Prepare SWPPP	LS	1	x	10,000.00	= \$	10,000
130310 Rain Event Action Plan	EA	93	x	500.00	= \$	46,000
130320 Storm Water Sampling and Analysis Day	EA	29	x	1,100.00	= \$	31,900
130330 Storm Water Annual Report	EA	4	x	2,000.00	= \$	8,000
130505 Move-In/Move-Out (Temporary Erosion Control)	EA	6	x	2,500.00	= \$	15,000
130520 Temporary Hydraulic Mulch	SQ YD	22,796	x	3.00	= \$	68,388
130620 Temporary Drainage Inlet Protection	EA	11	x	225.00	= \$	2,475
130640 Temporary Fiber Roll	LF	29,568	x	3.00	= \$	88,704
130710 Temporary Construction Entrance	EA	6	x	3,000.00	= \$	18,000
130720 Temporary Construction Roadway	SQYD	200	x	85.00	= \$	17,000
130730 Street Sweeping	LS	1	x	80,000.00	= \$	80,000
130900 Temporary Concrete Washout	LS	1	x	50,000.00	= \$	50,000
<i>Subtotal NPDES</i>						\$ 685,467

TOTAL ENVIRONMENTAL	\$ 846,700
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Supplemental Work for NPDES

066595 Water Pollution Control Maintenance Sharing*	LS	1	x	8,100.00	= \$	8,100
066596 Additional Water Pollution Control**	LS	1	x	5,000.00	= \$	5,000
066597 Storm Water Sampling and Analysis***	LS	1	x	1,000.00	= \$	1,000
066916 Annual Construction General Permit Fees	LS	1	x	7,599.00	= \$	7,599
<i>Subtotal Supplemental Work for NDPS</i>						\$ 21,699

*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.

PROJECT

EA: 10-1E3000 PID: 1018000273

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code	Unit	Quantity	Unit Price (\$)	Cost
I-5 @ Hammer Ln UC, PM 32.6 Bridge Rail Conduit	LS	1	x 70,000.00 = \$	70,000
I-5 @ W. Hammer Ln, PM 32.70 Ramp Signal & Lighting	LS	1	x 920,000.00 = \$	920,000
NB I- 5, N/O Hammer Ln, PM 33.43 CCTV	LS	1	x 45,000.00 = \$	45,000
NB I- 5, S/O Eight Mile Rd, PM 34.460 EMS	LS	1	x 35,000.00 = \$	35,000
NB I- 5, S/O Eight Mile Rd, PM 34.49 RWIS	LS	1	x 35,000.00 = \$	35,000
6.I-5 @ W. 8 Mile Road, PM 35.30 APS	LS	1	x 60,000.00 = \$	60,000
NB I-5 1 MI S/O SR 12, PM 38.40 CMS, CCTV	LS	1	x 230,000.00 = \$	230,000
I-5 @ PM 39.00 TMS	LS	1	x 40,000.00 = \$	40,000
I-5 @ PM 39.50 TMS	LS	1	x 40,000.00 = \$	40,000
I-5 (MEDIAN) @ PM 39.57 Highway Advisory Radio	LS	1	x 55,000.00 = \$	55,000
NB I- 5, N/O SR 12, PM 39.85 RWIS	LS	1	x 35,000.00 = \$	35,000
I-5 @ PM 40.00 TMS	LS	1	x 40,000.00 = \$	40,000
SB I-5, 1 MI N/O SR 12, PM 41.07 CMS, TMS, CCTV	LS	1	x 245,000.00 = \$	245,000
SB I- 5, S/O Peltier Rd, PM 43.165 CCTV	LS	1	x 45,000.00 = \$	45,000
I-5 @ Peltier Rd, PM 44.712 Lighting Standards	LS	1	x 120,000.00 = \$	120,000
SB I- 5, N/O Peltier Rd, PM 45.89 EMS	LS	1	x 45,000.00 = \$	45,000
I-5 @ Thornton Rd/Walnut Grove Rd, PM 47.602 Lightin	LS	1	x 120,000.00 = \$	120,000
I-5 Ramp Lighting	LS	1	x 540,000.00 = \$	540,000
<i>Subtotal Traffic Electrical</i>				\$ 2,720,000

6B - Traffic Signing and Striping

Item code	Unit	Quantity	Unit Price (\$)	Cost
566011 Roadside Sign - One Post	EA		x = \$	-
566012 Roadside Sign - Two Post	EA		x = \$	-
5602XX Furnish Sign	SQFT		x = \$	-
568016 Install Sign Panel on Existing Frame	SQFT		x = \$	-
150711 Remove Painted Traffic Stripe	LF		x = \$	-
141101 Remove Yellow Painted Traffic Stripe (Hazardous Waste)	LF		x = \$	-
150712 Remove Painted Pavement Marking	SQFT		x = \$	-
150742 Remove Roadside Sign	EA		x = \$	-
82010X Delineator (Class X)	EA		x = \$	-
XXXXXX Overhead Sign	LS	1	x 900,000.00 = \$	900,000
XXXXXX Pavement Delineation Items	LS	1	x 592,725.00 = \$	592,725
120090 Construction Area Signs	LS	1	x 27,500.00 = \$	27,500
XXXXXX Replace Roadside Sign	LS	1	x 384,240.00 = \$	384,240
<i>Subtotal Traffic Signing and Striping</i>				\$ 1,904,465

6C - Traffic Management Plan

Item code	Unit	Quantity	Unit Price (\$)	Cost
12865X Portable Changeable Message Signs	LS	1	x \$ 228,000 = \$	228,000
<i>Subtotal Traffic Management Plan</i>				\$ 228,000

6C - Stage Construction and Traffic Handling

Item code	Unit	Quantity	Unit Price (\$)	Cost
120199 Traffic Plastic Drum	EA		x = \$	-
12016X Channelizer (Type X)	EA		x = \$	-
120120 Type III Barricade	EA		x = \$	-
129100 Temporary Crash Cushion Module	EA		x = \$	-
120100 Traffic Control System (includes k-rail)	LS	1	x 2,526,500 = \$	2,526,500
129110 Temporary Crash Cushion	EA		x = \$	-
129000 Temporary Railing (Type K)	LF		x = \$	-
120149 Temporary Pavement Marking (Paint)	SQFT		x = \$	-
82010X Delineator (Class X)	EA		x = \$	-
XXXXXX Some Item	Unit		x = \$	-
<i>Subtotal Stage Construction and Traffic Handling</i>				\$ 2,526,500

TOTAL TRAFFIC ITEMS	\$ 7,379,000
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PROJECT

EA: 10-1E3000 PID: 1018000273

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price (\$)		Cost
190101	Roadway Excavation	CY	6,860	x	50.00	= \$	343,000
19801X	Imported Borrow	CY/TON		x		= \$	-
390132	Hot Mix Asphalt (Type A)	TON	13,880	x	80.00	= \$	1,110,400
26020X	Class 2 Aggregate Base	TON/CY		x		= \$	-
250401	Class 4 Aggregate Subbase	CY		x		= \$	-
130620	Temporary Drainage Inlet Protection	EA		x		= \$	-
129000	Temporary Railing (Type K)	LF		x		= \$	-
128601	Temporary Signal System	LS		x		= \$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		= \$	-
XXXXXX	Obliterate Surfacing	SQYD	6,470	x	5.00	= \$	32,350
397005	Tack Coat	TON	20	x	800.00	= \$	16,000

TOTAL DETOURS	\$ 1,501,800
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SUBTOTAL SECTIONS 1 through 7	\$ 64,529,300
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SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items

ADA Items	1.0%	\$	-
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8B - Bike Path Items

Bike Path Items	0.0%	\$	-
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8C - Other Minor Items

Other Minor Items	8.0%	\$	-
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Total of Section 1-7	\$ 64,529,300	x	9.0%	= \$	-
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TOTAL MINOR ITEMS	\$ -
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SECTIONS 9: MOBILIZATION

Item code		Unit	Quantity		Unit Price (\$)		Cost
999990	Total Section 1-8			x	10%	= \$	6,452,930

TOTAL MOBILIZATION	\$ 6,453,000
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SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price (\$)		Cost
066670	Payment Adjustments For Price Index Fluctuations	LS	1	x	437,000.00	= \$	437,000
066094	Value Analysis	LS	1	x	10,000.00	= \$	10,000
066070	Maintain Traffic	LS	1	x	1,000,000.00	= \$	1,000,000
090205	Dispute Resolution Board Onsite Mtg	EA	9	x	6,000.00	= \$	54,000
090210	Hourly Offsite DRB-Related Tasks	HR	60	x	200.00	= \$	12,000
066015	Federal Trainee Program	LS	1	x	18,400.00	= \$	18,400
066610	Partnering	LS	1	x	70,000.00	= \$	70,000
066204	Remove Rock and Debris	LS		x		= \$	-
066222	Locate Existing Crossover	LS		x		= \$	-
XXXXXX	Some Item	Unit		x		= \$	-

Cost of NPDES Supplemental Work specified in Section 5D = \$ 21,699

Total Section 1-8	\$ 64,529,300	1%	= \$	322,647
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TOTAL SUPPLEMENTAL WORK	\$ 1,945,800
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PROJECT

EA: 10-1E3000 PID: 1018000273

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code	Unit	Quantity	x	Unit Price (\$)	=	Cost
066105 Resident Engineers Office	LS	1	x	453,600.00	=	\$453,600
066063 Traffic Management Plan - Public Information	LS	1	x	36,000.00	=	\$36,000
066901 Water Expenses	LS		x		=	\$0
8609XX Traffic Monitoring Station (X)	LS		x		=	\$0
066841 Traffic Controller Assembly	LS		x		=	\$0
066840 Traffic Signal Controller Assembly	LS		x		=	\$0
066062 COZEEP Contract	LS	1	x	864,000.00	=	\$864,000
066838 Reflective Numbers and Edge Sealer	LS		x		=	\$0
066065 Tow Truck Service Patrol	LS		x		=	\$0
066916 Annual Construction General Permit Fee	LS	1	x	7,599.00	=	\$7,599
XXXXXX Special Construction Signs	Unit		x		=	\$0
Total Section 1-8				\$ 64,529,300	=	\$ -

TOTAL STATE FURNISHED	\$1,361,200
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SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization	\$69,640,500	(used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency)	\$80,678,300	(used to check if project is greater than \$5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code	Unit	Quantity	x	Unit Price (\$)	=	Cost
090100 Time-Related Overhead	WD	360	X	\$2,000	=	\$720,000

TOTAL TIME-RELATED OVERHEAD	\$720,000
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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	\$	75,009,300	x	15%	=	\$11,251,395
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TOTAL CONTINGENCY	\$11,251,400
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PROJECT

EA: 10-1E3000 PID: 1018000273

II. STRUCTURE ITEMS

	Bridge 1		Bridge 2		Bridge 3
DATE OF ESTIMATE	06/17/21		06/17/21		06/17/21
Bridge Name	Hammer Lane UC		Mosher Slough Bridge		Bear Creek Bridge
Bridge Number	29-0212R/L		29-0199R/L		29-0177R/L
Structure Type	Conc Box Girders		Conc T Girders		Conc T Girders
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)	xxxxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	\$0		\$0		\$0
Work to be done	Replace: Barrier, Approach Slab, Joint Seal		Replace: Barrier Transition, Approach Slab, Joint Seal		Replace: Barrier Transition, Approach Slab, Joint Seal
COST OF EACH	\$1,263,000		\$790,000		\$805,000

	Bridge 4		Bridge 5		Bridge 6
DATE OF ESTIMATE	06/17/21		06/17/21		06/17/21
Bridge Name	McAuliffe Rd UC		Eight Mile Rd UC		Various Bridges total of 8
Bridge Number	29-0200R/L		29-0209R/L		
Structure Type	Conc T Girders		Conc Box Girders		
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		1 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	\$100		\$0		\$0
Work to be done	Replace: Barrier Transition, Approach Slab, Joint Seal, Slope Paving		Replace: Barrier Transition, Approach Slab, Joint Seal		
COST OF EACH	\$918,000		\$805,000		\$1,808,000

Structure total cost of bridges includes mobilization and contingencies.

TOTAL COST OF BRIDGES	\$6,389,000
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TOTAL COST OF BUILDINGS	\$0
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Structures Mobilization Percentage 20%

\$1,277,800

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

Structures Contingency Percentage 25%

\$1,597,250

TOTAL COST OF STRUCTURES	\$6,389,000
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Estimate Prepared By: _____
Michael B. Downs - Division of Structures

_____ Date

PROJECT

EA: 10-1E3000 PID: 1018000273

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		\$		
	A2) SB-1210		\$	0	
B)	Acquisition of Offsite Mitigation		\$	0	
C)	C1) Utility Relocation (State Share)		\$	0	
	C2) Potholing (Design Phase)		\$	62,500	
D)	Railroad Acquisition		\$	0	
E)	Clearance / Demolition		\$	0	
F)	Relocation Assistance (RAP and/or Last Resort Housing Costs)		\$	0	
G)	Title and Escrow		\$	0	
H)	Environmental Review		\$	0	
I)	Condemnation Settlements	<u>0%</u>	\$	0	
J)	Design Appreciation Factor	<u>0%</u>	\$	0	
K)	Utility Relocation (Construction Cost)		\$	0	

L)	TOTAL RIGHT OF WAY ESTIMATE	\$62,500
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M)	TOTAL R/W ESTIMATE: Escalated	\$68,906
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N)	RIGHT OF WAY SUPPORT	\$162,000
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Support Cost Estimate
Prepared By _____ Project Coordinator¹ _____ Phone _____

Utility Estimate Prepared
By _____ Utility Coordinator² _____ Phone _____

R/W Acquisition Estimate
Prepared By _____ James Summerton, Right of Way Estimator³ _____ 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



**CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION
DETERMINATION FORM (rev. 04/2021)**

Project Information

Project Name (if applicable): I-5 Pavement Anchor Project

DIST-CO-RTE: 10/SJ/5

PM/PM: 32.5-49.8

EA: 10-1E300/1018000273

Federal-Aid Project Number:

Project Description

The project proposes to rehabilitate the mainline and ramps on Interstate 5 (I-5), in and near the City of Stockton, San Joaquin County from Hammer Lane Undercrossing to the Sacramento County Line. The proposed scope of work incorporates nine satellite assets that include guardrail upgrade, bridge rail replacement, culvert replacement, operational improvements, sign replacements, Transportation Management System elements, roadside safety improvements, lighting and American with Disabilities Act improvements. (continued)

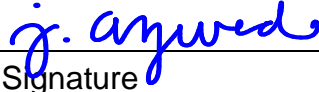
Caltrans CEQA Determination (Check one)

- Not Applicable** – Caltrans is not the CEQA Lead Agency
- Not Applicable** – Caltrans has prepared an IS or EIR under CEQA

Based on an examination of this proposal and supporting information, the project is:

- Exempt by Statute.** (PRC 21080[b]; 14 CCR 15260 et seq.)
- Categorically Exempt. Class 1(c).** (PRC 21084; 14 CCR 15300 et seq.)
 - No exceptions apply that would bar the use of a categorical exemption (PRC 21084 and 14 CCR 15300.2). See the [SER Chapter 34](#) for exceptions.
- Covered by the Common Sense 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 (14 CCR 15061[b][3].)

Senior Environmental Planner or Environmental Branch Chief

Jaycee Azevedo		09/08/2021
Print Name	Signature	Date

Project Manager

Chris Burlaza		09/08/2021
Print Name	Signature	Date



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

Caltrans NEPA Determination (Check one)

Not Applicable

Caltrans 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). See SER Chapter 30 for unusual circumstances. As such, the project is categorically excluded from the requirements to prepare an EA or EIS under NEPA and is included under the following:

23 USC 326: Caltrans has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to 23 USC 326 and the Memorandum of Understanding dated April 18, 2019, executed between FHWA and Caltrans. Caltrans 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 Caltrans

23 USC 327: Based on an examination of this proposal and supporting information, Caltrans 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.

Senior Environmental Planner or Environmental Branch Chief

Jaycee Azevedo Jaycee Azevedo 09/08/2021
Print Name Signature Date

Project Manager/ DLA Engineer

Chris Burlaza Chris Burlaza 09/08/2021
Print Name Signature Date

Date of Categorical Exclusion Checklist completion (if applicable): 9/8/21

Date of Environmental Commitment Record or equivalent: 9/8/21

Briefly list environmental commitments on continuation sheet if needed (i.e., not necessary if included on an attached ECR). Reference additional information, as appropriate (e.g., additional studies and design conditions).



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

Continuation sheet:

The project scope would include:

- Work off the paved roadway
- Trenches, grading, or other ground disturbance
- Drainage work or alterations
- Median detour
- Temporary construction easements
- Vegetation removal
- Structures on or adjacent to the proposed right of way
- Nightwork

The purpose of the project is to rehabilitate and extend the pavement service life, repair the infrastructure, and improve mobility on I-5 within the project limits. The project is needed to replace the deteriorating pavement and highway infrastructures and assets that have been identified to be non-compliant with current standards.

General

This project is Categorically Exempt under the California Environmental Quality Act (CEQA) and Categorically Excluded under the National Environmental Policy Act (NEPA) unless 1) the scope of the project changes to include additional activities or areas; or 2) there is an unforeseen discovery of sensitive or cultural resources.

Air

The project is exempt from all project-level conformity requirements under 40 CFR 93.126, Table 2, Safety: Pavement resurfacing and/or rehabilitation.

- Caltrans Standard Specifications Section 10-5, Dust Control, and 14-9.02, Air Pollution Control, are required as part of all construction contracts to reduce and control emission impacts during construction. A Dust Control Plan approved by the San Joaquin Valley Air Pollution Control District is needed if at least 2,500 cubic yards of material are moved in a day for at least 3 days of the project, or if 5 or more acres of land will be disturbed during construction.

Biology

Based on the limited scope of the project and a lack of sensitive habitat within the project limits, a "No Effect" determination was made for Federally-listed species under the Federal Endangered Species Act and for State-listed species under the California Endangered Species Act.

There is a low risk of impact to nesting migratory birds and raptors. Standard avoidance and minimization measures will be implemented to ensure there is no impact to nesting migratory birds and raptors:

- Standard Special Provision 14-6.03A will be included in the construction contract.



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

- If construction activities occur within the migratory bird nesting season (February 1-September 30), preconstruction survey for migratory birds and raptors will be required fourteen days prior to the start of construction.
- If migratory birds or raptors are found nesting within or to a work area during construction activities, the following environmentally sensitive area buffers will be required:
 - o If any active migratory bird nest is observed, a 100-foot buffer must be implemented and avoided until the young have fledged or a qualified biologist determines that construction may proceed
 - o If an active Tricolored blackbird nest is observed, a 250-foot buffer must be implemented and avoided until the young have fledged or a qualified biologist determines that construction may proceed
 - o If an active burrowing owl burrow is observed, a 165-foot buffer (September 1-January 31 due to non-breeding) and 250-foot buffer (February 1-August 31 due to breeding) must be implemented and avoided around the nest until the young have fledged or a qualified biologist determines that construction may proceed
 - o If an active raptor nest is observed, a 200-foot buffer must be implemented and avoided until the young have fledged or a qualified biologist determines that construction may proceed
 - o If an active Swainson's hawk nest is observed, a 600-foot buffer must be implemented and avoided until the young have fledged or a qualified biologist determines that construction may proceed

Cultural

The project conforms to the Section 106 Programmatic Agreement screened undertaking Class 25 and is exempt from further review. A finding of "No Historic Properties Affected" was adopted for the project.

Floodplain

The project will not result in a significant encroachment on the base floodplain.

Hazardous Waste

All areas requiring excavation and/or soil to be hauled off-site or moved to an alternate location within the project area shall be surveyed for ADL during PS&E.

The project would potentially impact 15 bridges (listed in the ISA). A project-specific asbestos containing materials survey and a project-specific survey for lead will be conducted on the bridges prior to construction activities.

- Caltrans Standard Special Provision 14-11.14 pertaining to treated wood waste will be added to the construction contract.

Noise



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

This project is not a Type 1 project. However, during construction the project should comply with Caltrans Standard Specification 14-8, Noise Control. The following additional measures would minimize the temporary noise impacts from construction:

- Do not exceed 86 dBA L_{max} at 50 feet from the job site activities from 9 PM to 6 AM.
- Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

Section 4(f)

Oak Grove Regional Park is considered a Section 4(f) resource and is located adjacent to the project area. The project will take place entirely within State right-of-way and as such a No Use determination was made for the resource.

Water

The contractor, as required by Caltrans Standard Specification Section 13-1, must abide by appropriate best management practices selected for the project and address all potential water quality impacts that may occur during construction.

- If the project disturbs less than one acre of soil, a Water Pollution Control Plan is required to be prepared by the contractor per the Caltrans Standard Specification Section 13-1.
- If the project disturbs one acre or more of soil, the following requirements would be required:
 - o A Notification of Intent is to be submitted to the appropriate Regional Water Quality Control Board at least 30 days prior to the start of construction.
 - o A Stormwater Pollution Prevention Plan is to be prepared and implemented during construction to the satisfaction of the Resident Engineer.
 - o A Notice of Termination shall be submitted to the Regional Board upon completion of construction and site stabilization. A project will be considered complete when the criteria for final stabilization in the Construction General Permit are met.

Memorandum

*Making Conservation a
California Way of Life*

To: NICHOLAS CHAN, Chief
Design Branch P
Office of Design IV
Central Region Project Development

Date: January 20, 2021
File: 10-SJ-5-PM 32.7/49.8
EA: 10-1E300_
Project No: 1018000273
Project Name: I-5 Pavement Anchor

Attn: Cheong-Yew Cheng
Project Engineer

my

From: MANDEEP S.DHESI, Chief
District Materials Engineer
Materials Engineering Branch - Fresno
Central Region Construction Deflection Testing



Subject: **PAVEMENT SECTION RECOMMENDATIONS**

This memo is in response to your request dated September 11, 2020, for the above-referenced project for the Pavement Anchor Project on Interstate 5 from the Hammer Lane Undercrossing (UC) to the Sacramento County Line (PM 32.7 to PM 49.8), in and near the City of Stockton, in San Joaquin County.

The proposed pavement strategy is to replace the existing pavement with Continuously Reinforced Concrete Pavement (CRCP) and Jointed Plain Concrete Pavement (JPCP) on the outside shoulder in both the northbound and southbound directions from Hammer Lane UC (PM 32.5) to Eight Mile Road UC (PM 35.5).

Replacement of the existing concrete pavement with CRCP will also require the approach slabs within this section to be replaced. Five bridges have been identified within the CRCP limits where the approach slabs would require replacement.

The inside shoulder, from PM 32.5 to PM 35.5, will be reconstructed with Hot Mix Asphalt (HMA), widened to ten feet and structurally strengthened to accommodate traffic handling requirements during construction.

The pavement for the remainder of the project limits will be addressed with individual slab replacement using Rapid Strength Concrete (RSC) in various locations along I-5 with diamond grinding to meet smoothness requirements across all lanes in both the northbound and southbound directions from Eight Mile Rd (PM 35.5) to the Sacramento County line (PM 49.8).

The ramps within the project limits are proposed to be cold planed 0.25 feet and overlaid with 0.25 feet HMA.

The structural sections are designed in accordance with Chapters 600 to 680 of the Highway Design Manual (HDM) dated July 1, 2020

The abbreviations used herein are described as follows:

RHMA	Rubberized Hot Mix Asphalt (Type G), [PG 64-16]
HMA	Hot Mix Asphalt (Type A), [PG 70-10]
JPCP	Jointed Plain Concrete Pavement
CRCP	Continuously Reinforced Concrete Pavement
RSC	Rapid Strength Concrete
LCB	Lean Concrete Base
AB	Aggregate Base (Class 2)
BB	Base Bond Breaker
OGFC	Open Graded Friction Course
CL	Inorganic clays of low to medium plasticity
TI ₂₀	Traffic Index for 20 Years
TI ₄₀	Traffic Index for 40 Years
TI ₁	Traffic Index for 1 Year
TI	Traffic Index
/	Overlaying

All thicknesses designated herein are in feet.

In addition to the TIs indicated herein, the design parameters are:

Pavement Climate Zone	=	Inland Valley
Class 2 AB Design R-value	=	78
Class 2 AS Design R-value	=	50
Subgrade Soil Type*	=	Type II
Basement soil classification*	=	CL
Corresponding R-value (Tested)*	=	16

*Soil data is collected from the UCPRC-IGPR website core log.

Basement soil classification is based on the Unified Soil Classification System, (ASTM D 2487) as per HDM Table 614.2.

STATE ROUTE 5

TRAVELED WAY RIGID PAVEMENT

The pavement is considered laterally supported if it is tied to an adjacent lane, has tied rigid shoulders, or has a widened slab (lane number 1 is 13 feet wide and lane number 3 is 14 feet wide). If lateral support is provided along only one longitudinal joint, then the pavement is considered to have no lateral support.

Whether the pavement is laterally supported or not, all concrete pavement should be doweled across transverse joints using dowel bars as indicated in P1 of the 2018 Standard Plans.

If the concrete pavement is laterally supported, it should also be tied along longitudinal joints using tie bars as indicated in P1 of the 2018 Standard Plans.

Rigid shoulders are built with rigid pavement and are tied to the adjacent lane with tie bars, which provide lateral support.

ALTERNATE-1 :WIDEN TO 6-LANE FREEWAY BY CONSTRUCTING AN INSIDE LANE IN BOTH DIRECTIONS.

LANE NO. 1

RIGID PAVEMENT (WITH LATERAL SUPPORT)

	TI ₂₀ = 12.5	TI ₄₀ = 14.0
JPCP BB/LCB/AS	0.85/0.35/0.70	0.95/ 0.35/0.70
JPCP/HMA-A/AS	0.90/0.25/0.70	0.95/0.25/0.70
JPCP/AB	N / A	N / A
CRCP/HMA-A/AS	0.80/0.25/0.70	0.85 / 0.25/0.70

RIGID PAVEMENT (WITHOUT LATRAL SUPORT)

	TI ₂₀ = 12.5	TI ₄₀ = 14.0
JPCP BB/LCB	1.00 /0.35/0.70	1.05 / 0.35/0.70
JPCP/HMA-A	1.00 /0.25/0.70	1.05 / 0.25/0.70
JPCP/AB	N / A	N / A
CRCP/HMA-A	0.90/0.25/0.70	0.95 / 0.25/070

FLEXIBLE PAVEMENT

	TI ₂₀ = 12.5	TI ₄₀ = 14.0
RHMA/HMA/AB	0.20/0.60/1.30	0.20/0.65/1.95
HMA/AB	0.80/1.30	N/A
OGFC//HMA/AB	N/A	0.10/0.85/1.95
RHMA/HMA/AB/AS	0.20/0.60/0.60/0.75	0.20/0.65/0.75/1.40
HMA/AB/AS	0.80/0.60/0.75	N/A
OGFC//HMA/AB/AS	N/A	0.10/0.85/0.75/1.40

LANE NO. 2 AND 3.

RIGID PAVEMENT (WITH LATERAL SUPPORT)

	TI ₂₀ = 15.0	TI ₄₀ = 16.5
JPCP BB/LCB/AS	1.00/0.35/0.70	1.10/0.35/0.70
JPCP/HMA-A/AS	1.00/0.25/0.70	1.10/0.25/0.70
JPCP/AB	N / A	N / A
CRCP/HMA-A/AS	0.90/0.25/0.70	0.95/0.25/0.70

RIGID PAVEMENT (WITHOUT LATERAL SUPPORT)

	TI ₂₀ = 15.0	TI ₄₀ = 16.5
JPCP BB/LCB/AS	1.15/0.35/0.70	1.25/0.35/0.70
JPCP/HMA-A/AS	1.15/0.25/0.70	1.25/0.25/0.70
JPCP/AB	N / A	N / A
CRCP/HMA-A/AS	1.05/0.25/0.70	1.10/0.25/0.70

FLEXIBLE PAVEMENT

	TI ₂₀ = 15.0	TI ₄₀ = 16.5
RHMA/HMA/AB	0.20/0.75/1.75	0.20/0.85/1.50
HMA/AB	0.95/1.75	N/A
OGFC//HMA/AB	N/A	0.10/1.05/1.50
RHMA/HMA/AB/AS	0.20/0.60/0.60/0.75	0.20/0.85/0.65/1.00
HMA/AB/AS	0.95/1.00/1.10	N/A
OGFC//HMA/AB/AS	N/A	0.10/1.05/0.65/1.00

SR 5 MAINLINE NORTH & SOUTH BOUND OUTSIDE SHOULDER

OUTSIDE SHOULDER (10.0-FOOT)

Rigid shoulders, which are tied to the adjacent lane with steel tie bars, provide lateral support to the adjacent lane even if the longitudinal joint on the opposite side of the lane cannot be tied to the adjacent existing lane slab. In accordance with Index 626.2 of the HDM, the structural section of a tied rigid shoulder should be the same as that of the adjacent traveled way.

ALTERNATIVE 1 – SAME AS ADJACENT NEW TRAVELED WAY LANE

To obtain the maximum benefit, the shoulders would be built monolithically with the adjacent lane (at the same time, with no contact joint). This would require the shoulder cross slope to match the traveled way cross slope, which would require a design exception.

WIDENED LANE PANEL (2') W/REMAINING 8' SHOULDER WIDTH HMA PAVEMENT

An alternative method of providing lateral support to the adjacent lane is to design the adjacent lane panel width wider than the standard width of 12-foot for a total width of 14-feet. The additional 2-foot panel width is considered part of the shoulder. To be constructible, the additional 2-foot width would have to be in the same plane as the 12-foot lane portion of the panel. The remaining width of the shoulder would be an HMA structural section, sloping, as designated by the Design Engineer, and consisting of one of the following:

ALTERNATIVE 1 – DESIGNED WITH SAME TI AS ADJACENT TRAVELED WAY LANE

RIGID PAVEMENT

RIGID PAVEMENT (WITHOUT LATERAL SUPPORT)

	TI ₂₀ = 15.0	TI ₄₀ = 16.5
JPCP BB/LCB/AS	1.15/0.35/0.70	1.25/0.35/0.70
JPCP/HMA-A/AS	1.15/0.25/0.70	1.25/0.25/0.70
JPCP/AB	N / A	N / A
CRCP/HMA-A/AS	1.05/0.25/0.70	1.10/0.25/0.70

FLEXIBLE PAVEMENT

	TI ₂₀ = 15.0	TI ₄₀ = 16.5
RHMA/HMA/AB	0.20/0.75/1.75	0.20/0.85/1.50
HMA/AB	0.95/1.75	N/A
OGFC//HMA/AB	N/A	0.10/1.05/1.50

RHMA/HMA/AB/AS	0.20/0.60/0.60/0.75	0.20/0.85/0.65/1.00
HMA/AB/AS	0.95/1.00/1.10	N/A
OGFC//HMA/AB/AS	N/A	0.10/1.05/0.65/1.00

ALTERNATIVE 2 – DESIGNED WITH TI BASED ON 2% OF ADJACENT LANE ESALs

**RIGID PAVEMENT- RIGID PAVEMENT (WITHOUT LATERAL SUPPORT)
 FLEXIBLE PAVEMENT**

In this alternative, the TI of the shoulder is determined from 2% of the projected ESALs in the adjacent lane or a TI of 5.0, whichever is greater, but not to exceed 9.0. The first 2-ft of the outside shoulder and 1-ft of the inside shoulder measured from the ETW, must be the same section as the adjacent traveled way.

First 2-ft of outside shoulder (Same as Adjacent Traveled Way Lane)

Remaining 8-ft shoulder:

	TI ₂₀ = 9.0	TI ₄₀ = 9.0
JPCP/AB	0.80/1.00	0.80/1.00
HMA/AB	0.50/0.80	0.55/0.75
RHMA/HMA/AB	0.20/0.30/0.80	0.20/0.35/0.75
OGFC/HMA/AB	N/A	0.10/0.55/0.75
HMA/AB/AS	0.55/0.50/0.50	0.85/0.50
RHMA/HMA/AB/AS	0.20/0.35/0.50/0.50	0.20/0.30/0.65/0.75
OGFC/HMA/AB/AS	N/A	0.10/0.50/0.65/0.75

NOTE

The depth of AB is a minimum, the total depth of the shoulder pavement structure should match the pavement structure grading plane of the adjacent traffic lane by increasing the depth of AB

SR 5 MAINLINE NORTH & SOUTH BOUND INSIDE SHOULDER

INSIDE SHOULDER (8-10-FOOT)

Rigid shoulders, which are tied to the adjacent lane with steel tie bars, provide lateral support to the adjacent lane even if the longitudinal joint on the opposite side of the lane cannot be tied to the adjacent existing lane slab. In accordance with Index 626.2 of the HDM, the structural section of a tied rigid shoulder should be the same as that of the adjacent traveled way.

ALTERNATIVE 1 – SAME AS ADJACENT NEW TRAVELED WAY LANE

To obtain the maximum benefit, the shoulders would be built monolithically with the adjacent lane (at the same time, with no contact joint). This would require the shoulder cross slope to match the traveled way cross slope, which would require a design exception.

WIDENED LANE PANEL (1') W/REMAINING 7-9-FOOT SHOULDER WIDTH HMA PAVEMENT

An alternative method of providing lateral support to the adjacent lane is to design the adjacent lane panel width wider than the standard width of 12-foot for a total width of 13-feet. The additional 1-foot panel width is considered part of the shoulder. To be constructible, the additional 1-foot width would have to be in the same plane as the 12-foot lane portion of the panel. The remaining width of the shoulder would be an HMA structural section, sloping, as designated by the Design Engineer, and consisting of one of the following:

ALTERNATIVE 1 – DESIGNED WITH SAME TI AS ADJACENT TRAVELED WAY LANE

	TI ₂₀ = 12.5	TI ₄₀ = 14.0
JPCP BB/LCB/AS	.85/0.35/0.70	1.05/0.35/0.70
JPCP/HMA-A/AS	0.90/0.25/0.70	1.05/0.25/0.70
JPCP/AB	N/A	N/A
CRCP/HMA-A/AS	0.80/0.25/0.70	0.95/0.25/0.70

RIGID PAVEMENT (WITHOUT LATERAL SUPPORT)

	TI ₂₀ = 12.5	TI ₄₀ = 14.0
JPCP BB/LCB/AS	1.00 /0.35/0.70	1.15/0.35/0.70
JPCP/HMA-A/AS	1.00 /0.25/0.70	1.15/0.25/0.70
JPCP/AB	N/A	N/A
CRCP/HMA-A/AS	0.90/0.25/0.70	1.00/0.25/0.70

FLEXIBLE PAVEMENT

	TI ₂₀ = 12.5	TI ₄₀ = 14.0
RHMA/HMA/AB	0.20/0.60/1.30	0.20/0.65/1.95
HMA/AB	0.80/1.30	0.85/1.95
OGFC//HMA/AB	0.10/0.80/1.30	0.10/0.85/1.95
RHMA/HMA/AB/AS	0.20/0.60/0.60/0.75	0.20/0.65/0.75/1.40
HMA/AB/AS	0.80/0.60/0.75	0.85/0.75/1.40
OGFC//HMA/AB/AS	0.10/0.80/0.60/0.75	0.10/0.85/0.75/1.40

ALTERNATIVE 2 – DESIGNED WITH TI BASED ON 2% OF ADJACENT LANE ESALs

In this alternative, the TI of the shoulder is determined from 2% of the projected ESALs in the adjacent lane or a TI of 5.0, whichever is greater, but not to exceed 9.0. The first 2-ft of the outside shoulder and 1-ft of the inside shoulder measured from the ETW, must be the same section as the adjacent traveled way.

First 1-ft of inside shoulder (Same as Adjacent Traveled Way Lane)

Remaining 7-9 ft shoulder:

	TI ₂₀ = 9.0	TI ₄₀ = 9.0
JPCP/AB	0.80/1.00	0.80/1.00
HMA/AB	0.50/0.80	0.55/0.75
RHMA/HMA/AB	0.20/0.30/0.80	0.20/0.35/0.75
OGFC/HMA/AB	N/A	0.10/0.55/0.75
HMA/AB/AS	0.55/0.50/0.50	0.85/0.50
RHMA/HMA/AB/AS	0.20/0.35/0.50/0.50	0.20/0.30/0.65/0.75
OGFC/HMA/AB/AS	N/A	0.10/0.50/0.65/0.75

ALTERNATE 2

LANE NO. 1 AND 2

4-LANE FREEWAY NEW RECONSTRUCTION INSIDE LANE AND OUTSIDE LANE IN BOTH DIRECTIONS

The following pavement section recommendations are to be used whenever the replacement of the existing concrete pavement becomes necessary for the five identified bridges to approach slabs within post mile 35.2 to 49.8 or any CRCP panel section to be replaced with Rapid Strength Concrete (RSC) in various locations along I-5 with diamond grinding to meet smoothness requirements across all lanes in both the Northbound and Southbound.

RIGID PAVEMENT (WITH LATERAL SUPPORT)

	TI ₂₀ = 15.5	TI ₄₀ = 17.0
JPCP BB/LCB/AS	1.05/0.35/0.70	1.10/ 0.35/0.70
JPCP/HMA-A/AS	1.05/0.25/0.70	1.10/0.25/0.70
JPCP/AB	N/A	N/A
CRCP/HMA-A/AS	0.95/0.25/0.70	0.95/0.25/0.70

RIGID PAVEMENT (WITHOUT LATERAL SUPPORT)

	TI ₂₀ = 15.5	TI ₄₀ = 17.0
JPCP BB/LCB	1.20 /0.35/0.70	1.25/0.35/0.70
JPCP/HMA-A	1.20/0.25/0.70 1	1.25/0.25/0.70
JPCP/AB	N/A	N/A
CRCP/HMA-A	1.05/0.25/0.70	1.10/0.25/0.70

FLEXIBLE PAVEMENT

	TI ₂₀ = 15.5	TI ₄₀ = 17.0
RHMA/HMA/AB	0.20/0.80/1.60	0.20/0.90/1.40
HMA/AB	1.00/1.60	1.10/1.40
OGFC//HMA/AB	0.10/1.00/1.60	0.10/1.10/1.40
RHMA/HMA/AB/AS	0.20/0.80/0.75	0.20/0.85/0.65/1.00
HMA/AB/AS	1.00/0.75/1.00	1.05/0.65/1.00
OGFC//HMA/AB/AS	0.10/1.05/0.65/1.00	0.10/1.05/0.65/1.00

SR 5 MAINLINE NORTH & SOUTH BOUND OUTSIDE SHOULDER

OUTSIDE SHOULDER (10.0-FOOT)

Rigid shoulders, which are tied to the adjacent lane with steel tie bars, provide lateral support to the adjacent lane even if the longitudinal joint on the opposite side of the lane cannot be tied to the adjacent existing lane slab. In accordance with Index 626.2 of the HDM, the structural section of a tied rigid shoulder should be the same as that of the adjacent traveled way.

ALTERNATIVE 1 – SAME AS ADJACENT NEW TRAVELED WAY LANE

To obtain the maximum benefit, the shoulders would be built monolithically with the adjacent lane (at the same time, with no contact joint). This would require the shoulder cross slope to match the traveled way cross slope, which would require a design exception.

WIDENED LANE PANEL (1' AND 2') W/REMAINING 8'-9' SHOULDER WIDTH HMA PAVEMENT

An alternative method of providing lateral support to the adjacent lane is to design the adjacent lane panel width wider than the standard width of 12-foot for a total width of 14-feet, . The additional 2-foot (outside lane) panel widths are considered part of the shoulder. To be constructible, the

additional 2-foot width would have to be in the same plane as the 12-foot lane portion of the panel. The remaining width of the shoulder would be an HMA structural section, sloping, as designated by the Design Engineer, and consisting of one of the following:

ALTERNATIVE 1 – DESIGNED WITH SAME TI AS ADJACENT TRAVELED WAY LANE

RIGID PAVEMENT

RIGID PAVEMENT (WITHOUT LATERAL SUPPORT)

	TI ₂₀ = 15.5	TI ₄₀ = 17.0
JPCP BB/LCB	1.20 /0.35/0.70	1.25/0.35/0.70
JPCP/HMA-A	1.20/0.25/0.70	1.25/0.25/0.70
JPCP/AB	N/A	N/A
CRCP/HMA-A	1.05/0.25/0.70	1.10/0.25/0.70

FLEXIBLE PAVEMENT

	TI ₂₀ = 15.5	TI ₄₀ = 17.0
RHMA/HMA/AB	0.20/0.80/1.60	0.20/0.90/1.40
HMA/AB	1.00/1.60	1.10/1.40
OGFC//HMA/AB	0.10/1.00/1.60	0.10/1.10/1.40
RHMA/HMA/AB/AS	0.20/0.80/0.75	0.20/0.85/0.65/1.00
HMA/AB/AS	1.00/0.75/1.00	1.05/0.65/1.00
OGFC//HMA/AB/AS	0.10/1.05/0.65/1.00	0.10/1.05/0.65/1.00

ALTERNATIVE 2 – DESIGNED WITH TI BASED ON 2% OF ADJACENT LANE ESALs

RIGID PAVEMENT- RIGID PAVEMENT (WITHOUT LATERAL SUPPORT)

FLEXIBLE PAVEMENT

In this alternative, the TI of the shoulder is determined from 2% of the projected ESALs in the adjacent lane or a TI of 5.0, whichever is greater, but not to exceed 9.0. The first 2-ft of the outside shoulder and 1-ft of the inside shoulder measured from the ETW, must be the same section as the adjacent traveled way.

First 2-ft of outside shoulder (Same as Adjacent Traveled Way Lane)

Remaining 8-ft shoulder:

	TI ₂₀ = 9.0	TI ₄₀ = 9.0
JPCP/AB	0.80/1.00	0.80/1.00
HMA/AB	0.50/0.80	0.55/0.75
RHMA/HMA/AB	0.20/0.30/0.80	0.20/0.35/0.75
OGFC/HMA/AB	N/A	0.10/0.55/0.75
HMA/AB/AS	0.55/0.50/0.50	0.85/0.50
RHMA/HMA/AB/AS	0.20/0.35/0.50/0.50	0.20/0.30/0.65/0.75
OGFC/HMA/AB/AS	N/A	0.10/0.50/0.65/0.75

SR 5 MAINLINE NORTH & SOUTH BOUND INSIDE SHOULDER

INSIDE SHOULDER (8-10-FOOT)

Rigid shoulders, which are tied to the adjacent lane with steel tie bars, provide lateral support to the adjacent lane even if the longitudinal joint on the opposite side of the lane cannot be tied to the adjacent existing lane slab. In accordance with Index 626.2 of the HDM, the structural section of a tied rigid shoulder should be the same as that of the adjacent traveled way.

ALTERNATIVE 1 – SAME AS ADJACENT NEW TRAVELED WAY LANE

To obtain the maximum benefit, the shoulders would be built monolithically with the adjacent lane (at the same time, with no contact joint). This would require the shoulder cross slope to match the traveled way cross slope, which would require a design exception.

WIDENED LANE PANEL (1') W/REMAINING 7-9-FOOT SHOULDER WIDTH HMA PAVEMENT

An alternative method of providing lateral support to the adjacent lane is to design the adjacent lane panel width wider than the standard width of 12-foot for a total width of 13-feet. The additional 1-foot panel width is considered part of the shoulder. To be constructible, the additional 1-foot width would have to be in the same plane as the 12-foot lane portion of the panel. The remaining width of the shoulder would be an HMA structural section, sloping, as designated by the Design Engineer, and consisting of one of the following:

ALTERNATIVE 1 – DESIGNED WITH SAME TI AS ADJACENT TRAVELED WAY LANE

RIGID PAVEMENT

RIGID PAVEMENT (WITHOUT LATERAL SUPPORT)

	TI ₂₀ = 15.5	TI ₄₀ = 17.0
JPCP BB/LCB	1.20 /0.35/0.70	1.25/0.35/0.70
JPCP/HMA-A	1.20/0.25/0.70	1.25/0.25/0.70
JPCP/AB	N/A	N/A
CRCP/HMA-A	1.05/0.25/0.70	1.10/0.25/0.70

FLEXIBLE PAVEMENT

	TI ₂₀ = 15.5	TI ₄₀ = 17.0
RHMA/HMA/AB	0.20/0.80/1.60	0.20/0.90/1.40
HMA/AB	1.00/1.60	1.10/1.40
OGFC//HMA/AB	0.10/1.00/1.60	0.10/1.10/1.40
RHMA/HMA/AB/AS	0.20/0.80/0.75	0.20/0.85/0.65/1.00
HMA/AB/AS	1.00/0.75/1.00	1.05/0.65/1.00
OGFC//HMA/AB/AS	0.10/1.05/0.65/1.00	0.10/1.05/0.65/1.00

In this alternative, the TI of the shoulder is determined from 2% of the projected ESALs in the adjacent lane or a TI of 5.0, whichever is greater, but not to exceed 9.0. The first 2-ft of the outside shoulder and 1-ft of the inside shoulder measured from the ETW, must be the same section as the adjacent traveled way.

First 1-ft of inside shoulder (Same as Adjacent Traveled Way Lane)

Remaining 7-9 ft shoulder:

	TI ₂₀ = 9.0	TI ₄₀ = 9.0
JPCP/AB	0.80/1.00	0.80/1.00
HMA/AB	0.50/0.80	0.55/0.75
RHMA/HMA/AB	0.20/0.30/0.80	0.20/0.35/0.75
OGFC/HMA/AB	0.10/0.50/0.80	0.10/0.55/0.75
HMA/AB/AS	0.55/0.50/0.50	0.85/0.50
RHMA/HMA/AB/AS	0.20/0.35/0.50/0.50	0.20/0.30/0.65/0.75
OGFC/HMA/AB/AS	N/A	0.10/0.50/0.65/0.75

NOTE

The depth of AB is a minimum, the total depth of the shoulder pavement structure should match the pavement structure grading plane of the adjacent traffic lane by increasing the depth of AB

For asphalt pavements, the thickness of the shoulder surface course layer may be tapered from the lane surface course thickness to the shoulder pavement edge thickness of no less the 0.35 foot to address different cross slope conditions (see Figure 613.5A).

For all other cases, the following design standards shall apply:

The minimum TI for the shoulder shall match the TI of the adjacent traffic lane for the first 2 feet of the outside shoulder width and 1.0 foot of the inside shoulder measured from the edge of traveled way. See Figure 613.5B.

For the remaining width of the shoulder, the TI shall:

- be no less than 2 percent of the projected ESAL of the adjacent traffic lane or a TI of 5, whichever is greater.
- not to exceed 9.0.

Do not include treated bases such as lean concrete base underneath the pavement except for treated permeable bases needed to perpetuate an existing treated permeable base under the adjacent lane. Non-permeable treated bases, such as lean concrete base, are not to be included underneath the pavement.

The total depth of the shoulder pavement structure (depth from the surface to the subgrade) shall match the pavement structure grading plane of the adjacent traffic lane.

Matching the total grading plane of the shoulder pavement structure to that of the adjacent traffic lane can be accomplished by increasing the depth of the aggregate base and/or subbase as needed (see Figure 613.5B). This will provide a path for water in the pavement structure to drain away from the lane and into the shoulder. It can also provide a more cost-effective means to upgrade the shoulder to a traffic lane in the future. Although using a thinner overall shoulder pavement structure than the traveled way requires less material and may appear to reduce construction costs, the added costs of time and labor to the Contractor to build the step between the traveled way and shoulder can offset any perceived savings from reduced materials.

REHABILITATION OF EXISTING TRAVELED WAY PCC PAVEMENT

The pavement for the remainder of the project limits will be addressed with individual slab replacement using Rapid Strength Concrete (RSC) in various locations along I-5 with diamond grinding to meet smoothness requirements across all lanes in both the northbound and southbound directions from Eight Mile Rd (PM 35.5) to the Sacramento County line (PM 49.8).

Due to the high AADT within the project limits, the rehabilitation design life of existing pavement should be not less than 20 years.

Rehabilitation of existing rigid pavement would include the following:

1. First, remove any existing pavement panels or portions of panels that are severely failed (third stage cracking) as well as the underlying cement treated base, and replace the base and pavement with the same respective layered thicknesses of rapid strength concrete (RSC) material separated by a bond breaking material.
2. Finally, crack and seat the remaining pavement panels in preparation for an overlay of one of the following HMA pavement strategies.

For cost estimating purposes, the replacement concrete for both the PCC pavement and base should be considered to be rapid strength concrete, a costly material.

In addition, it should be anticipated that the cracks in existing pavement which are wider than 0.02-foot should be filled with a crack sealant or crack filler after grinding pavement.

MEDIAN DETOUR USING INSIDE SHOULDER

MEDIAN.TEMPERARY DETOUR AS WELL AS FUTURE SHOULDER

During construction of lane numbers 2 and 3 and the outside shoulder, the mainline traffic will be detoured to the median shoulder. The median shoulder is designed to handle the mainline traffic during the detoured period and serve as the future shoulder. In this alternative, the TI of the shoulder calculated from the projected ESALs in the adjacent lane plus the detour ESALs.

FLEXIBLE PAVEMENT

$$TI_{20+1} = 10.5$$

RHMA/HMA/AB	0.20/0.50/1.25
HMA/AB	0.70/1.25
RHMA/HMA/AB/AS	0.20/0.55/0.60/0.50
HMA/AB/AS	0.65/0.60/0.50

This structural section is recommended to serve as the detour during construction, and after the completion of construction it would remain to serve as the shoulder.

CROSS OVER MEDIAN DETOUR.

During the new construction or rehabilitation operations, if traffic is to be detoured through the median then the pavement sections below, shall be used for any proposed median detour. This structural section recommended to serve as detour only during construction and should be removed after the completion of the project.

FLEXIBLE PAVEMENT

TI₂₀ = 11.5

HMA/AB	0.80/1.00
HMA/AB/AS	0.75/0.35/0.50
FULL DEPTH HMA-A	0.85

SR 05 NORTHBOUND OFF RAMP TO PELTIER ROAD
SR 05 SOUTHBOUND ONRAMP FROM PELTIER ROAD
SR 05 NORTHBOUND ONRAMP FROM WALNUT GROVE ROAD
SR 05 SOUTHBOUND OFFRAMP TO WALNUT GROVE ROAD

TRAVELED WAY AND SHOULDER

RIGID PAVEMENT

TI₂₀ = 9.5

TI₄₀ = 10.5

JPCP /AB	0.90/1.00	0.95/1.30
JPCP BB/LCB/AS	N/A	0.85/0.35/0.60
JPCP/HMA-A/AS	N/A	0.90/0.25/0.60
CRCP/HMA-A/AS	N/A	NA

FLEXIBLE PAVEMENT

TI₂₀ = 9.5

TI₄₀ = 10.5

RHMA/HMA/AB	0.20/0.40/0.75	0.20/0.45/0.95
RHMA/HMA/AB/AS	0.20/0.35/0.75/0.60	0.20/0.40/0.75/1.50
HMA/AB	0.60/0.75	0.65/0.95
HMA/AB/AS	0.55/0.75/0.60	0.60/0.75/1.50
OGFC/HMA/AB	0.10/0.60/0.75	0.10/0.65/0.95
OGFC/HMA/AB/AS	0.55/0.75/0.60	0.10/0.60/0.75/1.50

NORTHBOUND OFFRAMP TO WALNUT GROVE ROAD
SOUTHBOUND ONRAMP FROM WALNUT GROVE ROAD

TRAVELED WAY AND SHOULDER

RIGID PAVEMENT

TI₂₀ = 10.0

TI₄₀ = 11.0

JPCP /AB	0.90/1.00	0.95/1.30
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JPCP BB/LCB/AS	N/A	0.85/0.35/0.60
JPCP/HMA-A/AS	N/A	0.90/0.25/0.60
CRCP/HMA-A/AS	N/A	NA

FLEXIBLE PAVEMENT

TI₂₀ = 10.0 TI₄₀ = 11.0

RHMA/HMA/AB	0.20/0.40/0.75	0.20/0.45/1.40
RHMA/HMA/AB/AS	0.20/0.40/0.75/0.60	0.20/0.45/0.75/1.25
HMA/AB	0.60/0.75	0.65/1.40
HMA/AB/AS	0.60/0.75/0.60	0.65/0.75/1.25
OGFC/HMA/AB	0.1/0.60/0.75	0.10/0.65/1.40
OGFC/HMA/AB/AS	0.10/0.60/0.75/0.60	0.10/0.65/0.75/1.2

NORTHBOUND ONRAMP FROM PELTIER ROAD
SOUTHBOUND OFFRAMP TO PELTIER ROAD

TRAVELED WAY AND SHOULDER

RIGID PAVEMENT

TI₂₀ = 9.0 TI₄₀ = 10.0

JPCP /AB	0.80/1.00	0.90/1.00
JPCP BB/LCB/AS	N/A	NA
JPCP/HMA-A/AS	N/A	NA
CRCP/HMA-A/AS	N/A	NA

FLEXIBLE PAVEMENT

TI₂₀ = 9.0 TI₄₀ = 10.0

RHMA/HMA/AB	0.20/0.30/0.80	0.20/0.40/1.20
RHMA/HMA/AB/AS	0.20/0.30/0.35/0.65	0.20/0.40/0.50/0.50
HMA/AB	0.50/0.80	0.60/1.20
HMA/AB/AS	0.50/0.55/0.65	0.60/0.50/0.50
OGFC/HMA/AB	0.10/0.50/0.80	0.10/0.60/1.20
OGFC/HMA/AB/AS	0.10/0.50/0.55/0.65	0.10/0.60/0.50/0.50

Note:

It is recommended that both outside and inside shoulders of the ramps should be constructed with the same structural section selected for the traveled way and no separate shoulder sections are recommended.

Note:

Per HQ pavement advisor and Based on the newly revised HDM section 630, HMA-O can be placed as a BMP treatment over RHMA-G but needs to be approved by District Director, simply add the 0.10-foot of OGFC (HMA-O) to all previous pavement section recommendations on your project as BMP treatment with no reduction on any of the pavement layers. Also, District Director needs to approve the elimination of RHMA from the project.

REHABILITATION OF ALL RAMPS

REHABILITATION OF EXISTING ASPHALT PAVEMENT

When widening or realigning a roadway, the existing pavement would usually be rehabilitated and brought up to the same life expectancy as the new widened portion of the roadway. If roadway rehabilitation of existing pavement is needed, the rehabilitation design life of asphalt pavement should be not less than 20 years, or if determined would match the remaining pavement service life of the adjacent roadway, based upon on which has the lowest life-cycle costs, determined by a LCCA on this basis and until a the deflection study is requested and completed, the following suggestions may be used for project cost estimating purposes only.

0.20 RHMA/0.30 HMA or 0.50 HMA

If it is determined that rehabilitation of existing pavement is not appropriate for this project, but a minimal overlay is desirable for other reasons, the following are suggested,

0.20 RHMA or 0.20 HMA

PRIOR TO ANY OTHER WORK:

- Conduct a field review and locate specific areas of severe distress such as rutting greater than 0.08 ft., loose or spalling pavement, raveling, and pumping cracks.
- Repair the localized distressed areas with HMA and, if necessary, AB also, with the thickness matching the existing pavement section as minimum.
- Seal all cracks wider than 0.02 ft.

RHMA/HMA OR HMA OVERLAY – 20 YEAR DESIGN LIFE BY DEFLECTION STUDY

Deflection studies along with coring data are used to measure the structural adequacy of the existing pavement. A reliable rehabilitation strategy of the pavement should be evaluated by a deflection study done at least 18 months before construction. It can also be done during the PIR stage for estimating purposes but would need to be redone during PS&E for the final design. Submit a request memo for a needed deflection testing at the appropriate time and schedule for overlay recommendations.

Materials Engineering would need a minimum of six-weeks to perform deflection testing, coring and to provide the deflection study report and materials report of recommended overlays. Please note that the schedule is dependent upon maintenance to provide traffic control during these field studies. This would be scheduled with Maintenance immediately once a request for these studies has been received but is dependent upon their schedule and availability.

RUBBERIZED HOT MIX ASPHALT

In order to comply with the law to mandate using 35% rubber on paving projects throughout the State for each District, we have been directed to incorporate RHMA or RWMA Type G material into the referenced project. At the discretion of the Project Development Team (PDT), the RHMA or RWMA may be used as the final paving material lift at a maximum thickness of 0.20 foot on a paving project. There are some conditions and criteria that need to be considered when selecting the use of rubberized materials, these items are as follows:

1. There may be a drainage concern with the new construction of either an inside or outside lane and or an inside or outside shoulder when using RHMA. The runoff slope of the pavement would need to be away from adjacent lanes in order to minimize the water on the pavement.
2. RHMA is not recommended in the Method process of pavement placement for gore areas, maintenance pullouts, and medians.
3. When hauling distances are a concern it is suggested to consider using RWMA. The contractor has the option to use a warm mix pavement to assist with temperature losses that come from long haul distances to the project job site.
4. When Local Agencies are involved on a project and RHMA is being considered it is advised to get that Agency's concurrence and approval.

SAFETY EDGE

If dike or curb will not be constructed, it is recommended to use Safety Edge at the outside pavement edge. This asphalt pavement technique is to protect motorists from an over-correction when re-entering the travel lane upon a departure across the edge of the pavement, particularly on two-lane roads with unpaved shoulders. Safety Edge must be placed monolithic with the adjacent lane or shoulder and shaped and compacted with a device attached to the paver.

For more information on the Safety Edge, refer to the following webpage:

http://safety.fhwa.dot.gov/roadway_dept/pavement/safedge/

SHOULDER BACKING

It is recommended to use shoulder backing material between the paved edge of shoulder and the hinge point or a width of approximately 3 feet if there is no hinge point. The thickness of the shoulder backing material would be at the option of the designer ranging from at least 0.25 foot to no more than approximately 0.50 foot. For shoulder backing details, refer to Shoulder Backing Guidelines on the Pavement Design website.

If you have any questions regarding the above recommendations, please call me at (209)948-7567 or Ahmad Shokrpoor at (559)488-4119.

Risk Register for 10-1E300, I-5 Pavement Anchor Project

Form v3.3 last modified 10/30/2018 CB

Risk Checkpoint: PA&ED
Date: 1/18/2022
Project Nickname: I-5 Pavement Anchor Project
EA: 10-1E300
Co-Rt, Post Miles: SJ-05-32.7/49.8
Project Manager: Chris Burlaza
FY & Program (SHOPP or STIP): 2020 (SHOPP)
Capital Costs: \$92,625k
Support Costs: \$17,376k
Total Costs: \$110,001k
RTL Target: 6/16/2023

Phase	Cost Contingency Range \$k			Schedule Contingency Range (Wkg Days)		
	Optimistic	PERT	Pessimistic	Optimistic	PERT	Pessimistic
0-PA&ED	\$3	\$10	\$10	6	27	39
1-PS&E	\$1	\$4	\$5	6	24	37
2-RW Sup	\$0	\$0	\$0	0	0	0
3-Con Sup	\$0	\$8	\$24	0	4	24
Support Contingency	\$4	\$22	\$38	12	55	99
9-RW Cap	\$0	\$0	\$0	0	0	0
4-Con Cap	\$0	\$0	\$0	0	0	0
Capital Contingency	\$0	\$0	\$0	0	0	0
Total Contingency	\$4	\$22	\$38	12	55	99

Risk Identification							Risk Assessment			Risk Response				Quantifying "Red" (High P & I) Level Risks				
Status	ID #	Type	Category	Title	Risk Statement	Current status / assumptions	Risk Trigger	Probability (P)	Cost Impact Schedule Impact (I)	Cost Score Schedule Score (Pxl)	Strategy	Response Actions	Risk Owner	Updated	Impacted Phase	Calculated Contingency	Support (hours) Capital Cost \$k	Schedule (Days)
Active	1	Threat	Design	Traffic handling and stage construction	Construction of CRCP is not feasible without widening the bridges which would lead to evaluating alternative pavement strategies.	There is sufficient width on the existing bridges for traffic handling during stage construction.	Traffic Management does not allow permanent closure of one lane during construction. Survey information shows that there isn't enough width to keep all lanes open through the bridges.	3-Moderate (31-50%) 40%	1 - Very Low (Insignificant) 2 - Low (<1 month)	3 6	Avoid	Work with Pavement Manager to change pavement strategy.	Gurbhay Brar	4/3/2019	1-PS&E Sup 3-Con Sup		O ML P O ML P	O ML P O ML P
Active	2	Threat	Right of Way	Acquisition of easements	As a result of needing new electrical service for lighting, the time to acquire easements may exceed the PS&E lead time which would delay the R/W cert.	New service will be required for proposed light poles and easements are assumed to be needed.	R/W Cert is not attainable by scheduled date.	2-Low (11-30%) 20%	1 - Very Low (Insignificant) 16 - Very High (>6 months)	2 32	Avoid	Work with Program Advisor to drop these locations and initiate a minor project.	Chris Burlaza	12/2/2021	2-RW Sup		O ML P	O ML P
Active	3	Threat	Project Management	Construction Capital	During project development, the construction capital is estimated to be above the programmed amount which would lead to funding constraints.	Current working days estimate and unit costs are conservative.	Rising costs and bids on similar projects during PS&E will affect the BEES.	3-Moderate (31-50%) 40%	4 - Moderate (\$5,501k - \$11,000k) 1 - Very Low (Insignificant)	12 3	Accept	If request for funds is above 120%, work with Asset Manager to see if additional funds are available through a PCR or work with Program Advisors to reduce scope.	Chris Burlaza	12/2/2021	4-Con Cap		O ML P	O ML P
Active	4	Threat	Project Management	Delivery Failure	As a result of the project being delivered in the 4th quarter of the 22/23 fiscal year, we may miss RTL by the end of June, which would lead to missing the fiscal year delivery.	There is sufficient lead time for project development.	Delays to M377 PS&E to DOE will cause a delay to M460 RTL.	3-Moderate (31-50%) 40%	4 - Moderate (\$5,501k - \$11,000k) 4 - Moderate (1-3 months)	12 12	Accept	Work with team to provide sufficient resources to complete the task.	Chris Burlaza	1/18/2022	0-PA&ED Sup 1-PS&E Sup		O ML P O ML P	O ML P O ML P
Active	5	Opportunity	Funding	Reduction in construction capital	As a result of additional information during the subsequent phases, the PDT may decide to change the pavement strategy which would potentially lead to a lower construction cost.	We are constructing CRCP from Hammer Lane IC to Eight Mile Road IC. Random slab replacements from Eight Mile Road IC to Sacramento County line.	Recommendation from the Pavement Manager results in the PDT to evaluate other strategies.	3-Moderate (31-50%) 40%	8 - High (\$1k - \$k) 1 - Very Low (Insignificant)	24 3	Accept	Work with PDT to coordinate as necessary.	Chris Burlaza	12/2/2021	4-Con Cap		O ML P	O ML P
Active	6	Threat	Utilities	Threat	As a result of unknown utility conflicts additional R/W or easements maybe needed.	Current status/ assumptions are that potholing will need to take place to determine conflicts and additional design work will be needed to determine conflicts.	Risk Trigger once potholing is completed and owners facilities are identified to be relocated we can then determine if easements are required.	3-Moderate (31-50%) 40%	4 - Moderate (\$1k - \$k)	12	Accept	Pothole early in the Design phase to determine what is in conflict and if easements are needed.	David Sherman	1/14/2019	9-RW Cap		O ML P	O ML P
Active	7	Threat	Utilities	Threat	As a result of the preliminary nature of Design it is not known what if any utilities will be impacted by the project.	The current assumption is that no Utility Relocation will be required however it is assumed that some Manholes will be affected and will need to be adjusted. This effort will be handled through the R/W Utility Unit.	Risk Trigger once Design has determined the nature of R/W Utility Conflicts the Utility Owners will be contacted.	2-Low (11-30%) 20%	2 - Low (<\$k)	4	Accept	As Design moves into PA&ED determine the exact nature of the R/W Utilities affected and work through the R/W Utility Unit to address these conflicts.	David Sherman	1/14/2019	9-RW Cap 2-RW Sup		O ML P O ML P	O ML P O ML P
Retired	8	Threat	Environmental	Permits to Enter	If there are delays in obtaining access to land/PTEs then surveys would be delayed, result in an impact to schedule.	It is assumed that access to land and PTEs would be obtained in a timely manner.	Unable to contact property owner or property owner is unresponsive.	1-Very Low (1-10%) 5%	1 - Very Low (Insignificant) 1 - Very Low (Insignificant)	1 1	Avoid	Contact property owner early on before PA&ED phase.	Michaela Shelton	2/5/2019				
Active	9	Threat	Environmental	Built Environmental Resources	If built environment resource(s) are identified within the proposed project area during cultural resource surveys, those resources may require additional documentation, evaluation, and/or consultation.	It is assumed that no new built environment resources will be identified in the	Built environment resources discovered.	1-Very Low (1-10%)	8 - High (\$1k - \$k)	8	Mitigate	Mitigate as required.	Michaela Shelton	2/5/2019				

Risk Identification							Risk Assessment			Risk Response				Quantifying "Red" (High P & I) Level Risks				
Status	ID #	Type	Category	Title	Risk Statement	Current status / assumptions	Risk Trigger	Probability (P)	Cost Impact Schedule Impact (I)	Cost Score Schedule Score (Pxl)	Strategy	Response Actions	Risk Owner	Updated	Impacted Phase	Calculated Contingency	Support (hours) Capital Cost \$k	Schedule (Days)
				Resource	documentation, evaluation, and/or consultation, resulting in impacts to const and schedule.	proposed project area.		5%	8 - High (3-6 months)	8								
Active	10	Threat	Environmental	Historic property(s) Affected	If a historic property(s) is affected, then the property may require an effects determination, additional consultation, and SHPO concurrence, resulting in impacts to cost and schedule.	It is assumed that the proposed project will not have an effect on any historic property (s).	Impact to historic properties(s).	1-Very Low (1-10%)	8 - High (\$1k - \$k)	8	Mitigate	Mitigate as required.	Michaela Shelton	2/5/2019	0-PA&ED Sup	\$2k	O 50 hours ML 150 hours P 400 hours PERT 175 hours	O 60 ML 240 P 365 PERT 231
								5%	16 - Very High (>6 months)	16					1-PS&E Sup	\$2k	O 50 hours ML 150 hours P 400 hours PERT 175 hours	O 60 ML 240 P 365 PERT 231
Active	11	Threat	Environmental	Adverse Impact to Historic Property	If a historic property (built environment or archaeological site) is adversely impacted, then consultation for the preparation of a MOA would be required and mitigation measures would be established, resulting in an impact to cost and schedule.	It is assumed that no historic property(s) will be adversely impacted.	Adverse impact to historic property(s).	1-Very Low (1-10%)	8 - High (\$1k - \$k)	8	Mitigate	Begin field survey and identification of cultural resources early in PA&ED	Michaela Shelton	2/5/2019	0-PA&ED Sup	\$2k	O 50 hours ML 150 hours P 400 hours PERT 175 hours	O 60 ML 240 P 365 PERT 231
								5%	16 - Very High (>6 months)	16					1-PS&E Sup	\$2k	O 50 hours ML 150 hours P 400 hours PERT 175 hours	O 60 ML 240 P 365 PERT 231
Active	12	Threat	Environmental	Buried Cultural Material	If buried cultural materials are encountered during construction, then work would stop in that area until a qualified archaeologist would evaluate the nature and significance of the find, resulting in an impact to the cost and schedule.	It is assumed that no buried, prehistoric, and/or historic archaeological objects, features, or sites will be identified in the proposed project area limits.	Buried cultural resources are discovered.	1-Very Low (1-10%)	8 - High (\$1k - \$k)	8	Mitigate	Mitigate as required.	Michaela Shelton	2/5/2019				
								5%	8 - High (3-6 months)	8								
Active	13	Threat	Environmental	Scope Change	If any scope change occurs that causes potential adverse impacts to special-status or endangered species, then the biological studies will require revision, resulting in an impact to cost and schedule.	It is assumed that the scope of the project will not change substantially.	Scope change impacts species.	3-Moderate (31-50%)	8 - High (\$1k - \$k)	24	Accept	Revise studies.	Michaela Shelton	2/5/2019				
								40%	8 - High (3-6 months)	24								
Retired	14	Threat	Environmental	Survey Windows	If biological studies cannot be conducted between the months of March and November following the M020 date, then an additional survey season may be required, resulting in an impact to the PA&ED schedule.	It is assumed that biological studies will be conducted between the months of March and November following the M020 date.	Biological studies are unable to be conducted during the survey window.	2-Low (11-30%)	8 - High (\$1k - \$k)	16	Accept	Conduct surveys the following season.	Michaela Shelton	2/5/2019	0-PA&ED Sup	\$3k	O 50 hours ML 100 hours P 100 hours PERT 92 hours	O 0 ML 6 P 6 PERT 5
								20%	8 - High (3-6 months)	16					0-PA&ED Sup	\$3k	O 50 hours ML 100 hours P 100 hours PERT 92 hours	O 1 ML 6 P 6 PERT 6
Active	15	Threat	Environmental	Swainson's Hawk	If a Swainson's hawk or other raptor nest is detected within 1/4-mile of project construction activities, then a no-work buffer of approximately 600 feet would be established until a qualified biologist determines that the nest is no longer in use, resulting in an impact to cost and schedule.	It is assumed that no Swainson's hawk or other raptor nest will be present within 1/4-mile of project activities.	A Swainson's hawk or other raptor nest is detected within 1/4-mile of project construction activities.	3-Moderate (31-50%)	8 - High (\$1k - \$k)	24	Accept	Implement a no-work buffer of approx. 600 feet around the nesting site until a qualified biologist has determined that the nest is no longer in use.	Michaela Shelton	2/5/2019	3-Con Sup	\$4k	O 0 hours ML 40 hours P 240 hours PERT 67 hours	O 0 ML 0 P 30 PERT 5
								40%	4 - Moderate (1-3 months)	12					3-Con Sup	\$4k	O 0 hours ML 40 hours P 240 hours PERT 67 hours	O 0 ML 0 P 30 PERT 5
Active	16	Threat	Project Management	Accelerated Schedule	As a result of the total project cost, the project can only be delivered in the 22/23 fiscal year, where the District has funds available for a project of this magnitude. The schedule was accelerated and if delivery is not achieved, there would be a deficit in the District's SHOPP book for the 22/23 FY.	It is assumed that the project can be delivered within the 22/23 FY	Any delays to the scheduled milestones will impact RTL.	2-Low (11-30%)	1 - Very Low (Insignificant)	2	Accept	Work with the team to avoid risks that would impact milestones. Enable staff to work overtime if needed to deliver.	Chris Burlaza	12/2/2021	4-Con Cap		O ML P	O ML P
								20%	8 - High (3-6 months)	16					3-Con Sup		O ML P	O ML P
Active	17	Threat	Environmental	CVFPB Permit	CVFPB Permit may be required and may delay the project	at the permit will be received in	This will impact RTL	2-Low (11-30%)	8 - High (\$1k - \$k)	16	Accept	Apply for the permit in-time.	Michaela Shelton	6/28/2021	1-PS&E Sup			
								20%	8 - High (3-6 months)	16					3-Con Sup			

Memorandum

To: Chris Burlaza
Stockton

Date: 12/9/2021

File: CD 10 EA 1E300 **Alt** NA REV 1

Attn:

Co SJ **RTE** 5

Jerry Prigmore
Stockton

DESCRIPTION:

In and near the city of Stockton, San Joaquin County from Hammer Lane undercrossing to Sacramento County Line. Pavement anchor project.

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

Subject: RIGHT OF WAY DATA SHEET

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

The following assumptions and limiting conditions were identified:**Parcels**

The Data Sheet request indicates that all work on this project will occur within the State's right of way, with no additional right of way needed for this project.

Utility

It is assumed that this means all manholes, handholes, vaults, covers, poles, and other utility facilities above ground and underground in the project area will be worked around or protected in place. Any adjustment of facilities constitutes involvement and utility verification plans and full R/W utility process and timeline would be necessary before project could be certified. Avoid and protect in place all existing buried and aerial utility facilities in the project area. Comply with USA alert requirements, including construction sign locations. A permit search has been completed.

Right of Way Lead Time will require a minimum 6 months after we receive Certified Appraisal Maps and/or Utility Conflict Plans, obtained necessary environmental clearance and applicable freeway agreements have been approved.

Recommended for approval by:

JAMES GONZALEZ
Office Chief, Central Region Right of Way
(559)445-6219

Page 1 of 4

Attachment I

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

The Data Sheet request indicates that all work on this project will occur within the State's right of way, with no additional right of way needed.

General Description of Utility Involvement:

Pavement anchor project. In and near the city of Stockton, San Joaquin County from Hammer Lane undercrossing to Sacramento County Line. Project Engineer states on R/W Data Sheet Request form that no utility involvement or relocation will be necessary, only potholing.

General Description of Railroad Involvement:

Right Of Way Cost Estimate	Current Year	Contingency Rate	Escalation Rate	Escalated Year
	2021	25%	5%	2023
Acquisition:	\$0			\$0
Mitigation:	\$0	25%	5%	\$0
State Share of Utilities:	\$62,500	25%	5%	\$68,906
Expert Witness:	\$0	25%	5%	\$0
Relocation Assistance:	\$0	25%	5%	\$0
Demolition and Clearance:	\$0	25%	5%	\$0
Title and Escrow:	\$0	25%	5%	\$0
Ad Signs:	\$0	25%	5%	\$0
Total Current Value:	\$62,500			\$68,906

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

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

Estimated Construction Contract Work (CCW): 0 R/W LEAD TIME/Mo. 6

Cost Break Down		Parcel Data	
Pot Hole	50,000	# of Parcel Type X:	0
# Pot Holes	50	# of Parcel Type A: less than \$10,000 non-complex	0
Mitigation		# of Parcel Type B: more than \$10,000 non-complex	0
Land	0	# of Parcel Type C: complex, special valuation	0
Bank	0	# of Parcel Type D: most complex/time consuming	0
Permit Fees	0	# of Duals Needed:	0
Parcel Area		Totals:	Totals: 0
Total R/W Required:	0	# of Excess Parcels:	0
Total Excess Area:	0		

Misc R/W Work

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

RR Involvement

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

Utilities

<u>6</u> Companies to be potholed
<u>6</u> Companies for Verification
<u>0</u> Companies for Utility Relocation
JUA/CCUAs are not needed

Is there a significant effect on assessed valuation:

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

Are RAP displacements required:

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

Sufficient replacement housing will be available without last resort housing:

Are material borrow or disposal sites required:

Are there potential relinquishments or abandonments:

Are there any existing or potential airspace sites:

Are environmental mitigation parcels required:

Data for evaluation provided by:

Estimator: Katheleen Pulliam 10/7/2021
 Railroad Liaison Agent:
 Utility Relocation Coordinator: Matt Edwards 10/18/2021

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



JAMES GONZALEZ
 Office Chief, Central Region Right of Way

Date
 ENTERED PMCS
 BY:



Mitigation and Compliance Cost Estimate (MCCE)

PART 1 - PROJECT INFORMATION

DIST-CO-RTE: 10 - SJ - 005 **PM/PM:** 32.500/49.800

EA/Project Number: 10-1E300_ / 1018000273

Project Name: I-5 PAVEMENT ANCHOR PROJECT

Form Completed by: Michaela Shelton

Project Manager: SEKHON, GURWINDER S **Phone:** (209) 948-3942

Date: 6/24/2021

MCCE Phase prepared for: DED

PART 2 - ENVIRONMENTAL COMMITMENTS FOR PERMANENT IMPACTS

Environmental Commitments for Alternative:

Commitment	Design \$	FY	Ac/Crd	ROW \$ Planned	FY	ROW \$ Actual	Pd	Construction \$	FY
Biological									
Exclusionary Netting							<input type="checkbox"/>	\$50,000	27/28
Hazardous Waste									
PSI	\$45,000	20/21					<input type="checkbox"/>		

PART 3 - PERMITS AND AGREEMENTS

Permit/Agreement	ROW \$ Planned	FY	ROW \$ Actual	Pd	Construction \$	FY
NOI/NOT (Stormwater)				<input type="checkbox"/>	\$4,748	2024
NOI/NOT (Stormwater)				<input type="checkbox"/>		
TOTAL	\$45,000		\$0.00		\$54,748	

Approved by:

Jaycee Azevedo _____ *J. Azevedo* _____ 06/24/2021
 Environmental Branch Chief (Print Name) Signature Date

If Right of Way Capital is needed:

Sara Blum _____ *Sara Blum* _____ 6/24/21
 Right-of-Way Office Chief (Print Name) Signature Date

If cultural and biology mitigation totals more than \$500,000:

 Environmental Office Chief (Print Name) Signature Date

Submitted to PM on: _____ Initial ____

Comments (explanation and risk management plan attached)

The costs estimated as of 6/24/2021 are draft only and are subject to change once PA&ED studies are received.

To: Nicholas Chan

Attention: Cheong Yew Cheng

Date: September 10, 2020

From: DISTRICT 10 PLANNING – PROJECT INITIATION & TRAVEL FORECASTING

EA/E-FIS: 10-1E300_/1018000273 County: SJ Route: 5 PM: 32.7/49.8

Project Description: Pavement Rehabilitation

**DATA TRANSMITTED
Design Year Period 2026 to 2046**

DAILY AND DESIGN HOURLY VOLUMES <i>(See attachment)</i>	Attachments <u>x</u>
TRAFFIC INDEX & EQUIVALENT SINGLE-AXLE LOAD <i>(See attachment)</i>	Attachments <u>x</u>
DIRECTIONAL SPLIT & TRUCK PERCENTAGE <i>(See attachment)</i>	Attachments <u>x</u>
REMARKS Three-county (San Joaquin, Stanislaus, and Merced) traffic model utilized for this project. <i>Note: Forecasting methodology for this project used multiple sources of data and information, one of them being a Travel Demand Model (TDM). Most TDM's used by District 10 Travel Forecasting are created primarily in accordance with conformity to Regional Transportation Plans (RTP's) and Air Quality in a financially constrained environment. All TDM's used for these purposes are not produced by District 10 but by local transportation planning agencies represented within the boundaries of District 10. A Traffic Index (TI) and Design Designation (DD) is used to assist in determining only the structural section depth, not capacity, of a particular roadway. Therefore, a forecast in accordance with RTP/Air Quality Conformity is not necessarily required.</i>	

Transmitted By: Homer Zarzuela

Data Prepared By: Homer Zarzuela

Eric Chin, PE *Eric Chin*
Chief, Office of Project Initiation
& Travel Forecasting

EA 10-1E300_ SJ-5 PM 32.7/49.8 Pavement Rehabilitation																						
I-5 Mainline		I-5 Ramps																				
		Northbound Onramp from Hammer Lane	Southbound Offramp to Hammer Lane	Northbound Offramp to SR 12		Southbound Onramp from Eastbound SR 12	Southbound Onramp from Westbound SR 12 (Loop Ramp)	Northbound Onramp from SR 12	Southbound Offramp to SR 12	Northbound Offramp to Turner Road	Southbound Onramp from Turner Road	Northbound Onramp from Turner Road	Southbound Offramp to Turner Road	Northbound Offramp to Peltier Road	Southbound Onramp from Peltier Road	Northbound Onramp from Peltier Road	Southbound Offramp to Peltier Road	Northbound Offramp to Walnut Grove Road	Southbound Onramp from Walnut Grove Road	Northbound Onramp from Walnut Grove Road	Southbound Offramp to Walnut Grove Road	
				2 lanes	3 lanes																	
6 lanes	4 lanes																					
Existing Year (2020) Average Daily Traffic		64,700	4,400	4,400	14,050	5,450	5,100	5,650	5,800	1,550	1,650	990	1,100	1,050	1,050	680	700	1,850	1,900	1,000	1,050	
Existing Year (2020) Peak Hour Volume		6,550	445	450	1,350	660	460	540	560	200	210	140	140	150	130	110	130	300	240	120	150	
Construction Year (2026) Average Daily Traffic		70,100	4,750	4,750	14,600	5,850	5,400	5,950	6,100	1,700	1,800	1,100	1,200	1,150	1,100	740	760	1,950	2,000	1,100	1,150	
Construction Year (2026) Design Hourly Volume		7,100	480	480	1,400	710	490	570	590	220	230	150	150	170	140	130	140	320	260	130	160	
Design Year (2046) Average Daily Traffic		91,900	6,500	6,500	16,950	7,350	6,850	7,200	7,350	2,400	2,500	1,500	1,600	1,500	1,500	1,000	1,050	2,350	2,500	1,450	1,500	
Design Year (2046) Average Design Hourly Volume		930	660	660	1,600	890	620	690	710	300	320	210	210	220	190	170	190	350	320	180	210	
40-year (2066) Average Daily Traffic		121,100	9,750	9,500	19,900	9,350	9,250	8,850	9,000	3,500	3,700	2,100	2,300	2,050	2,050	1,400	1,500	3,100	3,200	2,100	2,150	
40-year (2066) Average Design Hourly Volume		12,300	990	960	1,900	1,150	830	850	870	440	470	300	300	290	260	240	270	460	400	250	300	
Directional Split (D)		54%																				
Peak Hour Truck Percentage (T)		16.8%	8.0%	8.0%	16.8%	16.8%	16.8%	16.8%	16.8%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	
10-year Equivalent Single-Axle Load (ESAL ₁₀)		41,269,826	2,665,389	2,684,129	16,692,923	6,819,975	6,281,546	6,862,148	7,018,086	967,029	1,024,446	611,757	662,214	644,807	627,196	420,466	430,165	1,058,834	1,113,001	609,090	637,014	
10-year Traffic Index (TI ₁₀)	Lane 1	11.5	14.0	10.0	10.0	12.5	12.5	11.5	11.0	11.5	11.5	9.0	9.0	8.5	8.5	8.5	8.0	8.0	9.0	9.0	8.5	8.5
	Lane 2	13.5	14.0	10.0	10.0	12.5	12.5			11.5	11.5											
	Lane 3	13.5																				
	Right Shoulder	8.5	9.0	6.5	6.5	8.0	7.5	7.0	7.0	7.0	7.0	5.5	5.5	5.5	5.5	5.5	5.5	5.0	5.0	5.5	5.5	5.5
20-year Equivalent Single-Axle Load (ESAL ₂₀)		88,318,549	5,754,397	5,790,106	34,621,084	14,447,955	13,305,165	14,390,105	14,687,731	2,105,053	2,223,527	1,324,166	1,427,240	1,378,523	1,346,356	909,112	929,544	2,220,447	2,341,341	1,310,269	1,364,115	
20-year Traffic Index (TI ₂₀)	Lane 1	12.5	15.5	11.0	11.0	13.5	13.5	12.5	12.0	12.5	12.5	10.0	10.0	9.5	9.5	9.5	9.0	9.0	10.0	10.0	9.5	9.5
	Lane 2	15.0	15.5	11.0	11.0	13.5	13.5			12.5	12.5											
	Lane 3	15.0																				
	Right Shoulder	9.5	9.5	7.0	7.0	8.5	8.5	8.0	7.5	8.0	8.0	6.0	6.0	6.0	6.0	6.0	6.0	5.5	5.5	6.0	6.5	6.0
40-year Equivalent Single-Axle Load (ESAL ₄₀)		202,410,681	13,642,271	13,645,792	74,659,015	32,455,359	30,184,707	31,723,883	32,301,215	5,025,108	5,292,131	3,120,235	3,353,197	3,169,504	3,126,945	2,129,937	2,187,236	4,956,474	5,217,095	3,065,740	3,170,903	
40-year Traffic Index (TI ₄₀)	Lane 1	14.0	17.0	12.5	12.5	15.0	14.5	13.5	13.5	13.5	13.5	11.0	11.0	10.5	10.5	10.5	10.0	10.0	11.0	11.0	10.5	10.5
	Lane 2	16.5	17.0	12.5	12.5	15.0	14.5			13.5	13.5											
	Lane 3	16.5																				
	Right Shoulder	10.5	10.5	7.5	7.5	9.5	9.0	8.5	8.5	8.5	8.5	7.0	7.0	6.5	6.5	6.5	6.5	6.0	6.0	7.0	7.0	6.5

D-10 TRANSPORTATION MANAGEMENT PLAN CHECKLIST

District - Project No: **10 1800 0273** EA: **10-1E300**
 Date Prepared: **October 26, 2020**
 Prepared By: **Abdullah Mohammadi**
 Requested By: **Cheong Yew Cheng**
 Stage of Project (X box) PID PSR PR PS&E **XX%**

Co.-Rte.-P.M. SJ-5-32.5/49.9
 Location: In San Joaquin County on I-5 from Hammer Lane undercrossing to Sacramento County Line in and near the City of Stockton.

Description: Anchor Project, rehabilitate existing pavement.

Date Signed Date Signed Date Signed Date Signed

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

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

<input checked="" type="checkbox"/>				RE to hand-deliver to business/residences.		
<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>
		<input checked="" type="checkbox"/>				
	<input checked="" type="checkbox"/>			See comments below.		
	<input checked="" type="checkbox"/>			Designer to add to budget if public meeting is added.		
		<input checked="" type="checkbox"/>				
		<input checked="" type="checkbox"/>				
		<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>				Designer to verify impacted groups.		<input checked="" type="checkbox"/>
		<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>			066063	Items 1.1 to 1.11 to be handled by CT PIO.	\$36K	<input checked="" type="checkbox"/>
		<input checked="" type="checkbox"/>				
		<input checked="" type="checkbox"/>				

2.0 Traveler Information Strategies

- 2.1 Changeable Message Signs (CMSs)
- 2.2 Portable Changeable Message Signs (PCMSs)
- 2.3 PCMSs for Work Zone Speed Limit Reduction (WZ SLR)
- 2.4 Special Construction Signs
- 2.5 Traveler Information Systems (CHIN/Internet)
- 2.6 Highway Advisory Radio "HAR" (fixed or mobile)
- 2.7 Automated End-of-Queue Monitoring System/AWIS
- 2.8 Truck Mounted End-of-Queue Monitoring
- 2.9 Revised Transit Schedules/ Maps
- 2.10 Bicycle community information
- 2.11 Other items

		<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>			128652	See comments below.	\$228K	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>			128652	PE is responsible for all WZ SLR requirements.		<input checked="" type="checkbox"/>
		<input checked="" type="checkbox"/>				
		<input checked="" type="checkbox"/>		As required.		
		<input checked="" type="checkbox"/>				
		<input checked="" type="checkbox"/>		See comments below.		
		<input checked="" type="checkbox"/>	128658			
		<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>				Same as Item 1.9.		<input checked="" type="checkbox"/>
		<input checked="" type="checkbox"/>				

3.0 Incident Management

- 3.1 COZEEP
- 3.2 Freeway Service Patrol (tow truck service patrol)
- 3.3 Transportation Management Center
- 3.4 Traffic Control Inspector (Caltrans)
- 3.5 Traffic Management Team
- 3.6 On-site Traffic Advisor (contractor)
- 3.7 Other Items

<input checked="" type="checkbox"/>			066062	See comments below.	\$864K	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>			\$116/hr includes 1 tow truck and one service truck		
<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>
		<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>				As needed.		
		<input checked="" type="checkbox"/>				

4.0 Construction Strategies

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

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Determine during PS&E	TBD	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Per Lane Closure Charts		<input checked="" type="checkbox"/>
		<input checked="" type="checkbox"/>				
		<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>				Per Lane Closure Charts.		<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>				Per Lane Closure Charts.		<input checked="" type="checkbox"/>
		<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>				As per stage construction if any.		<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>				Per drawings/data sheet if any.		<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>				Project Engineer to determine.		<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>				\$ 7.50/Meter		<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>				As necessary.		

4.0 Construction Strategies (Continued)

	REQUIRED	RECOMMENDED	NOT APPLICABLE	BEES Item No.	COMMENTS	ITEM COST	REQUIRED IN SPEC.
4.14 Contingency Plans	X				Construction to determine items 4.14.1 thru. 4.14.9		X
4.14.1 Material Plant on standby							
4.14.2 Extra Critical Equipment on site							
4.14.3 Material Testing Plan							
4.14.4 Alternate Material on site (In case of failure or major delays)							
4.14.5 Emergency Detour Plan							
4.14.6 Emergency Notification Plan							
4.14.7 Weather Conditions Plan							
4.14.8 Delay Timing and Documentation Plan							
4.14.9 Late Closure Reopening Notification							
4.15 Signal timing modification			X				
4.16 Coordination with adjacent construction	X				RE to confirm prior to scheduling of closures.		X
4.17 Double Fine Zone (signs)		X					
4.18 Right of Way Delay		X					
4.19 ADA access to Pedestrian Facilities	X				See comments below.		X
4.20 Provide Pedestrians Access	X				Complete Street Guidelines.		X
4.21 Provide Bicyclists Access	X				Complete Street Guidelines.		X
4.22 Structure Strategies for Traffic Handling Constraints			X				
	X				Construction Work Zone Speed Limit Reduction Evaluation Form: Exception Granted? Yes/No. PE responsible for all WZ SLR requirements.		X
4.23 Work Zone Speed Limit Reduction							
4.24 Other items	X						

5.0 Demand Management

5.1 HOV Lanes/Ramps			X				
5.2 Ramp metering			X				
5.3 Park-and-Ride Lots			X				
5.4 Parking Management/Pricing			X				
5.5 Rideshare Incentives			X				
5.6 Rideshare Marketing			X				
5.7 Transit, Train, or Light-Rail Incentives			X				
5.8 Transit Service Modification			X				
5.9 Variable Work Hours			X				
5.10 Telecommute			X				

6.0 Alternate Route Strategies

6.1 Ramp Closures	X						X
6.2 Street Improvements		X					
6.3 Reversible Lanes		X					
6.4 Temporary Lanes or Shoulders Use		X					
6.5 Freeway to freeway connector closures		X					
6.6 Other Items		X					

7.0 Other Strategies

7.1 Application of new technology	X						
7.2 District Lane Closure Review Committee (LCRC)		X			No request submitted.		
7.3 Construct ITS Elements		X					
7.3.1 Changeable Message Sign (CMS)		X					
7.3.2 Closed-Circuit Television (CCTV)		X					
7.3.3 Extinguishable Message Sign (EMS)		X					
7.3.4 Highway Advisory Radio (HAR) & Signs		X					
7.3.5 Ramp Metering		X					
7.3.6 Traffic Monitoring Station (TMS)		X					
7.3.7 Weather Station (RWIS)		X					
7.4 Anti-Theft Prevention Strategies	X				See Guidelines of Effective & Practical Wire Theft Prevention Strategies.		
7.5 Other Items		X					

Comments:

- 1.4 Plan, progress/completion information should be available at Local Public Works, Chamber of Commerce Offices, and CT Maintenance Offices.
- 1.9 Impacted groups need to be notified and informed about upcoming construction. During construction, access across job site will be needed.
- 1.11 PIO estimated at \$2k/mo (18mo.) = \$36k
- 2.2 PCMS Estimate (Does not include WZ SLR): \$6k/pair/mo(2 pair)(19 mo.)= \$228k
- 2.7 Automated End-of-Queue Monitoring System/AWIS: If 'required' box checked above, then additional traffic monitoring is needed.
- 3.1 COZEOP Estimate (Does not include WZ SLR): 2CHP/unit(2unit)(\$120/hr)(10hr/day)(180day)= \$864k
- 4.19 Ensure that temporary routes, which are provided around and/or through construction zones are accessible to persons with disabilities.
- 4.24 RE/Inspector shall maintain access to all business & residences at all times.

Approved by:

Abdullah Mohammadi

A Mohammadi
10/26/2020

For WILMAR KUHL, P.E. - TMP MANAGER

DATE

Replace Reserved in section 12-4.02C(3)(g) with:

FREEWAY lane closures must comply with the requirements shown in the following chart:

Chart No.G1 FREEWAY Lane Requirements																										
County: San Joaquin							Route/Direction: I-5/NB							Post Mile: 32.7/40.4												
Closure limits: From Hammer Lane to 0.8 miles North of Hwy 12																										
Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Mon– Thu	1	1	1	1	2					S	S	S	S	S	S	S	S							2	1	1
Fri	1	1	1	1	2					S	S	S	S	S	S	S	S									
Sat																										
Sun																									2	1

Legend:

1	Provide at least 1 through FREEWAY lane open in the direction of travel.
2	Provide at least 2 adjacent through FREEWAY lanes open in the direction of travel.
3	Provide at least 3 adjacent through _____ lanes open in the direction of travel.
4	Provide at least 4 adjacent through _____ lanes open in the direction of travel.
5	Provide at least 5 adjacent through _____ lanes open in the direction of travel.
S	Shoulder closure is allowed (right / left).
N	No work is allowed.
	Work is allowed within the highway where a shoulder or lane closure is not required.

REMARKS:

- See Lane Closure Restrictions for Designated Holidays and Special Days table for additional closure restrictions.
- Closures of local roads will require City/County concurrence.

Note to Design:

Above window must be re-evaluated or updated if actual construction takes place later than 2025.

Replace Reserved in section 12-4.02C(3)(g) with:

FREEWAY lane closures must comply with the requirements shown in the following chart:

Chart No.G2 FREEWAY Lane Requirements																									
County: San Joaquin							Route/Direction: I-5/NB							Post Mile: 40.4/49.8											
Closure limits: From 0.8 miles North of Hwy 12 to the San Joaquin/Sacramento County line																									
Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon– Thu	1	1	1	1	1					S	S	S	S	S	S	S							1	1	1
Fri	1	1	1	1	1					S	S	S	S	S	S	S									
Sat																									
Sun																								1	1

Legend:

1	Provide at least 1 through FREEWAY lane open in the direction of travel.
2	Provide at least 2 adjacent through FREEWAY lanes open in the direction of travel.
3	Provide at least 3 adjacent through _____ lanes open in the direction of travel.
4	Provide at least 4 adjacent through _____ lanes open in the direction of travel.
5	Provide at least 5 adjacent through _____ lanes open in the direction of travel.
S	Shoulder closure is allowed (right / left).
N	No work is allowed.
	Work is allowed within the highway where a shoulder or lane closure is not required.

REMARKS:

- See Lane Closure Restrictions for Designated Holidays and Special Days table for additional closure restrictions.
- Closures of local roads will require City/County concurrence.

Note to Design:

Above window must be re-evaluated or updated if actual construction takes place later than 2025.

Replace Reserved in section 12-4.02C(3)(g) with:

FREEWAY lane closures must comply with the requirements shown in the following chart:

Chart No.G3 FREEWAY Lane Requirements																											
County: San Joaquin							Route/Direction: I-5/SB							Post Mile: 40.4/49.8													
Closure limits: From 0.8 miles North of Hwy 12 to the San Joaquin/Sacramento County line																											
Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Mon– Thu	1	1	1	1	1	1				S	S	S	S	S	S	S								1	1	1	
Fri	1	1	1	1	1	1				S	S	S	S	S	S	S											
Sat																											
Sun																									1	1	

Legend:

<input type="checkbox"/> 1	Provide at least 1 through FREEWAY lane open in the direction of travel.
<input type="checkbox"/> 2	Provide at least 2 adjacent through FREEWAY lanes open in the direction of travel.
<input type="checkbox"/> 3	Provide at least 3 adjacent through _____ lanes open in the direction of travel.
<input type="checkbox"/> 4	Provide at least 4 adjacent through _____ lanes open in the direction of travel.
<input type="checkbox"/> 5	Provide at least 5 adjacent through _____ lanes open in the direction of travel.
<input type="checkbox"/> S	Shoulder closure is allowed (right / left).
<input type="checkbox"/> N	No work is allowed.
<input type="checkbox"/>	Work is allowed within the highway where a shoulder or lane closure is not required.

REMARKS:

- See Lane Closure Restrictions for Designated Holidays and Special Days table for additional closure restrictions.
- Closures of local roads will require City/County concurrence.

Note to Design:

Above window must be re-evaluated or updated if actual construction takes place later than 2025.

Replace Reserved in section 12-4.02C(3)(g) with:

FREEWAY lane closures must comply with the requirements shown in the following chart:

Chart No.G4 FREEWAY Lane Requirements																									
County: San Joaquin							Route/Direction: I-5/SB							Post Mile: 32.7/40.4											
Closure limits: From Hammer Lane to 0.8 miles North of Hwy 12																									
Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon– Thu	1	1	1	1	1	2				S	S	S	S	S	S	S						2	2	1	1
Fri	1	1	1	1	1	2				S	S	S	S	S	S	S									
Sat																									
Sun																							2	2	1

Legend:

1	Provide at least 1 through FREEWAY lane open in the direction of travel.
2	Provide at least 2 adjacent through FREEWAY lanes open in the direction of travel.
3	Provide at least 3 adjacent through _____ lanes open in the direction of travel.
4	Provide at least 4 adjacent through _____ lanes open in the direction of travel.
5	Provide at least 5 adjacent through _____ lanes open in the direction of travel.
S	Shoulder closure is allowed (right / left).
N	No work is allowed.
	Work is allowed within the highway where a shoulder or lane closure is not required.

REMARKS:

- See Lane Closure Restrictions for Designated Holidays and Special Days table for additional closure restrictions.
- Closures of local roads will require City/County concurrence.

Note to Design:

Above window must be re-evaluated or updated if actual construction takes place later than 2025.

Replace Reserved in section 12-4.02C(3)(i) with:

Comply with the requirements for the **Complete Connector Closure Hours** shown in the following chart:

Chart No. I1 Complete Connector Closure Hours																									
County: San Joaquin							Route/Direction: 5/NB							Post Mile: 39.574											
Closure limits: Route 12 on and off ramps																									
Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon– Thu	C	C	C	C	C					S	S	S	S	S	S	S						C	C	C	C
Fri	C	C	C	C	C					S	S	S	S	S	S	S									
Sat																									
Sun																							C	C	C
Legend:																									
<input type="checkbox"/> 1	Provide at least 1 connector lane open in the direction of travel.																								
<input type="checkbox"/> 2	Provide at least 2 adjacent connector lanes open in the direction of travel.																								
<input type="checkbox"/> C	Connector may be closed completely.																								
<input type="checkbox"/> S	Shoulder closure is allowed (right/left).																								
<input type="checkbox"/> N	No work is allowed.																								
<input type="checkbox"/>	Work is allowed within the highway where a shoulder or lane closure is not required.																								
REMARKS:																									
<ol style="list-style-type: none"> 1. 7-Day notification required. 2. Detour Plan Required 3. Closures of local roads will require City/County concurrence. 																									

Note to Design:

Above window must be re-evaluated or updated if actual construction takes place later than 2025.

Replace Reserved in section 12-4.02C(3)(i) with:

Comply with the requirements for the **Complete Connector Closure Hours** shown in the following chart:

Chart No. I2 Complete Connector Closure Hours																									
County: San Joaquin							Route/Direction: 5/SB							Post Mile: 39.574											
Closure limits: Route 12 on and off ramps																									
Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon– Thu	C	C	C	C	C	C				S	S	S	S	S	S	S						C	C	C	C
Fri	C	C	C	C	C	C				S	S	S	S	S	S	S									
Sat																									
Sun																							C	C	C
Legend:																									
<input type="checkbox"/>	1 Provide at least 1 connector lane open in the direction of travel.																								
<input type="checkbox"/>	2 Provide at least 2 adjacent connector lanes open in the direction of travel.																								
<input type="checkbox"/>	C Connector may be closed completely.																								
<input type="checkbox"/>	S Shoulder closure is allowed (right/left).																								
<input type="checkbox"/>	N No work is allowed.																								
<input type="checkbox"/>	Work is allowed within the highway where a shoulder or lane closure is not required.																								
REMARKS:																									
1. 7-Day notification required.																									
2. Detour Plan Required																									
3. Closures of local roads will require City/County concurrence.																									

Note to Design:

Above window must be re-evaluated or updated if actual construction takes place later than 2025.

Replace Reserved in section 12-4.02C(3)(j) with:

Comply with the requirements for the [Complete Ramp Closure Hours](#) shown in the following chart:

Chart No. J1 Complete Ramp Closure Hours																									
County: San Joaquin							Route/Direction: 5/NB							Post Mile: 32.51, 32.85, 35.14, 35.51, 41.44, 41.83, 44.52, 44.88, 47.41, 47.78											
Closure limits: Off to Hammer Lane, On from Hammer Lane, Off to 8-mile Road, On from 8-mile Road, Off to Turner Road, On from Turner Road, Off to Peltier Road, On from Peltier Road, Off to Walnut Grove Road, On from Walnut Grove Road.																									
Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	C	C	C	C	C					S	S	S	S	S	S	S							C	C	C
Fri	C	C	C	C	C					S	S	S	S	S	S	S									
Sat																									
Sun																								C	C
Legend:																									
<div style="display: flex; flex-direction: column; gap: 10px;"> <div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">4</div> <div style="color: red;">Provide at least 1 ramp lane, not less than 11 feet in width, open in the direction of travel.</div> </div> <div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">2</div> <div style="color: red;">Provide at least 2 adjacent ramp lanes open in the direction of travel.</div> </div> <div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">C</div> <div>Ramp may be closed completely.</div> </div> <div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">S</div> <div>Shoulder closure is allowed (right/left).</div> </div> <div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px; color: red;">N</div> <div style="color: red;">No work is allowed.</div> </div> <div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px; width: 20px; height: 15px;"></div> <div>Work is allowed within the highway where a shoulder or lane closure is not required.</div> </div> </div>																									
REMARKS:																									
<ol style="list-style-type: none"> 1. 7-Day notification required. 2. Detour Plan Required 3. No two consecutive or opposing ramps may be closed at the same time 4. Closures of local roads will require City/County concurrence. 																									

Replace Reserved in section 12-4.02C(3)(j) with:

Comply with the requirements for the [Complete Ramp Closure Hours](#) shown in the following chart:

Chart No. J2 Complete Ramp Closure Hours																									
County: San Joaquin							Route/Direction: 5/SB							Post Mile: 47.82, 47.44, 44.94, 44.54, 41.84, 41.49, 35.49, 35.14, 32.84, 32.51											
Closure limits: Off to Walnut Grove Road, On from Walnut Grove Road, Off to Peltier Road, On from Peltier Road., Off to Turner Road, On from Turner Road, Off to 8-mile Road, On from 8-mile Road, Off to Hammer Lane, On from Hammer Lane.																									
Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	C	C	C	C	C	C				S	S	S	S	S	S	S							C	C	C
Fri	C	C	C	C	C	C				S	S	S	S	S	S	S									
Sat																									
Sun																								C	C
Legend:																									
4 Provide at least 1 ramp lane, not less than 11 feet in width, open in the direction of travel.																									
2 Provide at least 2 adjacent ramp lanes open in the direction of travel.																									
C Ramp may be closed completely.																									
S Shoulder closure is allowed (right/left).																									
N No work is allowed.																									
 Work is allowed within the highway where a shoulder or lane closure is not required.																									
REMARKS:																									
<ol style="list-style-type: none"> 1. 7-Day notification required. 2. Detour Plan Required 3. No two consecutive or opposing ramps may be closed at the same time 4. Closures of local roads will require City/County concurrence. 																									

Replace *Reserved* in section 12-4.02C(3)(m) with:

Comply with the requirements for a Street Closure shown in the following chart:

Chart No. M1 Street Closure Hours																																
County: San Joaquin							Direction: WB-EB							Post Mile:																		
Closure limits: Peltier Road at Route 5 Walnut Grove Road at Route 5																																
Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
Mon– Thu	R	R	R	R	R																		R	R	R							
Fri	R	R	R	R	R																											
Sat																																
Sun																								R	R							
Legend:																																
<table border="0"> <tr> <td style="border: 1px solid black; padding: 2px; width: 20px; text-align: center;">1</td> <td style="padding-left: 10px;">Provide at least 1 city street lane open in the direction of travel.</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px; width: 20px; text-align: center;">G</td> <td style="padding-left: 10px;">Street may be closed.</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px; width: 20px; text-align: center;">N</td> <td style="padding-left: 10px;">No work is allowed.</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px; width: 20px; text-align: center;">R</td> <td style="padding-left: 10px;">Provide at least 1 through traffic lane not less than 10 feet in width for use by both directions of travel. (Reversing Control)</td> </tr> </table>																									1	Provide at least 1 city street lane open in the direction of travel.	G	Street may be closed.	N	No work is allowed.	R	Provide at least 1 through traffic lane not less than 10 feet in width for use by both directions of travel. (Reversing Control)
1	Provide at least 1 city street lane open in the direction of travel.																															
G	Street may be closed.																															
N	No work is allowed.																															
R	Provide at least 1 through traffic lane not less than 10 feet in width for use by both directions of travel. (Reversing Control)																															
REMARKS: The number of through traffic lanes in each direction of travel is <u>1</u> .																																
<ol style="list-style-type: none"> 1. See Lane Closure Restrictions for Designated Holidays and Special Days table for additional closure restrictions. 2. Closures of local roads will require City/County concurrence. 																																

Notes to Design:

Above window must be re-evaluated or updated if the actual construction takes place later than 2025.

Replace Reserved in section 12-4.02C(3)(f) with:

Closure restrictions for designated holidays and special days are shown in the following table:

Lane Closure Restrictions For Designated Holidays And Special Days											
Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun	Mon
x	H xx	xx	xx								
	SD xx	<u>xx</u>	<u>xx</u>								
x	xx	H xx	xx								
		SD xx	<u>xxx</u>								
	x	xx	H xx	xx							
			SD xx	<u>xxx</u>							
	x	xx	xx	H xx	xx						
	x	xx	xx	SD xx	xxx						
				xx	H xx	<u>xx</u>					
				x	SD xx	<u>xxx</u>					
					x	H xx	<u>xx</u>				
						SD xx	<u>xxx</u>				
						x	H xx	xx	xx	xx	
							SD xx	<u>xxx</u>			
Legend:											
	Refer to lane requirement charts.										
x	The full width of the traveled way must be open for use by traffic after <u>6:00 am</u> .										
xx	No work allowed within State <u>Right-of-Way</u> .										
xxx	The full width of the traveled way must be open for use by traffic until <u>6:00 am</u> .										
H	Designated holiday										
SD	Special day										

Closure restrictions for designated holidays and special days are shown in the following table:

Freeway or Connector Lane Closure Restrictions for Designated Holidays and Special Days											
Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun	Mon
Legend:											
	Refer to chart nos. _____.										
x	The full width of the traveled way must be open for use by traffic by _____.										
xx	The full width of the traveled way must be open for use by traffic.										
xxx	The full width of the traveled way must be open for use by traffic until _____.										
H	Designated holiday										
SD	Special day										

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 10 Tool ID: 16734 Project ID: 1018000273 EA: 1E300 Co-Rte-PM: SJ-005-32.5/49.80 (Primary Location) View/Print PIR (Performance) Report

Bridge
 Pavement
 Drainage
 Facilities
 Safety, Signs & Lighting
 Mobility TMS
 Roadside
 Complete Streets
 Sustainability /Climate Change
 Advance Mitigation /Mitigation
 Major Damage & Betterments
 Green-house Gases
 Relinquishment

Performance & Accomplishments (PRC)

ActID	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Pre-Good	Pre-Fair	Pre-Poor	New	Post-Good	Post-Fair	Post-Poor	HQ Program Review - Agree with District?	HQ Comment	Review Date	Performance Change Date After Review	Comment
1 A03	Bridge Rail (201.112)	Bridge Rail Replacement and Upgrade	Linear Feet	747.000		747.000			747.000							
2 A07	Fish Passage	No Performance Objective in the SHSMP	Yes/No	No												No
3 A08	Number of Bridges	No Performance Objective in the SHSMP	Each	2.000												
4 B21	Concrete Pavement Major Rehab	Pavement Class I	Lane Miles	17.283	0.010	17.273										
5 B26	Concrete Pavement Minor Rehab (CAPM)	Pavement Class I	Lane Miles	66.102		61.435	4.667									
6 E02	Crash Cushions (201.010, .015)	No Performance Objective in the SHSMP	Each	5.000				5.000								
7 E07	Guard Rail (201.010, .015)	No Performance Objective in the SHSMP	Linear Feet	2000.000			2000.000		2000.000							
8 E23	Collisions Reduced (201.015)	Collision Severity Reduction	Fatal/Serious Injury Collisions	6.000			6.000		6.000							
9 E24	Lighting - Rehabilitation (201.170)	Lighting Rehabilitation	Each	60.000			60.000		60.000							
10 E26	Sign Panel Replacement	Sign Panel Replacement	Each	209.000			209.000		209.000							
11 F02	Changeable Message Sign (201.315)	No Performance Objective in the SHSMP	Each	2.000				2.000								
12 F03	CCTV (201.315)	No Performance Objective in the SHSMP	Each	4.000	2.000				2.000	2.000						
13 F05	Vehicle Detection (201.315)	No Performance Objective in the SHSMP	Each	5.000				5.000								
14 F12	Intersection Improvements (201.310)	No Performance Objective in the SHSMP	Each	2.000			2.000		2.000							
15 F13	Extinguishable Message Sign (201.315)	No Performance Objective in the SHSMP	Each	2.000	2.000				2.000							
16 F23	ADA - New Curb Ramp Installed (201.361)	No Performance Objective in the SHSMP	Each	13.000			13.000		13.000							
17 F25	ADA - Install Accessible Pedestrian Signal (201.361)	No Performance Objective in the SHSMP	Each	19.000				19.000								
18 F32	ADA - Install New Detectable Warning Surface (201.361)	No Performance Objective in the SHSMP	Square Feet	300.000				300.000								
19 F35	DVHD Reduced (201.310)	Operational Improvements	DVHD	2.400			2.400		2.400							
20 F40	Highway Advisory Radio (201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							
21 F41	Roadside Weather Information Station (201.315)	No Performance Objective in the SHSMP	Each	2.000	2.000				2.000							
22 F43	ADA - Deficient Elements	ADA Pedestrian Infrastructure	Deficient Elements	32.000			13.000	19.000	13.000							
23 F45	TMS Structure Component	Transportation Management System Structures	Each	9.000				9.000								
24 F46	TMS Technology Component	Transportation Management Systems	Each	16.000	6.000		1.000	9.000	7.000							
25 G09	Worker Safety - Miscellaneous Paving/Treatment	Roadside Safety Improvements	Locations	37.000			37.000		37.000							add EA 1H540 as a satellite need
26 H32	Is any Location Within the Project Limits Ped/Bike Accessible?	No Performance Objective in the SHSMP	Yes/No	Yes												Yes
27 N02	Quantitative - Proposed Mitigated	No Performance Objective in the SHSMP	MTCO2e	685.000												
28 N03	Quantitative - Unmitigated	No Performance Objective in the SHSMP	MTCO2e	685.000												

(Last Saved - 12/22/21 @ 10:17 AM by Alex Xu)

Programming Performance Summary (All Locations)

Program Code	Activity Category	Asset Class	Asset	Performance Value	Performance Measure	Unit	Pre-Good	Pre-Fair	Pre-Poor	Pre-Total	Post Good	New	Post Good+New	Post-Fair	Post-Poor	Post-Total
201.120	Pavement	Primary	Pavement	83.4	Lane mile(s)	Lane mile(s)	0.0	78.7	4.7	83.4	83.4	0.000	83.4	0.0	0.0	83.4

TMS SHOPP Output summary for 10-1E300X (rev 12-03-2021)

CO	RTE	POSTMILE	DIR	LOCATION DISCRIPTION	ELEMENT	STATUS	TMS ID	Recommended work	TMS SHOPP Output	AM Tool
SJ	5	33.43	N	N/O Hammer Ln	CCTV camera	Existing	60 -10CCTV	RC the existing CCTV camera and pole (on top of the CMS now). Replace it with a new camera, pole and equipment. Add a MVP per the D10 Standard.	1-CCTV camera (poor)	Updated on 11-15-2021
SJ	5	34.46	N	S/O Eight Mile Road	EMS	Existing	101101 -10EMS	Replace all the components of the EMS.	1-EMS (poor)	Updated on 11-15-2021
SJ	5	34.49	N	S/O EIGHT MILE	RWIS	Existing	365042 -D10RWIS	Replace all sensors and RPU. The tower does not need to be replaced.	1-RWIS (poor)	Updated on 11-15-2021
SJ	5	38.40	N	S/O for SR 12	CMS	Proposed	N/A	Install a new CMS and MVP per D10 Standard.	1-CMS (new)	Updated on 11-15-2021
SJ	5	38.40	N	S/O for SR 13	CCTV camera	Proposed	N/A	Install a new CCTV camera Infront of the CMS.	1-CCTV camera (new)	Updated on 11-15-2021
SJ	5	38.40	Both	S/O for SR 14	VDS	Proposed	N/A	Install a new VDS.	1-VDS (new)	Updated on 11-15-2021
SJ	5	39.00	Both		VDS	Proposed	N/A	Install a new VDS.	1-VDS (new)	Updated on 11-15-2021
SJ	5	39.50	Both		VDS	Proposed	N/A	Install a new VDS.	1-VDS (new)	Updated on 11-15-2021
SJ	5	39.57	Median	Jct SR 12	HAR	Existing	7 -D10HAR	Replace the HAR	1-HAR (poor)	Updated on 11-15-2021
SJ	5	40.00	Both		VDS	Proposed	N/A	Install a new VDS	1-VDS (new)	Updated on 11-15-2021
SJ	5	39.85	N	N/O SR 12	RWIS	Existing	365043 -D10RWIS	Replace all sensors and RPU. The tower does not need to be replaced.	1-RWIS (poor)	Updated on 11-15-2021
SJ	5	41.07	S	N/O for SR 12	CMS	Proposed	N/A	Install a new CMS and MVP per D10 Standard.	1-CMS (new)	Updated on 11-15-2021
SJ	5	41.07	S	N/O for SR 12	CCTV camera	Proposed	N/A	Install a new CCTV camera Infront of the CMS.	1-CCTV camera (new)	Updated on 11-15-2021
SJ	5	41.07	Both	N/O for SR 12	VDS	Proposed	N/A	Install a new VDS.	1-VDS (new)	Updated on 11-15-2021
SJ	5	43.17	S	S/O Peltier Rd	CCTV camera	Existing	59 -10CCTV	RC the existing CCTV camera and pole (on top of the CMS now). Replace it with a new camera, pole and equipment. Add a MVP per the D10 Standard.	1-CCTV camera (poor)	Updated on 11-15-2021
SJ	5	45.89	S	N/O Peltier Road	EMS	Existing	101102 -10EMS	Replace all the components of this EMS.	1-EMS (poor)	Updated on 11-15-2021
SJ	5	32.75	N/A	I-5 SB at Hammer Lane	Signal	Existing	EA063	The signal needs a complete lifecycle replacement.	1-Signal (poor)	Updated on 11-15-2021
SJ	5	32.75	N/A	I-5 SB at Hammer Lane	IP camera	Proposed	N/A	Install a new IP camera for the remote surveillance of the signal.	1-IP camera (new)	Updated on 11-15-2021
SJ	5	32.76	N/A	I-5 NB at Hammer Lane	Signal	Existing	EA064	The signal needs a complete lifecycle replacement.	1-Signal (poor)	Updated on 11-15-2021
SJ	5	32.76	N/A	I-5 NB at Hammer Lane	IP camera	Proposed	N/A	Install a new IP camera for the remote surveillance of the signal.	1-IP camera (new)	Updated on 11-15-2021