ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT

Shaver Lake Viaduct (06-1A090)

Resolution SHOPP-P-2324-04B
(to 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) effective on January 25, 2024 (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

3.1 Whereas at its 3/17/2022 meeting the Commission approved the State Highway Operation and Protection Program and included in this program of projects the Shaver Lake Viaduct (06-1A090), 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***, the Project Report attached hereto as ***Exhibit B***, the Performance Metrics Form, if applicable, attached hereto as ***Exhibit C***, as the baseline for project monitoring by the Commission.

3.2 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 _____, "Adoption of Program of Projects for the Active Transportation Program", dated _____
- ☐ Resolution _____, "Adoption of Program of Projects for the Local Partnership Program", dated _____
- ☐ Resolution _____, "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated _____
- ■ Resolution G-22-29, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated 3/17/2022
- ☐ Resolution _____, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated _____

4.3 All signatories agree to adhere to the Commission's 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 to Caltrans on a quarterly basis; on the progress made toward the implementation of the project, including scope, cost, schedule, and anticipated benefits/performance metric outcomes.

4.7 Caltrans agrees to prepare program progress reports on a 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 Caltrans agrees to submit a timely Project Performance Analysis as specified in the Commission's SB 1 Accountability and Transparency Guidelines.

4.10 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 and performance metric outcomes during the course of the project, and retain those records for six years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.

4.11 The 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 six 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 Performance Metrics
See Performance Metrics Form, if applicable, attached as Exhibit C.

Attachments:

Exhibit A: Project Programming Request Form
Exhibit B: Project Report
Exhibit C: Performance Metrics Form *(if applicable)*

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

Project Name: Shaver Lake Viaduct (06-1A090)

Resolution: SHOPP-P-2324-04B

(to be completed by CTC)

Ilda Thanas — Digitally signed by Ilda Thanas Date: 2023.12.04 15:01:30 -08'00' — 12/4/2023 Date

Ilda Thanas

Project Manager

Project Applicant

Nabeelah Abi-Rached — Digitally signed by Nabeelah Abi-Rached Date: 2023.12.07 13:47:55 -08'00' — 12/7/2023 Date

Nabeelah Abi-Rached

Deputy District Director

Implementing Agency

Diana Gomez — Digitally signed by Diana Gomez Date: 2023.12.08 08:43:48 -08'00' — 12/8/2023 Date

Diana Gomez

District Director

California Department of Transportation

01/04/2024 Date

Tony Tavares

Director

California Department of Transportation

04/30/2024 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:** 12/14/23 02:27:52 PM

District	EA	Project ID	PPNO	Project Manager
06	1A090	0620000065	7061	THANAS, ILDA

County	Route	Begin Postmile	End Postmile	Implementing Agency	
FRE	168	49.1	49.4	PA&ED	Caltrans
				PS&E	Caltrans
				Right of Way	Caltrans
				Construction	Caltrans

Project Nickname

Shaver Lake Viaduct

Location/Description

Near Shaver Lake, from 0.6 mile west to 0.3 mile west of Huntington Lake Road. Construct sidehill viaduct structure.

Legislative Districts

Assembly:	23	Senate:	14	Congressional:	16

PERFORMANCE MEASURES

	Primary Asset	Good	Fair	Poor	New	Total	Units
Existing Condition	Major Damage (Permanent Restoration)			1		1	Locations
Programmed Condition	Major Damage (Permanent Restoration)	1				1	Locations

Project Milestone	Actual	Planned
Project Approval and Environmental Document Milestone	03/13/23	
Right of Way Certification Milestone		02/03/25
Ready to List for Advertisement Milestone		03/03/25
Begin Construction Milestone (Approve Contract)		10/03/25

FUNDING (Allocated amounts are shaded)

Component	Fiscal Year	SHOPP					Total
PA&ED	20/21	4,800					4,800
PS&E	22/23	4,300					4,300
RW Support	22/23	276					276
Const Support	24/25	7,500					7,500
RW Capital	24/25	681					681
Const Capital	24/25	33,000					33,000
Total		50,557					50,557

Memorandum

To: LYLE STOCKTON
Office Chief
SHOPP and Minor Program -
Division of Financial Programming

Date: December 15, 2023

File: EA 06-1A090
ID: 0620000065
PPNO: 7061

From: ILDA THANAS
D6 Project Manager

Subject: **SHAVER LAKE VIADUCT PROGRAMMING/FUNDING AND POSTMILE LIMITS – BASELINE AGREEMENT**

The purpose of this memorandum is to document the difference in programming amount and postmile limits between the Project Report (PR) and what is shown in the California Transportation Improvement Program System (CTIPS) and provide an update. During Project Approval and Environmental Document (PA&ED) phase there was an increase in right of way (R/W) support and R/W capital costs, and a decrease in construction capital and construction support costs. Also, there was a change in project scope description for project limits. These changes have been documented and requested with Capital Outlay Support (COS) allocation request and Project Change Request (PCR).

R/W Support:
An increase in R/W support (Phase 2) allocation from $240K to $276K (115% of programmed amount) was requested in the California Transportation Commission (CTC) meeting, held in May 2023. The increase was due to utilities being discovered in PA&ED, which were not previously accounted for in the PID phase. The increase obtained the CTC Vote on May 17, 2023.

R/W Capital:
An increase in R/W capital from $31K to $681K was requested in the May 2023 CTC meeting via a PCR. Additional mitigation needs were discovered at PA&ED, that contributed towards the increase in R/W capital amount.

Construction Capital:
A decrease in construction capital from $40 M (million) to $33 M was based on revised estimate at PA&ED. The decrease was presented to the CTC in May 2023 via a PCR. The proposed viaduct was originally programmed for a length of

1,000 feet; however, further investigations in PA&ED determined the new proposed length to be 870 feet (725 feet new alignment). This contributed to $7 M in savings.

Construction Support:
A decrease in construction support from $8,700K to $7,500K was presented to the CTC in May 2023 via a PCR. The decrease was based on updated Estimate at Completion construction support workplan.

The programming table below shows updated programming amounts. These programming amounts reflect the increase in R/W capital and the decreases in construction support and capital.

UPDATED PROGRAMMING TABLE

Fund Source	Fiscal Year Estimate for the Programmable Alternative								
20.10.201.121	Current	20/21	21/22	22/23	23/24	24/25	25/26	Future	Total
Component	In thousands of dollars ($1,000)								
PA&ED Support		$4,800							$4,800
PS&E Support				$4,300					$4,300
Right-of-Way Support				$240					$240
Construction Support						$7,500			$7,500
Right-of-Way						$681			$681
Construction						$33,000			$33,000
Total*		$4,800		$4,540		$41,181			$50,521

**Total programmed amount ($50,521K) does not reflect the allocated amount of $276K for R/W support.*

Project Postmile (PM) limits:
The project was originally programmed with limits from PM 49.0 to PM 49.4. However, the PR covered a larger area, beyond construction limits that stretched from PM 48.9 to PM 49.8. A PCR was prepared and presented to the CTC in May 2023, proposing to change the PM limits from 49.0/49.4 (originally programmed) to 49.1/49.4. The change was due to a decrease in the length of the viaduct from 1000 feet to 780 feet (725 feet of new alignment). The decrease in viaduct length was based on the geotechnical studies, which determined that the new length would provide the least number of potential unknowns associated with it, yielding the best chance of success.

APPROVAL RECOMMENDED

Ilda Thanas

Ilda Thanas
Project Manager
District 06 Program and Project Management

12/15/2023

Date

06 - Fre - 168 - 48.9/49.8
EA 06-1A090 - Project ID 06 2000 0065 - PPNO 7061 - SHOPP ID Tool Number 22115
SHOPP Tool Activity Category - Major Damage (Permanent Restoration)
February/2023

Project Report

To

Request For Project Approval

On Route 168 in Fresno County

Between 16.6 miles West of the end of Route 168

And 3.9 miles East of Dinkey Creek Road

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:

MARIA TOLES
DISTRICT 06 DIVISION CHIEF, RIGHT OF WAY

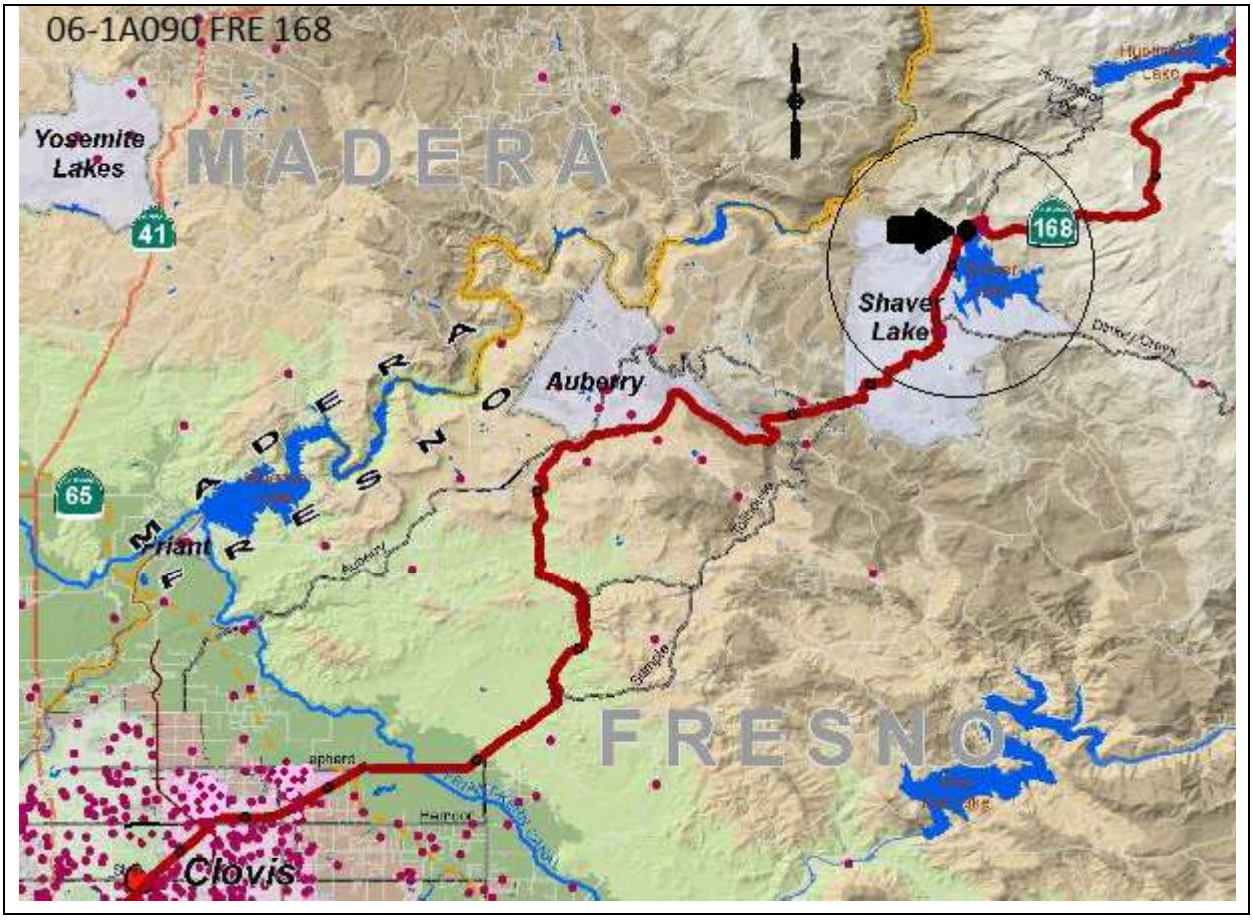
APPROVAL RECOMMENDED:

JEANNIE WILEY, *PROJECT MANAGER*

APPROVED:

DIANA GOMEZ, *DISTRICT 06 DIRECTOR* — *DATE* 3/13/2023

Vicinity Map



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

Ronnie Kier

RONNIE KIER
REGISTERED CIVIL ENGINEER

02/09/2023

DATE

`Table of Contents

1. INTRODUCTION

Project Description

This project proposes to build a two lane viaduct on State Route 168 along a section of Shaver Lake shoreline in Fresno County, near Shaver Lake, from 16.5 miles west of the end of the route Post Mile (PM 48.9) to 3.9 miles east of Dinkey Creek Road (PM 49.8).

Project Limits	06 - Fre - 168
	48.9/49.8
Number of Alternatives	3
Programmable Project Alternative	Alternative 3 Viaduct
Funding Source*	2020 State Highway Operation and Protection Program (SHOPP) 201.131 – Long Lead
Funding Year	2024/25
Type of Facility	2-lane Conventional Highway
Number of Structures	1
SHOPP Project Output	Permanent Restoration, 1 Location
Environmental Determination or Document	California Environmental Quality Act - Initial Study with Mitigated Negative Declaration **(**CEQA -IS/MND) / National Environmental Policy Act - Categorical Exclusion (NEPA – CE (23 USC 326))
Legal Description	Major Damage (Permanent Restoration)
Project Development Category	4B
SWDR Risk Level	2

Capital Outlay Project Cost	**Current Cost[1] Estimate including Risk:($1000)**	**Escalated Cost[2] Estimate:($1000)**
Support		
PA&ED (Project Approval and Environmental Document)	$4,600	$4,800
PS&E (Plans Specifications and Estimate)	$3,400	$3,800
R/W (Right-of-Way)	$216	$240
CONS (Construction)	$7,500	$8,700
Capital		
R/W	$618	$681
CONS	$27,800	$33,000

Notes:
1. Column E from Estimate Table under section 18
2. Column I from Estimate Table under section 18

2. RECOMMENDATION

It is recommended that this Project Report (PR) be approved and move forward with the design and right of way phase for the preferred alternative, Alternative 3: Viaduct.

3. BACKGROUND

Project History

Past projects attempting to provide a long-term solution

2004 06-0A550 ($400,000) an Emergency Limited Bid Force Account project removed and replaced failed embankment, replaced pavement, placed rock-slope protection and Willow trees to repair a slip-out which undermined the roadway. Project scope consisted of: 5000 Cubic Yards (CY) of earthwork, 1500 CY of rock slope protection (including rip-rap) and 1000 tons Asphalt Concrete (AC).

2008 06-0K120 ($100,000) an emergency project repaired sections of pavement which exhibited subsidence, potholes, delamination, and rutting. The scope of work included AC removal/replacement.

2010 06-0M120 ($600,000) an Emergency Limited Bid contract performed slope excavation and gabion wall construction as recommended by Geotechnical investigators to repair the undermined pavement and tension cracks extending into the travel lanes.

Later in 2010 06-0N020 ($180,000) an emergency contract performed gabion wall/trench drain construction as the area exhibited additional erosion and soil saturation due to an impacted drainage trench system.

2011 06-0P010 ($250,000) an Emergency Force Account contract removed and replaced failed AC due to saturated base conditions and localized pavement failures. At this time, it was noted that emergency work to stabilize the pavement and fill potholes was beyond the means of State forces.

2017 06-0W620 ($550,000) an Emergency Force Account contract performed 250 CY of slope excavation/reconstruction, soil consolidation, 20 CY of concrete, two courses of gabion wall re-construction and 250 tons of Hot Mix Asphalt (HMA) to repair shoulder and adjacent gabion wall subsidence of 18-inches due to a natural occurring drainage path located beneath the wall which eroded out embankment materials.

2019 06-1A030 ($950,000) an emergency contract scope of work included: replaced a failed 30-inch High Density Polyethylene (HDPE) pipe culvert “section”, replaced a limited section (approximately two courses) of the gabion wall (to facilitate culvert “section” replacement), excavated approximately 600 CY of unsuitable/saturated material, reconstructed new fill material and placed 400 tons of new HMA. The slip-out had 12+ inches of vertical subsidence at the edge lane line and 4+ inches wide of horizontal cracking patterns that extend to the centerline. This was thought to be due to the separated “section” of 30-inch HDPE culvert beneath the shoulder which opened an 11-foot-deep sinkhole where water was seen to be flowing through the separated pipe along with fill material flowing out of the pipe. The culvert separation appeared to have also allowed for the creation of a drainage path along the backside of the large gabion wall, eroding embankment materials.

2020 06-1A590 ($500,000) Placement of a 20-feet-high gaion wall and repair of 100 linear feet of slope rebuilding and damaged AC dike and pavement was paid by an Emergency Force Account contract. This damage was caused by water flowing over AC dike from an inundated drainage system.

Community Interaction

The Draft Environmental Document (DED) was circulated to the public for 30 days and a Virtual Public Hearing was held during public circulation. A Public Notice of Availability and the announcement of the Virtual Public Hearing was advertised in the Mountain Press Newspaper and a Caltrans press release. The Public Notice was also mailed to the businesses and landowners along SR 168 near the project area, and the notice was posted in community gathering spaces in Shaver Lake.

Caltrans and Southern California Edison (SCE) have been collaborating and communicating extensively throughout the life of the project for right of way alignment, utility verification and scope of project.

Our stakeholders include: State Assembly Member Jim Patterson (D23), Senator Andreas Borgeas (D8), Fresno County Board of Supervisor District 5 Supervisor Nathan Magsig, CalFire, California Highway Patrol, Shaver Lake Volunteer Firefighters, Fresno County Sheriff, Sierra Marina, local and out of town residents/owners of Shaver Lake/Huntington Lake housing, Sierra Unified School District, Southern California Edison, Pacific Gas & Electric, China Peak and Sierra National Forest.

Existing Facility

Corridor Geometric Information and Condition

Right-of-way

The project is located on a 2-lane conventional highway on SCE (U PARCEL) land.

Noise barriers and earth retaining systems

Gabion wall systems are within the project limits for erosion control. The eastern gabion wall and existing roadway will be removed, and large rock will be placed for erosion control. Noise barriers are not required.

Hydraulic facilities

Hydraulics and Maintenance concur that runoff from a spring needs cross culverts as well as ditches on the north side of SR-168.

Traffic management systems and signals

No existing Traffic Management System (TMS) elements are within PM 48.9 and 49.8 however a solar power Closed-Circuit Television (CCTV) camera is included in this project which is in line with the 2035 plan of the 2015 Transportation Concept Report (TCR).

Land uses, destinations, and services surrounding the project vicinity

The 2015 TCR classifies the area as a California Legal (CL) truck network, rural minor arterial advisory route in mountainous terrain with vehicles, bicycles and pedestrians traveling on SR-168 and through the proposed project construction zone.

Roadway Geometric Information and Condition

Traveled Way, Shoulders, and Median Geometric Information

This PR covers a section of State Route (SR) -168 which is a 2-lane undivided highway where the existing lane widths are 11-12 feet wide with paved shoulders that vary from 0 to 8 feet. SR - 168 is classified as a conventional state highway open to local and regional bicycle travel. However, the route has non-existent to narrow shoulders in some areas. The existing horizontal alignment within the project limits consists of compound and reversing curves which do not allow for standard Highway Design Manual superelevation runoff lengths.

The speed limit on SR 168 for the 2-lane conventional highway is 40 mph within the project limits.

4. PURPOSE AND NEED

Purpose:

The purpose of this project is to alleviate repeated slope and pavement failures on SR 168 near the Shaver Lake shoreline.

Need:

The roadway is unstable due to the presence of an underground spring, resulting in the repeated need for repairs due to deep subsidence.

4A. Problem, Deficiencies, Justification

To determine long-term mitigation options, Headquarters (HQ) Geotechnical performed a subsurface investigation in July of 2019. Four boreholes showed subsurface soils were mainly composed of Silty-Sand to medium dense Silty-Sand with traces of gravel and cobbles down to a depth of 80 ft. While performing the boreholes in the project area, spring water was observed at the highway paved elevation in the northwest while continually seeping out of various locations in the existing cuts north and northeast of the highway distress area. HQ Geotechnical explains spring water is likely causing subsurface soils to migrate through and/or under the gabion slope facing, creating voids, settlement and roadway tension cracks resulting from settling those voids.

HQ Geotechnical studied two Alternatives (2 bypass & 3 viaduct) with two possible viaduct lengths for Alternative 3 (A 300 feet & B 1000 feet). These Geotech studies outlined in the Preliminary Geotechnical Design Report (PGDR) determined that Alternative 3 with a length of 780 feet (725 feet new alignment) provided the least number of potential unknowns associated with it, yielding the best chance of success.

4B. Regional and System Planning

Identify Systems

Under the Federal-aid Surface Transportation Program, SR 168 (PM 48.9/49.8) is not part of the National Highway System (NHS) as a Strategic Highway Network. The Segment has federal functional classification as a Minor Arterial. This segment is a two-lane conventional highway and is a California (CA) Legal Advisory and Kingpin-to-Rear Axle Advisory route but will accommodate the Surface Transportation Assistance Act (STAA) design vehicle at the request of the District 6 Truck Access Manager.

State Planning

The 2015 TCR for Segment 10, between Dinkey Creek Road and Huntington Lake Road (PM 45.0 to PM 49.7) plans for this 2-lane conventional highway to remain a 2-lane conventional highway with improvements such as turn lanes, signals and passing lanes which is in line with this project.

Regional Planning

This viaduct will improve mobility for vehicles, bicyclists, and pedestrians.

Local Planning

The Town of Shaver Lake has a `General Plan which classifies this segment of SR 168 as a highway.

There is no fixed route operating on this segment of SR 168.

4C. Traffic

Traffic volumes

	SR-168 PM 48.9 - 49.8
Average Daily Traffic 2021	1600
Truck %	10

Traffic collisions from 1-January-2017 to 31-December-2019

Actual Million Vehicle Miles (MVM)			Average (MVM)		
Fatal	F+I	Total	Fatal	F+I	Total
0.000	0.00	0.92	0.052	0.99	1.99

This is a preliminary indicator that the situation for this 2-lane conventional highway segment is such that there are fewer collisions occurring on this 2-lane conventional highway segment than what would typically be expected.

5. ALTERNATIVES

5A. Viable Alternative

Alternative 3: Viaduct

Alternative 3 would construct a two-lane viaduct on a new alignment. The viaduct would be a bridge-like structure set on deep foundations spanning the area of current pavement distress. The foundations would be made of large concrete posts driven 40 to 60 feet into the ground to act as a leg or support for the viaduct. Each lane would be 12 feet wide, with 8-foot-wide shoulders. The viaduct would be 725 feet in length and would be realigned 63 feet into the existing hillside. The realigned roadway would be 1,200 feet in length and would straighten the roadway. This realignment would simplify construction staging, reduce the need for reversing traffic control, and shorten construction days. To reduce future maintenance the existing gabion wall and roadway will be removed.

Design Standards Risk Assessment Matrix		
Standard Highway Design Manual 7th Edition	Nonstandard feature and risk of non- approval (**all** are at low risk of non-approval)	Justification for the approval risk rating and additional data/studies needed for approval
101.2 **"Table 101.2 shows appropriate ranges of design speeds that shall be used for the various types of facilities, place types, and conditions listed."**	The proposed nonstandard design feature is to provide a Highway Design Speed less than freeways and expressways in mountainous terrain of 50 MPH.	The expressway route adoption for a minimum of 50 MPH is planned to be rescinded. The minimum design speed for a conventional highway is 40 MPH.
202.2 (1) (c) **Roadways described below, (a) through (e), shall be designed with the emax indicated.** Use emax of 8% when snow and ice conditions prevail (usually over 3,000 feet elevation).	Beyond this projects construction limits an existing curve has a 3.5% super elevation instead of the standard 7.8%.	Mountainous terrain and alignment constraints cannot be overcome without realigning the roadway and substantial cost.
202.5 (1) General. The superelevation transition generally consists of the crown runoff and the superelevation runoff as shown on Figure 202.5A and 202.5B. "A superelevation transition should be designed in accordance with the diagram and tabular data shown in Figure 202.5A to satisfy the requirements of safety, comfort and pleasing appearance."	The proposed nonstandard design feature is to provide superelevation transition of 120' at the entrance and exit instead of 150'.	Mountainous terrain and alignment constraints cannot be overcome without realigning the roadway and substantial cost.
203.3 Alignment Consistency - Sudden reductions in alignment standards should be avoided. Where physical restrictions on curve radius cannot be overcome and it becomes necessary to introduce curvature of lower standard than the design speed for the project, the design speed between successive curves should change not more than 10 miles per hour. Introduction of curves with lower design speeds should be avoided at the end of long tangents, steep downgrades, or at other locations where high approach speeds may be anticipated	The proposed nonstandard design feature is to maintain an existing 20 MPH curve which is greather than 10 miles per hour less than the minimum design speed of a conventional highway of 40 MPH.	Mountainous terrain and alignment constraints cannot be overcome without realigning the roadway and substantial cost.
309.1 (2) Clear Recovery Zone (CRZ). The roadside environment can and should be made as safe as practical. A clear recovery zone is an unobstructed, relatively flat (4:1 or flatter) or gently sloping area beyond the edge of the traveled way which affords the drivers of	The proposed nonstandard design feature to be maintained a slope greater than 4:1 within 20 feet of the edge of traveled way.	Mountainous terrain and alignment constraints cannot be overcome without realigning the roadway and substantial cost.

errant vehicles the opportunity to regain control. For embankment slopes, a clear recovery zone of 4:1 or flatter should apply on all highways with distances referenced in Subsection (2)(a), except if guardrail or barrier is provided. • Conventional Highways – 20 feet*		

The Project Development Procedures Manual (PDPM) states that projects with one build alternative must have an approved Design Standard Decision Document (DSDD) before the approval of a DPR. Under the direction of the Project Development Team (PDT), the DSDD standard to be met is Expressway Standards due to an approved Route Adoption. The current DSDD strategy is to move forward with requesting an exception to these design standards in the Project Report phase and is currenently under review.

Highway Planting

SR 168 is listed as a State Scenic Highway in the California Streets and Highway Code Division 1, Chapter 2, Article 2.5. This project will have moderate visual impacts on views from recreational, residential, and business areas.

This project will replace native forest vegetation removed to construct Alternative 3. Reforesting and revegetation will be done in coordination with SCE according to California Forest Practice Rules. Caltrans is working with SCE to determine a preferred replanting strategy. The project Mitigation and Compliance Cost Estimate (MCCE) has estimated revegitition mitigation at $1.5 Million and will need to be split out into a separate project.

Railroad Involvement

There are no railroad facilities tangent to or crossing this project.

Noise Barrier

A Noise Barrier will not be incorporated into the project.

Erosion Control

Per the Evaluation Documentation Form (EDF), this project is required to install permanent treatment BMPs. The project proposes to create a Total New Impervious Surface (NIS) area of 1.62 acres, which may change the volume and velocity of the stormwater runoff from the project limits. The Hydraulics Recommendation at PS&E will determine the necessary drainage strategy within the design to treat the runoff.

Nonmotorized and Pedestrian Features

Complete Streets was considered for inclusion in the scope of work for this project. As the project limits are accessible to both bicycles and pedestrians, bicycle-tolerable drainage grates and bridge guardrail will be used with eight-foot shoulders.

Cost Estimates

The Engineers Estimate tabulating the roadway and structure construction costs, right of way costs and project capital outlay cost estimates for Alternative 3 can be found in Attachment K.

Right of Way Data

The Right of Way Data Sheet and Mitigation and Compliance Cost Estimates (MCCE) can be found at Attachment I.

5B. Rejected Alternatives

5B.1 Alternative 1

Alternative 1 is the "No-Build" alternative and does not meet the need and purpose.

5B.2 Alternative 2

Alternative 2 is the "Bypass" alternative, it would experience the same maintenance challenges as the existing roadway and does not meet the need and purpose.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

Near surface soils throughout the project area are minimally impacted by Aerially Deposited Lead (ADL). A Lead Compliance Plan (LCP) developed by a Certified Industrial Hygienist (CIH) is required. The estimated cost of the LCP is $3,000. The appropriate project SSPs will be edited for the project and provided during the Plans, Specifications and Estimates (PS&E) project phase.

6B. Value Analysis

The estimated project cost exceeds the Federal Highway Administration (FHWA) threshold, a Value Analysis Study was conducted to be eligible for Federal funding. A cast in place, pre-stressed / post tension, box girder side hill viaduct will be constructed. This is estimated to save $1 million dollars in construction capital and allow construction to finish 3 months faster over the cast in place reinforced concrete slab side hill viaduct.

6C. Resource Conservation

An evaluation of possible recycling of pavement and salvaging of materials will be performed during the design stage of the project.

6D. Right-of-Way Issues

Right of Way Impact
SCE owns the land of our existing facility and new alignment. Caltrans is purchasing a new permanent right of way easement and relinquishing some of the existing permanent right of way easement. Right of way estimates a thirteen-month lead time is required.

Right of Way Utility Impact
A permit search and site visit has been completed. Utilities were found paralleling this project and were determined to be out of the construction footprint. There is also a fiber optic line located at the north end of the project that is expected to be relocated.

6E. Environmental Compliance

An Initial Study with Proposed Mitigated Negative Declaration has been prepared by Caltrans, District 6. That document is included in Attachment H and contains information regarding compliance with the CEQA and other state laws and regulations. Separate environmental documentation, supporting a NEPA CE determination, was prepared in accordance with the National Environmental Policy Act. When needed for clarity, or as required by CEQA, this document may contain references to federal laws and/or regulations (CEQA, for example, requires consideration of adverse effects on species identified as acandidate, sensitive, or special-status species by the U.S. National Marine Fisheries Service and the U.S. Fish and Wildlife Service—that is, species protected by the Federal Endangered Species Act).

Based on the Initial Study with Proposed Mitigated Negative Declaration, it is determined that the proposed action with the incorporation of the identified mitigation measures will not have a significant effect on the environment.

Visual/Aesthetics
At a state level, State Route 168 is listed as a State Scenic Highway, meaning it is important to follow the California Streets and Highway Code to preserve scenic conservation resources in this area as much as possible. At a national level, the National Scenic Byway System highlights the importance of the Sierra National Forest and preserving the National Forest scenery. This projects' improvements appear to be within local aesthetic values and goals. The resource change for this project would be moderate. The overall viewer response of neighbors and users is expected to be moderate-high. The visual impacts expected because of this proposed project are expected to be moderate. This project will have no impact on scenic resources within a state scenic highway.

Replacement Planting for Vegetation Removed or Damaged

Tree removal will be restricted to the non-nesting season (October 1 to January 31) or until a Caltrans biologist has verified that no nesting is occurring, and the tree is cleared for removal.

Reforesting and revegetation would be done in coordination with Southern California Edison according to California Forest Practice Rules. Natina coating applied to the proposed guardrail system would allow the structure's colors to better complement the surrounding natural environment. The existing gabion wall will be removed and rock slope protection will be placed to help erosion in tandem with planted native vegetation.

Cultural Resources
Considering the information in the Historic Property Survey Report dated October 2021, no impact will be made to historical or archaeological resources or disturb any human remains.

Biological Environment
Considering the information in the Natural Environment Study (Minimal Impacts) dated March 2022, there will be less than significant impact on any species or wetlands of concern and no impact on; riparian habitat, migration of fish or wildlife, biological resources, or conservation plan (habitat or natural community).

Pre-construction surveys will be performed within 500 feet of the action area to determine if any goshawks or osprey are nesting in proximity to the action area. Active nests would be protected by a 500-foot buffer from February 1 to September 30, or until any young have fledged and left the nest. Should goshawks or osprey nest in proximity to the work zone, a biological monitor would be present to ensure noise and activity do not disrupt nest-related activities including feeding, nest defense, and care of young.

Focused botanical pre-construction surveys will be performed as well, during the flowering season at all work sites where ground-disturbance is anticipated, and with suitable habitat within or near California Native Plant Society and California Natural Diversity Database occurrence record

The action area will be surveyed prior to construction for the presence of roosting bats. If bats are determined to be present in the action area, a qualified biologist will monitor construction activities to determine if bats are being disturbed. If bats are disturbed, work will be suspended, and the situation will be evaluated to determine if an alternate work schedule can be developed in order to construct the project while bats are not roosting.

Pre-construction surveys would be performed within the action area to determine if any Sierra marten or fisher denning is occurring. Active natal dens would be protected by a 500-foot buffer during the U.S. Forest Service Limited Operating Period (LOP). For Sierra marten, this would be from May 1 to June 30 or until any young have left the den. For the fisher, this would be from March 1 to June 30 or until any young have left the den.

In-lieu credit fees will likely be a requirement of the 404 nationwide permit under the Clean Water Act as a result of impacts to wetlands.

6F. Air Quality Conformity

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the NEPA. In addition to this environmental analysis, a parallel "Conformity" requirement under the Federal Clean Air Act (FCAA) also applies.

The conformity requirement is based on FCAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the National Ambient Air Quality Standards (NAAQS). "Transportation Conformity" applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

The proposed project is located within the San Joaquin Valley Air Basin. According to Title 40 of the Code of Federal Regulations (CFR) Section 93.126, the proposed project is exempt under Table 2. Such projects may proceed toward implementation even in the absence of a conforming transportation plan and Transportation Improvement Program (TIP).

Considering the information in the Air Quality Memorandum dated March 2022 and the CEQA significance determinations for air quality, it has been determined that there would be no impact.

6G. Title VI Considerations

The considerations under the Title VI of the Civil Rights Act of 1964 and related statutes have been included in this project. Based on the population ethnic/racial distribution in the displacement area, the project would not cause disproportionately high and adverse effect on any minority or low-income populations.

6H. Noise Abatement Decision Report

Considering the information in the Traffic Noise Assessment dated March 2022, this project is not a Type I project and will not cause permanent noise or vibration impacts within the project area and the temporary impacts during construction will be minimal.

6I. Life-Cycle Cost Analysis

Based on the current Life Cycle Cost Analysis (LCCA) policy and limitations to the Caltrans program software used to analyze, LCCA are not required at this time.

6J. Reversible Lanes

This project is not a capacity increasing project and reversible lanes were not considered.

7. OTHER CONSIDERATIONS AS APPROPRIATE

Public Hearing Process

Construction would permanently alter the Sierra Marina storage lot and access road. In addition, tree removal along an Eligible Scenic Highway may draw public attention to the project. A public hearing was held during the public circulation of the Draft Environmental Document. The Initial Study circulated for public review and comment for 30 days between October 5, 2022 and November 3, 2022. Comments received during this period are included in Appendix B, of the Initial Study with Mitigated Negative Declaration which was signed on November 28th, 2022.

Route Matters

Controlled Access Highway Agreements and New Connections

A Controlled Access Highway Agreement (CAHA) and a new public road connection would require an agreement with the local agency having jurisdiction over the public road proposed for connection to a state access-controlled highway.

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Freeway Agreement
Not required.

Route Adoptions
This project is located at the east end of an existing route adoption (See Attachment L), however the process to retract this route adoption has begun due to a lack of future need.

Relinquishment
Discussions regarding the relinquishment of the existing alignment and northern gabion wall have begun with SCE. SCE voiced concerns regarding maintenance of the existing roadway, gabion wall and the ongoing migration of sand into Shaver Lake. SCE has verbally agreed to take back this land if the northern gabion wall and existing roadway is removed and Federal Energy Regulatory Commession (FERC) guidelines are used for erosion control plans along the Shaver Lake shoreline.

Permits
The following permits, licenses, agreements, and certifications are required before project construction:

- California Department of Fish and Wildlife (CDF&W) - 1600 Lake or Streambed Alteration Agreement
- Department of Transportation - Storm Water Pollution Prevention Plan
- U.S. Army Corps of Engineers - Clean Water Act Section 404 Nationwide Permit.
- Regional Water Quality Control Board - Clean Water Act Section 401 Water Quality Certification.

Report on Feasibility of Providing Access to Navigable Rivers
The feasibility of providing access to navigable rivers is not applicable to this project.

Public Boat Ramps
Access will be maintained to The Sierra Marina boat ramp entrance just east of the project limits. A Sierra Marina boat trailer storage area will have access maintained from a driveway south west of this project's limits and an additional driveway to the same storage area within the project limits will not be maintained.

Transportation Management Plan
Preliminary traffic impacts and mitigation for this project have been outlined in Transportation Management Plan (TMP) Data Sheet as Attachment G to minimize delay and maximize safety for the motorists during construction. Costs associated with the traffic impact mitigation measures listed in the TMP Data Sheet have been included in this document's estimate. Lane closure charts and detailed TMP will be provided during PS&E stage.

Storm Water
Project Risk Level is determined by two distinct factors. These factors are the Sediment Risk Factor and the Receiving Water Risk Factor. The Sediment Risk Factor equated as "High". Absent a receiving water body with a Total Maximum Daily Load for sediment or mercury, the Receiving Water Risk Factor was determined as "Low". Given a Sediment Risk Factor of 'High' and a Receiving Water Risk Factor of 'Low,' the Combined Risk Level is Level-2.

Stage Construction
Minimal construction staging is expected since a new roadway alignment will allow the construction of the viaduct with minimal interruption to the existing alignment. Initial hillside slope cutting, construction of the west end of the viaduct, and finally tying in the new alignment, will require taking the east bound lane of SR 168 for equipment to have adequate room. For prolonged closure of the west bound lane, one way traffic control will be provided with a signal on the east bound lane.

Accommodation of Oversize Loads
This project will be designed not to alter Oversize Load access along SR 168.

Graffiti Control
This project lies in a rural section outside the town of Shaver limits and is not considered a graffiti-prone area.

Asset Management
This project proposes to provide Major Damage Permanent Restoration, Caltrans' tapered edge and bicycle safe bridge rail for Alternative 3 (725' viaduct), and is part of the SHOPP Ten Year Plan (TYP) (See Attachment - D).

Complete Streets
Complete Streets was considered for inclusion in the scope of work for this project. As the project limits are accessible to both bicycles and pedestrians, bicycle-tolerable drainage grates and bridge guardrail will be used.

Climate Change Considerations
Considering the information in the Climate Change Memorandum dated April 2022, it has been determined that this project would have less than significant impact in generating greenhouse gas emissions and is not in conflict with an applicable plan, policy or regulation for the purpose of reducing the emissions of greenhouse gas.

The following measures are intended to be implemented in the project to reduce GHG emissions and potential climate change impacts from the project:

- Recycle Water: Reduce construction water consumption of potable water. Encourage recycled water for construction. This would be a part of the project contract as Caltrans Standard Specification 10-6.
- Reduce construction waste. This would be a part of the project contract as Caltrans Standard Specification 14-10.03, requiring Solid Waste Disposal and a Recycling Report and a Recycled Materials Report demonstrating efforts to minimize landfill material.
- Long-Life Pavement: Minimize life-cycle costs by designing long-lasting 40-year pavement structures. This would be incorporated into the project design during the project design phase.
- Construction scheduling: Increase Lane closure duration to reduce necessary mobilization efforts or lengthen the work week to maximize construction seasons. This would be incorporated into the Transportation Management Plan prepared during the project design phase.
- Fuel Efficiency: Encourage Improved fuel efficiency from construction equipment by maintaining equipment in proper working condition, using the right size equipment for the job, and using equipment with new technologies. This would be a part of the project contract as Caltrans Standard Specification 14-9.

- Reducing the need for the transport of earthen materials by balancing cut and fill quantities. This would be addressed during the project design phase.
- Provide construction personnel with the knowledge to identify environmental issues and best practice methods to minimize impacts to the human and natural environment. Supplement existing training with information from the following link regarding methods to reduce GHG emissions related to construction: https://www.sustainablehighways.org/122/project-development.html.

Broadband and Advance Technologies

A. Wired Broadband Facility

Caltrans does not have a Fiber Optic business need for this project. In accordance with *AB1549,* Broadband Stakeholders can request consideration for Fiber Optic conduit installations as part of the project. Broadband Stakeholders shall bear 100% of all Capital Construction costs and Capital Outlay Support costs pertaining to Fiber Optic conduit installation. The PDT shall consider such a request to determine impacts to schedule and cost of proposal.

B. Fueling opportunities for zero-emission vehicles is not applicable.

C. Provision of infrastructure-to-vehicle communications for transitional or full autonomous vehicle is not applicable.

8. FUNDING, PROGRAMMING AND ESTIMATE

Funding
SR 168 is eligible for federal-aid funding.

Programming
This project was amended into the 2020 SHOPP Major Damage (permanent restoration) (20.XX.201.131) as a long lead for delivery in the 2024/25 fiscal year. Current construction capital is estimated at $27,754,800 and right of way capital cost at $617,502. Escalated construction capital and right of ways costs are $33,000,000 and $680,800, respectively. A Project Change Request (PCR) for R/W capital increase from $31,000 to $680,800, construction capital decrease from $40,000,000 to $33,000,000 and the adjustment of Post Miles to 48.9/49.8 will be processed.

FUND SOURCE	FISCAL YEAR ESTIMATE FOR THE PROGRAMMABLE ALTERNATIVE								
20.XX.201.131	Current	20/21	21/22	22/23	23/24	24/25	25/26	Future	Total
Component	In thousands of dollars ($1,000)								
PA&ED Support		$4,800							$4,800
PS&E Support				$4,300					$4,300
Right-of-Way Support				$240					$240
Construction Support						$8,700			$8,700
Right-of-Way						$31			$31
Construction						$40,000			$40,000
Total		$4,800		$4,540		$48,731			$58,071

**Values are escalated to mid-point of the duration of each component. The Support Cost ratio is 45.1%.*

The Support has been escalated at 2% for FY 21/22 and at 3% each year afterwards. The Right of Way Capital is escalated at 5% and the Construction Capital has been escalated at 4.0%.

9. DELIVERY SCHEDULE

PROJECT MILESTONES		MILESTONE DATE (Month/Day/Year)	MILESTONE DESIGNATION (Target/Actual)
APPROVE PID	M010	12/03/2020	A
PROGRAM PROJECT	M015	03/25/2021	A
BEGIN ENVIRONMENTAL	M020	06/11/2021	A
PA & ED	M200	03/08/2023	T
RIGHT OF WAY REQTS	M224	11/17/2022	A
REGULAR RIGHT OF WAY	M225	08/04/2023	T
PS&E TO DOE	M377	09/02/2024	T
RIGHT OF WAY CERTIFICATION	M410	02/03/2025	T
READY TO LIST	M460	03/03/2025	T
FUND ALLOCATION	M470	05/16/2025	T
HQ ADVERTISE	M480	06/16/2025	T
BID OPEN	M490	08/06/2025	T
AWARD	M495	09/05/2025	T
APPROVE CONTRACT	M500	10/03/2025	T
CONTRACT ACCEPTANCE	M600	10/02/2028	T
END PROJECT	M800	12/02/2030	T

10. RISKS

A Risk Register has been completed as part of this PR. This Risk Register is an assessment of potential risks and impacts to the overall project associated with scope, cost (construction and support) and schedule.

Some of the active high probability and high impact items identified are the schedule has PA&ED and PS&E work required to be done simultaneously with a fourth quarter delivery date and soil conditions were assumed favorable for foundation types.

11. EXTERNAL AGENCY COORDINATION

The PDT identified the following entities as stakeholders:
Southern California Edison
Sierra National Forest
Sierra Marina
Fresno County Public Works

Please see Attachment O for Communication Plan.

12. PROJECT REVIEWS

Scoping team field review	*Bill Moses*	Date	02/19/2020
Safety field review		Date	
PID Program Manager	*Adam Wells*	Date	11/03/2020
Headquarters SHOPP Program Advisor	*Dave Changizi*	Date	11/10/2020
District Maintenance	*Rene Sanchez*	Date	09/09/2020
Asset Management Branch Chief	*Scott Harlan*	Date	09/09/2020
Project Manager	*Jeannie Wiley*	Date	11/09/2020
FHWA		Date	
District Safety Review	*Ronnie Kier*	Date	09/08/2020
Constructability Review	*Ronnie Kier*	Date	09/11/2020

13. PROJECT PERSONNEL

Name	Title	Phone Number
Jeannie Wiley	Project Manager	559-978-3234
Jun Xu	Design Manager	559-908-8994
Ronnie Kier	Project Engineer	559-840-6860
Brent Haroldsen	District Construction	559-246-6410
Nathan Quiroz	Structures Construction	559-304-3318
Ted Mooradian	Materials	559-488-4148
Daniel Chapa	Maintenance	559-906-8717
Rene Sanchez	Maintenance	559-906-0627
Scott Reinhart	Surveys	559-289-2925
Tom Fisher	Hydraulics	559-974-5061
Diego Caldera	Hydraulics	559-593-6638
Segaran Logeswaran	CT Geotechnical Design North	916-207-2064
Mark Wilson	Geology Engineering	916-227-1056
Shawn Wei	Geology Engineering	916-227-1079
Michael Downs	Office of Bridge Design Central Technical Liaison	916-804-3026
Dhvani Desai	Structures Design	916-227-5204
Terrence Cortez	Traffic Operations	559-383-5224
Anthony Barrios	Traffic Investigations	559-383-5190
Warren Lum	Traffic Safety	559-538-4394
Susan Greenwood	Haz Waste Specialist	559-383-5534
Randall Bonds	Environmental SWDR	559-960-1439
Shane Gunn	Environmental Senior	559-832-0051
Sara Blum	Sr R/W Agent	559-383-5194
Scott Harlan	Chief, Asset Management	559-383-5241
Winter Yeung	District 6 Truck Access Manager	559-383-5041

14. ATTACHMENTS (Number of Pages)

A. Location Map (1)
B. Typical X-Sections (1)
C. Risk Summary (4)
D. SHOPP Performance Measure Report (1)
E. Stormwater Data Report (1)
F. Preliminary Design Geotechnical Report (18)
G. Transportation Management Plan Data Sheet (4)
H. Environmental Document (69)
I. Right of Way Data Sheet, Cost Estimate and MCCE (6)
J. Structure Advanced Planning Study, Cost Estimate and CPM (2)
K. Project Cost Estimate (10)
L. Route Adoption (1)
M. Transportation Planning Scoping Information Sheet (1)
N. Complete Streets Decision Document (3)
O. Communication Plan (4)

INDEX OF PLANS

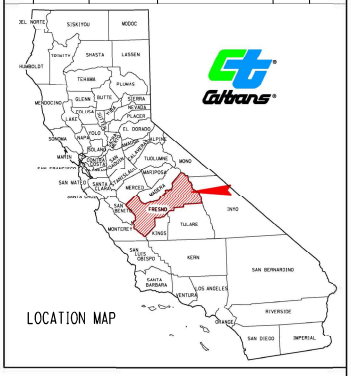
STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

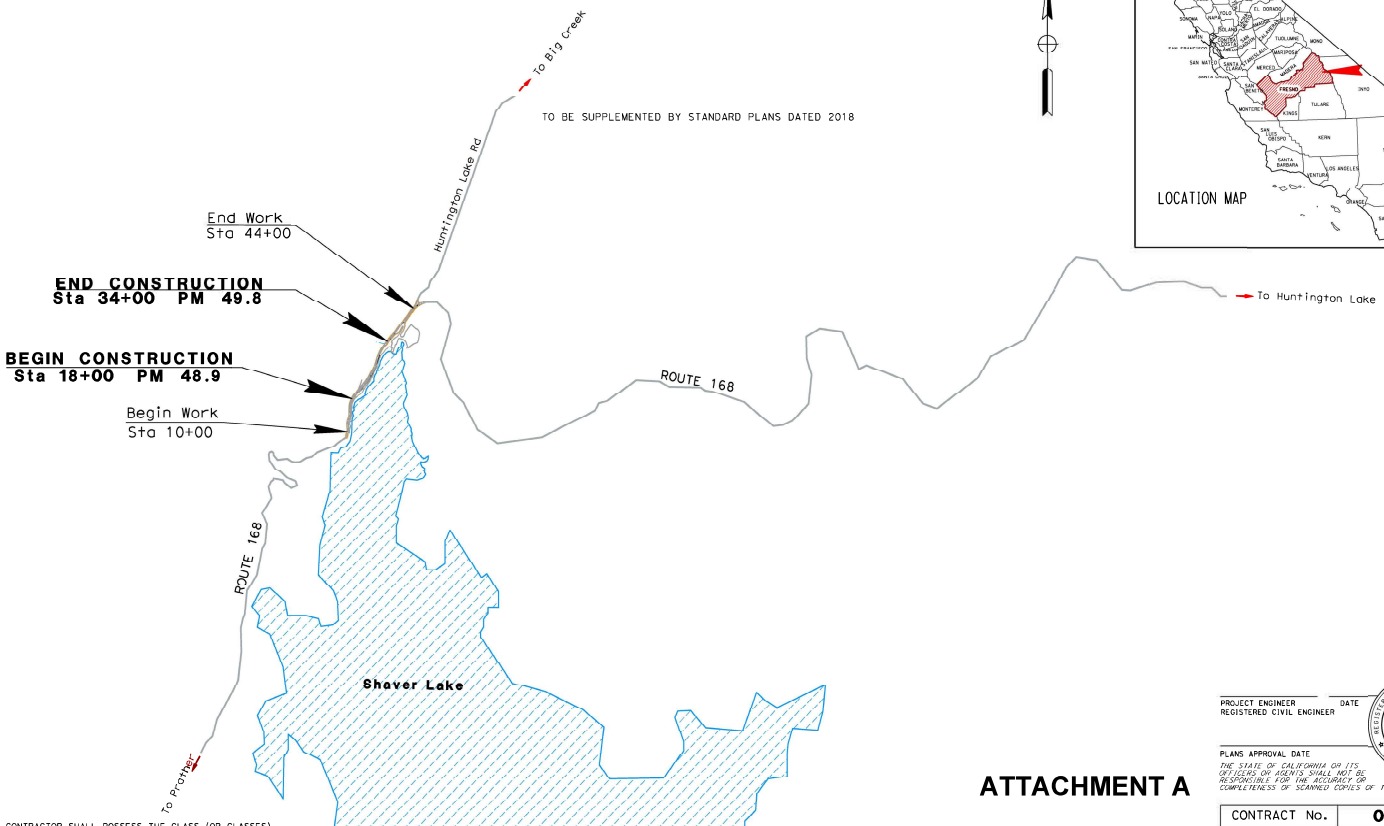
PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	168	48.9/49.8	1	???



TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2018



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

PROJECT ENGINEER
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

ATTACHMENT A

CONTRACT No.	06-1A0904
PROJECT ID	0620000065

PROJECT MANAGER: JEANNIE WILEY
DESIGN MANAGER: JON XU

DATE PLOTTED => 12/23/2022
TIME PLOTTED => 11:24:46 AM

BORDER LAST REVISED 9/17/2018 | CALTRANS WEB SITE IS: HTTP://WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => DGN FILE => ...\06-1A0901TitleSheet.dgn | UNIT 1463 | PROJECT NUMBER & PHASE 06200000651

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	168	48.9/49.8		

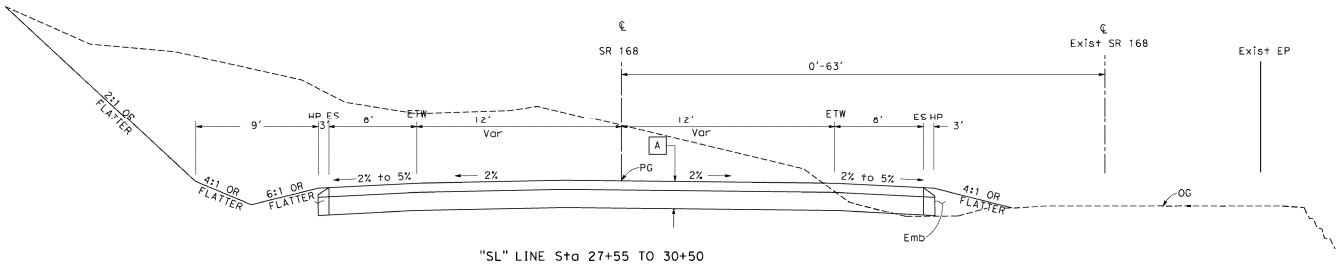
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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

A HMA/AB 0.60/0.35



"SL" LINE Sta 27+55 TO 30+50

"SL" LINE Sta 18+50 TO 20+30

SR 168

*Please see APS sheet No.2 for Viaduct Cross Section 20+30 TO 27+55

ATTACHMENT B

TYPICAL CROSS SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

FUNCTIONAL SUPERVISOR: JUN XU

CALCULATED-DESIGNED BY: RONNIE KIER

CHECKED BY:

REVISED BY: RKK

DATE REVISED:

DATE PLOTTED => 12/23/2022

TIME PLOTTED => 11:25:44 AM

BORDER LAST REVISED 7/2/2010

USERNAME =>

DGN FILE => ...\Plans\X-Secs\Shover_Xsec.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1463

PROJECT NUMBER & PHASE 06200000650

Risk Register for 06-1A090, Shaver Lake Viaduct

Form v3.4 last modified April 2019

Risk Checkpoint:	PAED
Date:	12/27/2022
Project Nickname:	Shaver Lake Viaduct
EA:	06-1A090
Co-Rt, Post Miles:	Fre-168-49.0/49.4
Project Manager:	Jeannie Willey
FY & Program (SHOPP or STIP):	2020 (SHOPP) Amendment
Capital Costs:	$40,031k
Support Costs:	$18,040k
Total Costs:	$58,071k
RTL Target:	9/6/2024

Phase	Cost Contingency Range $k			Schedule Contingency Range (Wkg Days)		
	Optimistic	PERT	Pessimistic	Optimistic	PERT	Pessimistic
0-PA&ED	$55	$86	$131	20	28	44
1-PS&E	$19	$28	$44	32	58	100
2-RW Sup	$3	$8	$19	22	52	110
3-Con Sup	$7	$11	$17	10	62	120
Support Contingency	$85	$133	$211	84	200	374
9-RW Cap	$6	$18	$36	9	21	44
4-Con Cap	$40	$127	$320	32	46	66
Capital Contingency	$46	$145	$356	41	67	110
Total Contingency	$131	$278	$567	125	267	484

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	Support (Hrs) Capital Cost ($k)	Schedule (Days)	Calculated Contingency
Active	1	Threat	Structure Construction	Soil Conditons	As a result of soil conditons , difficult foundation installation may occur. This could lead to delay in project completion and increase construction support costs.	Assume condtions favorable for common foundation types. Material to be evaulated during Geotech report.	Geotech Report	4-High (51-70%)	4 - Moderate ($751k - $1,500k	16	Enhance	Upon release of Geotech Report attempt to mitigate difficult foundation work by proper selection of pile type. Despite mitigation, acceptance of risk will be required as the threat cannot be eliminated, and additional time and money shall be accounted for.	Geotechnical Engineer	9/30/2020	4-Con Cap	O $35k ML $750k P $1,500k PERT $756k	O 25 ML 50 P 100 55 days	$756k
								100%	16 - Very High (>6 months)	64					3-Con Sup	O 600 hours ML 1,200 hours P 2,500 hours PERT 1,317 hours	O 25 ML 50 P 100 55 days	$164k 55
Retired	2	Threat	Structure Design	Viaduct Length	As a result of viaduct length being incorrectly sized, gabian wall problems outside viaduct length may occur. This could lead to source of problem not being corrected.	Assume Geotech Report will correctly depict required limits of viaduct.	Geotech Report	1-Very Low (1-10%)	1 - Very Low (Insignificant)	1	Avoid	Risk is not direct impact to time and money but can cause increase in departmental time and costs beyond project completion if viaduct solution is not successful. Avoid by Design and Geotech correctly sizing viaduct.	Geotechnical Engineer / Structures Design	9/30/2020	0-PA&ED Sup	O 0 hours ML 0 hours P 0 hours	0 days 0 days 0 days	
								5%	1 - Very Low (Insignificant)	1					1-PS&E Sup	O 0 hours ML 0 hours P 0 hours	O 0 ML 0 P 0	
Active	3	Threat	Structure Construction	Weather Conditions	As a result of weather conditons , project staging changes may occur. This could lead to delay in project completion and increase construction support costs.	Project working days based on historical weather patterns.	Increase in weather conditons outside normal patterns during construction.	3-Moderate (31-50%)	4 - Moderate ($2,501k - $5,000k	12	Accept	Include additional time for potential weather delays in construction or provide money for accelerated construction schedule in PS&E to minimize impacts.	Design /Construction	9/30/2020	4-Con Cap	O $50k ML $150k P $300k PERT $159k	O 100 ML 120 P 140 120 days	$64k 48
								40%	8 - High (3-6 months)	24					3-Con Sup	O 2,400 hours ML 2,900 hours P 3,500 hours PERT 2,917 hours	O 100 ML 120 P 140 120 days	$145k 48
Retired	4	Threat	Environmental	Delay in Environmental Documentation-PTEs	As a result of the inability to obtain access to land (private PTEs and/or public land -ARPA, etc.) in an adequate timeframe would lead to delay in PAED studies.	There will be no delays in receiving PTE's	Access to the land	4-High (51-70%)	1 - Very Low (Insignificant)	4	Accept	During PA&ED, adjust the project schedule to accommodate the delay.	Environmental	10/7/2020	0-PA&ED Sup	O ML P	O ML P	
								60%	4 - Moderate (1-3 months)	16					1-PS&E Sup	O ML P	O ML P	
Retired	5	Threat	Environmental	Delay in Environmental Documentation-Built Environment Resources	As the result of the identification of built environment resource(s) within the APE during cultural resource surveys additional documentation, evaluation, and/or consultation with consulting parties, would impact cost and schedule.	No built environment resources will be discovered	Additional documentation for no built environmental resources	1-Very Low (1-10%)	2 - Low (<$2,500k)	2	Accept	During PA&ED, adjust the project schedule and resources to accommodate the additional studies, documentation, and/or consultation,	Environmental	10/7/2020	0-PA&ED Sup	O ML P	O ML P	
								5%	8 - High (3-6 months)	8					1-PS&E Sup	O ML P	O ML P	
Retired	6	Threat	Environmental	Delay in Environmental Documentation-Archaeological Sites	As the result of the identification of an archaeological site(s) within the APE during cultural surveys, additional documentation, subsurface testing (XPI, XPII), avoidance measures, monitoring, and/or additional consultation with consulting parties, would impact cost and schedule.	No sites will be discovered	Identifications of archaeological sites	3-Moderate (31-50%)	2 - Low (<$2,500k)	6	Accept	During PA&ED, adjust the project schedule and resources to accommodate the additional studies, documentation, and/or consultation,	Environmental	10/7/2020	0-PA&ED Sup	O ML P	O ML P	
								40%	16 - Very High (>6 months)	48					1-PS&E Sup	O ML P	O ML P	
Retired	7	Threat	Environmental	Delay in Environmental Documentation-Historic Property	As the result of affecting historic property(s) that would require the need for an effects determination and additional consultation with consulting parties which would impact cost and schedule.	No sites will be impacted	Historic Properties	1-Very Low (1-10%)	2 - Low (<$2,500k)	2	Avoid	During PA&ED and PS&E, reconsider the design of the project to avoid the historic property.	Environmental	10/7/2020	0-PA&ED Sup	O ML P	O ML P	
								5%	8 - High (3-6 months)	8					1-PS&E Sup	O ML P	O ML P	
Retired	8	Threat	Environmental	Delay in Environmental Documentation-Impacting Historic Property	As the result of adversely impacting a historic property – built environment will require the preparation of an MOA in consultation with consulting parties and establishment of mitigation measures(HABS/HAER, other), which would impact cost and schedule.	No sites will be impacted	Historic properties in built environment	1-Very Low (1-10%)	2 - Low (<$2,500k)	2	Avoid	During PA&ED and PS&E, reconsider the design of the project to avoid the historic property.	Environmental	10/7/2020	0-PA&ED Sup	O ML P	O ML P	
								5%	16 - Very High (>6 months)	16					1-PS&E Sup	O ML P	O ML P	

Risk Register for 06-1A090, Shaver Lake Viaduct

Form v3,4 last modified April 2019

Risk Checkpoint:	PAED
Date:	12/27/2022
Project Nickname:	Shaver Lake Viaduct
EA:	06-1A090
Co-Rt, Post Miles:	Fre-168-49.0/49.4
Project Manager:	Jeannie Wiley
FY & Program (SHOPP or STIP):	2020 (SHOPP) Amendment
Capital Costs:	$40,031k
Support Costs:	$18,040k
Total Costs:	$58,071k
RTL Target:	9/6/2024

Phase	Cost Contingency Range $k			Schedule Contingency Range (Wkg Days)		
	Optimistic	PERT	Pessimistic	Optimistic	PERT	Pessimistic
0-PA&ED	$55	$86	$131	20	28	44
1-PS&E	$19	$28	$44	32	58	100
2-RW Sup	$3	$8	$19	22	52	110
3-Con Sup	$7	$11	$17	10	62	120
Support Contingency	$85	$133	$211	84	200	374
9-RW Cap	$6	$18	$36	9	21	44
4-Con Cap	$40	$127	$320	32	46	66
Capital Contingency	$46	$145	$356	41	67	110
Total Contingency	$131	$278	$567	125	267	484

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	Support (Hrs) Capital Cost ($k)	Schedule (Days)	Calculated Contingency
Retired	9	Threat	Environmental	Delay in Environmental Documentation-Impacting Archaeological Site	As the result of adversely impacting a historic property – archaeological site, will require the preparation of an MOA in consultation with consulting parties and establishment of mitigation measures (Data Recovery, other), which would impact cost and schedule.	No sites will be impacted	Historic properties/archaeological site	2-Low (11-30%) 20%	2 - Low (<$2,500k) 16 - Very High (>6 months)	4 32	Avoid	During PA&ED and PS&E, reconsider the design of the project to avoid the archaeological site.	Environmental	10/7/2020	0-PA&ED Sup 1-PS&E Sup	O ML P O ML P	O ML P O ML P	
Active	10	Threat	Environmental	Additional Environmental Study During Construction	As the result of buried environmental resources being encountered during construction, work would stop in that area until a qualified archaeologist or paleontologist could evaluate the nature and significance of the find, this would impact cost and schedule.	No sites will be impacted	Buried environmental resources	2-Low (11-30%) 20%	1 - Very Low (Insignificant) 4 - Moderate (>3 months)	2 8	Accept	During construction, stop construction and reallocate resources to accommodate the evaluation of the nature and significance of the find,	Environmental	10/7/2020	3-Con Sup 4-Con Cap	O ML P O ML P	O ML P O ML P	
Retired	11	Threat	Environmental	Dewatering plans review and approval for in-water works	If in-water work will occur, then additional reviews and approved dewatering plans will be required,	No in-water work will be required	In-water works	3-Moderate (31-50%) 40%	2 - Low (<$2,500k) 4 - Moderate (>3 months)	6 12	Accept	During PA&ED or PS&E, adjust the project schedule and resources to accommodate the reviews and consultation.	Environmental	10/7/2020	0-PA&ED Sup 1-PS&E Sup	O ML P O ML P	O ML P O ML P	
Retired	12	Threat	Environmental	In-lieu fee mitigation	If permanent impacts to Waters of the U.S. occur as a result of a new alignment or from extending piles into Shaver Lake, then in-lieu fee mitigation will be required.	There will be no impacts to Waters of the U.S.	Permanent impacts in the Shaver Lake	3-Moderate (31-50%) 40%	2 - Low (<$2,500k) 4 - Moderate (>3 months)	6 12	Accept	During PA&ED or PS&E, adjust the project funds to accommodate mitigation.	Environmental	10/7/2020	1-PS&E Sup 9-RW Cap	O ML P O ML P	O ML P O ML P	
Retired	13	Threat	Environmental	Delay in Environmental Documentation-Plant Species	If listed plant species are found and impacts cannot be avoided, consultation will be required, and compensatory mitigation possibly required, resulting in a negative impact on the cost, scope, and schedule for the project.	No unavoidable listed plant species will be found	Listed plant species	1-Very Low (1-10%) 5%	2 - Low (<$2,500k) 4 - Moderate (>3 months)	2 4	Accept	Adjust the project schedule and funds to accommodate the consultation and mitigation.	Environmental	10/7/2020	0-PA&ED Sup 9-RW Cap	O ML P O ML P	O ML P O ML P	
Retired	14	Threat	Environmental	Delay in Environmental Documentation-Late M020	If the spring/summer survey season (March to August) has passed at the time 'Begin Environmental' has initiated, then surveys may need to be conducted the following year, delaying the project and increasing the project cost.	Begin Environmental will initiate before the spring/summer survey season	Beginning Environmental after spring/summer survey season	3-Moderate (31-50%) 40%	4 - Moderate ($2,501k - $5,000k 16 - Very High (>6 months)	12 48	Accept	During PA&ED, adjust the project schedule and resources to accommodate the necessary surveys.	Environmental	10/7/2020	0-PA&ED Sup 1-PS&E Sup	O ML P O ML P	O ML P O ML P	
Active	15	Threat	Environmental	Construction Delay-Birds/Bats	If birds/bats are found to be nesting/roosting within the project limits during construction, there could be a delay in construction until the young birds/bats have fledged, or construction monitoring may be required, which would lead to a delay in schedule and increase in cost.	There will be no nesting birds within the project limits during construction	Bird nesting/roosting within project limit	2-Low (11-30%) 20%	2 - Low (<$2,500k) 4 - Moderate (>3 months)	4 8	Accept	During construction, adjust the construction schedule until after the birds/bats have fledged, or allocate resources for construction monitoring.	Environmental	10/7/2020	3-Con Sup 4-Con Cap	O ML P O ML P	O ML P O ML P	
Retired	16	Threat	Environmental	Delay in Environmental Documentation-Scope Changes	If scope of work changes, then additional surveys, formal consultation, and compensatory mitigation may be required, delaying project delivery and increasing cost.	There will not be significant changes to the project scope	Project Scope Change	1-Very Low (1-10%) 5%	4 - Moderate ($2,501k - $5,000k 8 - High (3-6 months)	4 8	Avoid	Communicate with Environmental/Design to avoid scope changes that would trigger additional surveys, consultation, and/or mitigation.	Environmental	10/7/2020	0-PA&ED Sup 1-PS&E Sup	O ML P O ML P	O ML P O ML P	

Risk Register for 06-1A090, Shaver Lake Viaduct

Form v3,4 last modified April 2019

Risk Checkpoint:	PAED
Date:	12/27/2022
Project Nickname:	Shaver Lake Viaduct
EA:	06-1A090
Co-Rt, Post Miles:	Fre-168-49.0/49.4
Project Manager:	Jeannie Willey
FY & Program (SHOPP or STIP):	2020 (SHOPP) Amendment
Capital Costs:	$40,031k
Support Costs:	$18,040k
Total Costs:	$58,071k
RTL Target:	9/6/2024

Phase	Cost Contingency Range $k			Schedule Contingency Range (Wkg Days)		
	Optimistic	PERT	Pessimistic	Optimistic	PERT	Pessimistic
0-PA&ED	$55	$86	$131	20	28	44
1-PS&E	$19	$28	$44	32	58	100
2-RW Sup	$3	$8	$19	22	52	110
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Support Contingency	$85	$133	$211	84	200	374
0-RW Cap	$6	$18	$36	9	21	44
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Capital Contingency	$46	$145	$356	41	67	110
Total Contingency	$131	$278	$567	125	267	484

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	Support (Hrs) Capital Cost ($k)	Schedule (Days)	Calculated Contingency
Retired	17	Threat	Environmental	Additional Mitigation Cost	Mitigation is based on approximate impacts to riparian habitat. As design progresses, the impact amount may increase, thus increasing the mitigation rate/cost.	No additional impact to riparian habitat will be added to the project scope	Additional impacts to riparian habitat.	2-Low (11-30%)	4 - Moderate ($2,501k - $5,000k	8	Accept	Reallocate funds to accommodate changes to mitigation costs.	Environmental	10/7/2020	0-PA&ED Sup	O ML P	O ML P	
									4 - Moderate (1-3 months)	8					1-PS&E Sup	O ML P	O ML P	
								20%										
Retired	18	Threat	Design	Private Driveway	As a result of a disagreement between the property owner and the department, a redesign of a driveway may occur.	Driveway relocation will not experience objection	Driveway relocation objection from owner	3-Moderate (31-50%)	16 - Very High (>$10,000k)	48	Accept	This could lead to delay in project completion and increase construction support costs.	Design	10/7/2020	0-PA&ED Sup	O 460 hours ML 685 hours P 1,090 hours PERT 715 hours	O 20 ML 26 P 44 28 days	$96k 28
									16 - Very High (>6 months)	48					1-PS&E Sup	O 150 hours ML 210 hours P 350 hours PERT 224 hours	O 32 ML 53 P 100 58 days	$28k 58
								100%										
Retired	19	Opportunity	Design	Private Driveway	As a result of soil conditons, difficulty in predicting viaduct length and location	Assume driveway impacted	Geotech Report	4-High (51-70%)	16 - Very High (>$10,000k)	64	Exploit	Upon release of Geotech Report attempt to mitigate driveway impacts	Design	10/7/2020	0-PA&ED Sup	O 35 hours ML 750 hours P 1,500 hours PERT 766 hours	O 25 ML 50 P 100 55 days	$91k 55
									16 - Very High (>6 months)	64					1-PS&E Sup	O 600 hours ML 1,200 hours P 2,500 hours PERT 1,317 hours	O 25 ML 50 P 100 55 days	$165k 55
								100%										
Retired	20	Threat	Project Management	Schedule	As a result of the project starting late in the SHOPP cycle, RTL is being delivered in the fourth quarter at the end of the 4-year SHOPP cycle with a tight PS&E schedule.	Assume Design will be able to meet activity 377 by completing more tasks in 0 phase, with support of the PM and fuctional units.	The preferred alternative will not emerge until the very end of 0 phase. Design will have to perform detail design for both alternatives.	3-Moderate (31-50%)	2 - Low (<$2,775k)	6	Exploit	Upon opening of the 1 phase, more supporting resources might be needed to deliver PS&E which has already been incorporated into the 1 phase.	Project Management	11/11/2020				
									8 - High (3-6 months)	24								
								40%										
Active	21	Threat	Funding	Emergency Maintenance Projects	As a result of the project having a long lead schedule, emergency maintenance projects may need to continue to be funded and constructed until this project goes to construction	This project cannot be delivered earlier due to funding restrictions thus the roadway may have continued emergency maintenance issues.	Roadway slippage and undermining from water seepage issues	4-High (51-70%)	1 - Very Low (Insignificant)	4	Accept	The cost of the emergency maintenance projects will not directly affect this project's schedule or cost but will need funding through emergency resources.	Maintenance	11/18/2020				
									1 - Very Low (Insignificant)	4								
								60%										
Retired	22	Threat	Design	Design Standard Decision Document	As a result of both alternatives needing an approved DSDD for non-standard side slope and clear recovery zone, redesign may be needed to have a standard alternative that would impact funding and schedule.	The project is located in the mountains with continuous non-standard shoulders and side slopes. It is highly unlikely that a DSDD would be denied.	The DSDD is denied	1-Very Low (1-10%)	8 - High ($5,808k - $11,614k)	8	Accept	The cost of making standard this segment of highway is very high which validates the approval of the DSDD. Impacts could include the boat trailer storage and access road, additional right of way and utility conflicts as well as additional cost for widening the viaduct.	Design	12/2/2020	0-PA&ED Sup	O 2,000 hours ML 4,500 hours P 7,500 hours PERT 4,584 hours	O 180 ML 270 P 360 270 days	$28k 14
									16 - Very High (>6 months)	16					4-Con Cap	O ML P	O ML P	
								5%										
Active	23	Threat	Funding	SCE Fee	As a result of needing heavy SCE coordination for utility verification, permanent easement re-alignment and FERC requirements, an upfront processing fee is required by SCE to continue working on the project, SCE will discontinue work on the project is the fee is not paid thus impacting scope, cost and schedule.	Presently there is no mechanism in place to pay the processing fee. SCE will stop working with us until the fee is paid.	Can't pay the fee.	5-Very High (>70%)	16 - Very High (>$11,614k)	80	Transfer	SCE can go through the Caltrans claim process to be paid the fee.	Project Management	6/10/2022				
									16 - Very High (>6 months)	80								
								85%										
Active	24	Threat	Right of Way	Right of Way Acquisition	As a result of obtaining a permanent easement from SCE, SCE may need to follow CPUC 851 full process to obtain approval to grant the easement instead of obtaining a CPUC Advice Letter which would only take 6 months. If M224 and M225 is delayed, then M410 would be delayed thus delaying RTL and impacting schedule.	Presently the project is on schedule. If any delay happens with easement mapping occurs then M410 and M460 will be delayed.	Easement mapping is delayed.	2-Low (11-30%)	2 - Low (<$2,904k)	4	Accept	This risk materializing is reliant on Risk No. 23. If Risk 23 materializes, then this risk becomes very high and the project will not be delivered.	Right of Way	6/10/2022				
									1 - Very Low (Insignificant)	2								
								20%										

Risk Register for 06-1A090, Shaver Lake Viaduct

Form v3,4 last modified April 2019

Risk Checkpoint:	PAED
Date:	12/27/2022
Project Nickname:	Shaver Lake Viaduct
EA:	06-1A090
Co-Rt, Post Miles:	Fre-168-49.0/49.4
Project Manager:	Jeannie Willey
FY & Program (SHOPP or STIP):	2020 (SHOPP) Amendment
Capital Costs:	$40,031k
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Total Costs:	$58,071k
RTL Target:	9/6/2024

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4-Con Cap	$40	$127	$320	32	46	66
Capital Contingency	$46	$145	$356	41	67	110
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Risk Identification								Risk Assessment			Risk Response				Quantifying "Red" (High P & I) Level Risks			
Status	ID #	Type	Category	Title	Risk Statement	Current status / assumptions	Risk Trigger	Probability (P)	Cost Impact Schedule Impact (I)	Cost Score Schedule Score (Pxl)	Strategy	Response Actions	Risk Owner	Updated	Impacted Phase	Support (Hrs) Capital Cost ($k)	Schedule (Days)	Calculated Contingency
Retired	25	Threat	Construction	FERC boundary	As a result of the Federal Energy Regulatory Commission (FERC) having a boundary around the Shaver Lake, consultation is triggered and obtaining a license is required. SCE is the lead in this process. If pile driving is required within the FERC boundary, then their review process may take up to two years thus delaying RTL and impacting schedule and cost.	Pile driving is not required within the FERC boundary.	Pile driving is required within the FERC boundary.	3-Moderate (31-50%)	2 - Low (<$2,904k)	6	Avoid	The preferred alternative alignment is shifted to the west of the current alignment (away from Shaver Lake) so pile alignment inside the FERC boundary should be avoided.	Structures	6/10/2022				
								40%	16 - Very High (>6 months)	48								

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 06 **Tool ID:** 22115 **Project ID:** **EA:** 1A090 **Co-Rte-PM:** FRE-168-49.2/49.2 (Primary Location)

Res In PID WP: **Project Manager:**

☐ ge ☐ Pavement ☐ Drainage ☐ Facilities ☐ Safety ☐ Mobility ☐ Roadside ☐ mplete Streets ☐ Sustainability /Climate Change ☐ lvance Mitigation/Mitigation ☐ jor Damage ☐ een-house Gases ☐ Relinquishment

Performance & Accomplishments (PRG)

	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond	Assets in Fair Cond	Assets in Poor Cond	New Asset Added	Comment
1	Complete Streets Not Applicable (3)	No Performance Objective in the SHSMP	3						unsuitable for scope, viaduct work only
2	Is any location within the project limits Ped/Bike accessible?	No Performance Objective in the SHSMP	Yes/No	Yes					
3	Permanent Restoration (201.131)	Major Damage (Permanent Restoration)	Location	1.0			1.0		1000 LF
4	Defer	No Performance Objective in the SHSMP							not a CE/CE

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 06 **Tool ID:** 22115 **Project ID:** **EA:** 1A090 **Co-Rte-PM:** FRE-168-49/49.4 (Primary Location)

Res In PID WP: **Project Manager:**

☐ ge ☐ Pavement ☐ Drainage ☐ Facilities ☐ Safety ☐ Mobility ☐ Roadside ☐ mplete Streets ☐ Sustainability /Climate Change ☐ lvance Mitigation/Mitigation ☐ jor Damage ☐ een-house Gases ☐ Relinquishment

Performance & Accomplishments (TYP)

	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond	Assets in Fair Cond	Assets in Poor Cond	New Asset Added	Comment
1	Complete Streets Not Applicable (3)	No Performance Objective in the SHSMP	3						unsuitable for scope, viaduct work only
2	Is any location within the project limits Ped/Bike accessible?	No Performance Objective in the SHSMP	Yes/No	Yes					
3	Permanent Restoration (201.131)	Major Damage (Permanent Restoration)	Location	1.0			1.0		1000 LF
4	Defer	No Performance Objective in the SHSMP							not a CE/CE

ATTACHMENT D

Dist-County-Route: 06-FRE-168
Post Mile Limits: 48.9/49.8
Type of Work: Viaduct
Project ID (EA): 0620000065 (06-1A0900)
Program Identification: SHOPP 20.10.201.131
Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): Central Valley Region (5–F)
Total Disturbed Soil Area: 3.50 acres PCTA: 1.62 acres
Alternative Compliance (acres): ____ ATA 2 (50% Rule)? Yes ☐ No ☒
Estimated Const. Start Date: 05/01/2025 Estimated Const. Completion Date: 11/30/2026
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): N/A
Notification of ADL reuse (if yes, provide date): Yes ☐ Date: ____ No ☒

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

Ronnie Kier — 06/14/2022
Ronnie Kier, Registered Project Engineer — Date

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

David Troop — 06/15/2022
David D. Troop, *District Construction SW Coordinator* — *Date*

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

Jeannie Wiley — 6-16-22
Mary J. Wiley, *Project Manager* — *Date*

4/24/22
Rene Sanchez, *District Maintenance Manager* — *Date*

6/21/2022
Brad Cole, *District Landscape Architect* — *Date*

[Stamp Required at PS&E only]

Mazin Al Ali — 06/22/2022
Mazin Al Ali, *Regional NPDES/SW Coordinator* — *Date*

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

M e m o r a n d u m

Making Conservation
A California Way of Life.

To: JUN XU
Design I, Branch Q
District 6

Date: December 24, 2021

Attn: RONNIE KIER

File: 06-FRE-168-PM 49.0/49.4
EA: 06-1A0900
EFIS: 0620000065
Shaver Lake Pavement Settlement and Slip outs

From: GEOTECHNICAL SERVICES
Office of Geotechnical Design North
Branch B

Subject: PRELIMINARY GEOTECHNICAL DESIGN REPORT FOR THE SHAVER LAKE PAVEMENT SETTLEMENT AND SLIP OUTS

Introduction

This Preliminary Geotechnical Design Report (PGDR) is prepared in response to the request dated May 21, 2021. The purpose of this PGDR is to provide the preliminary geotechnical recommendations for the proposed Shaver Lake Alternatives on Route 168 at Post Mile (PM) 49.0 to 49.4 in Fresno County, California.

The information and recommendations contained in this report are based on the review of Geotechnical Assessment of Pavement Distress (dated July 31, 2019), Boring Records (dated June 11-12, 2019), 2021 Geotechnical Investigations, Geologic Hazards Report (dated October 16, 1978), As-built plans (Contract No. 06-0A5505 dated June 9, 2006, Contract No. 06-0M1205 dated June 24, 2010, Contract No. 06-0N4405 dated June 21, 2011 and Contract No. 06-1A5904 dated May 15, 2020) found in DRS and GeoDOG, project location map, Conceptual Layout (printed June 1, 2020), Structure Preliminary Geotechnical Report (SPGR) for the Shaver Lake Viaduct Alternatives (dated September 3, 2021) and Cross Sections (Design Study Only) of Realignment Alternative (plotted May 13, 2020).

Project Description

This project proposes three alternatives to repair pavement settlement and Slip outs due to continued pavement failure along a section of gabion wall at the Shaver Lake shoreline on Route 168 at PM 49.0 to 49.4 in Fresno County. The scope

ATTACHMENT F

of this project is to address a permanent solution to the continued pavement failure. There are three proposed alternatives:

Alternative 1: Do nothing and continue maintenance as needed.
Alternative 2: Realignment to be 200 ft above the existing SR 168 failure area
Alternative 3A: 300 ft long Viaduct
Alternative 3B: 1000 ft long Viaduct

The Alternative 2 proposes to realign the roadway to bypass the continued pavement failure section of SR 168. This realignment roadway includes earthwork of cut and fill and embankments. Appendix I shows the conceptual layout of Alternative 2, Alternative 3A and Alternative 3B.

The Alternative 3 proposes to build a viaduct on the existing alignment for Alternative 3A and slightly shifted for Alternative 3B to provide a permanent solution to mitigate for continued pavement settlement and failures. The proposed full width viaduct is called Alternative 3. There are two potential options in the proposed viaduct: Alternative 3A is a 300 ft long viaduct and Alternative 3B is a 1000 ft long viaduct. The full width viaduct options are anticipated to consist of a multi-span cast-in-place or precast concrete slab with maximum span length of 40 ft.

All elevations referenced within this report are based on the North American Vertical Datum of 1988 (NAVD 88), unless otherwise noted.

Geotechnical Investigation

In June and July 2019, an exploratory investigation was performed to collect subsurface information within the limits of the pavement distress as per the 2019 Geotechnical Assessment of Pavement Distress. The subsurface investigation consisted of four hollow stem auger (HSA) borings as shown in Table 1. Appendix II-A presents the boring locations of the 2019 subsurface investigation. Standard Penetration Tests (SPTs) were recorded mostly at 5-foot intervals.

In November 2021, a detailed exploratory investigation was conducted to collect subsurface information for the proposed Alternative 2, Alternative 3A and Alternative 3B. For Alternative 2, eight rotary core (RC) borings were drilled, and three piezometers were installed to monitor the groundwater. Standard Penetration Tests (SPTs) were recorded mostly at 5-foot intervals. For Alternatives 3A and 3B, seven RC borings were drilled, and one piezometer was installed to monitor the groundwater. Additionally, six direct push/auger borings were advanced to supplement the investigation. These six borings were advanced to

a depth to verify the subsurface material densities and were terminated upon refusal conditions. The November 2021 subsurface investigation is summarized in Tables 2 and 3. Appendix II-B presents the boring locations of the 2021 subsurface investigation.

Table 1: 2019 Subsurface Investigation Summary

Boring ID	Boring Location	Drilling Method	Top of Hole Elevation (ft)	Exploration Elevation (ft)
B-19-001	See Appendix II-A	HSA	5386.8	5356.8
B-19-002	See Appendix II-A	HSA	5386.8	5266.8
B-19-003	See Appendix II-A	HSA	5387.8	5352.8
B-19-004	See Appendix II-A	HSA	5387.4	5352.4

Table 2: 2021 Subsurface Investigation Summary for Alternative 2

Boring ID	Boring Location (Northing, Easting)[2]	Drilling Method	Top of Hole Elevation (ft)	Exploration Elevation (ft)
RC-21-008	2302091.7 ft, 6473923.8 ft	RC	5401.8	5370.3
RC-21-009[1]	2302360.8 ft, 6474031.9 ft	RC	5431.6	5390.1
RC-21-010	2302516.5 ft, 6474081.8 ft	RC	5437.3	5395.8
RC-21-011	2302691.9 ft, 6474213.3 ft	RC	5432.4	5390.9
RC-21-012[1]	2302933.0 ft, 6474304.7 ft	RC	5452.3	5410.8
RC-21-013[1]	2302895.4 ft, 6474339.3 ft	RC	5441.4	5399.9
RC-21-014	2303383.4 ft, 6474765.7 ft	RC	5407.2	5375.7
RC-21-015	2303580.2 ft, 6474944.4 ft	RC	5421.6	5390.1

Notes: 1-Piezometers are installed in these borings. 2-Northing and Easting are based on NAD 83.

Table 3: 2021 Subsurface Investigation Summary for Alternatives 3A and 3B

Boring ID	Boring Location (Northing, Easting)[2]	Drilling Method	Top of Hole Elevation (ft)	Exploration Elevation (ft)
RC-21-001	2302115.0 ft, 6474044.2 ft	RC	5387.8	5277.8
RC-21-002[1]	2302244.2 ft, 6474165.3 ft	RC	5387.5	5224.5
RC-21-003	2302369.9 ft, 6474262.1 ft	RC	5389.0	5244.0
RC-21-004	2302534.9 ft, 6474357.7 ft	RC	5388.0	5253.0
RC-21-005	2302682.1 ft, 6474427.2 ft	RC	5388.0	5319.0
RC-21-006	2302240.3 ft, 6474124.7 ft	RC	5387.0	5257.0
RC-21-007	2302303.5 ft, 6474197.2 ft	RC	5387.5	5252.5
A-21-001	2302106.91ft, 6474007.2 ft	HSA	5387.5	5317.3
DCP-21-002	2302180.7 ft, 6474113.2 ft	Direct Push	5386.0	5360.5
A-21-003	2302278.0 ft, 6474158.4 ft	HSA	5387.7	5326.2
A-21-004	2302464.1 ft, 6474287.5 ft	HSA	5387.8	5346.3
A-21-005	2302595.3 ft, 6474355.5 ft	HSA	5387.9	5336.4
A-21-006	2302746.6 ft, 6474427.4 ft	HSA	5387.9	5357.9

Notes: 1-Piezometer is installed in this boring. 2-Northing and Easting are based on NAD 83.

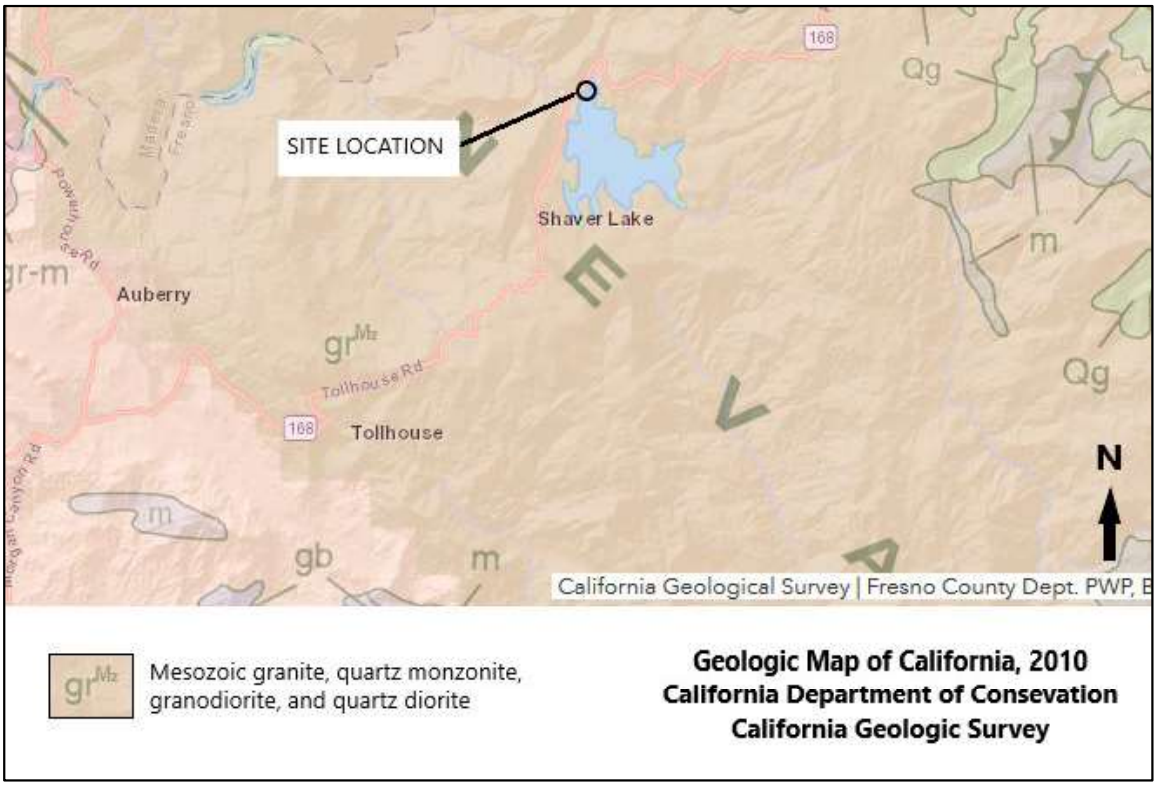
Geotechnical Conditions

Geology

The project site lies in the central portion of the Sierra Nevada Mountains, along the western slope. The central Sierra Nevada Mountains are located in the Sierra Nevada geomorphic province of California. The Sierra Nevada province is a mountain range which is about 40 to 100 miles wide and 400 miles long along the eastern edge of California. The Sierra Nevada Mountains are generally composed of Paleozoic to Mesozoic aged metavolcanics and metasedimentary basement rock which were uplifted by numerous Cretaceous igneous plutons which form the Sierra Nevada Batholith. The Sierra Nevada geomorphic province is bounded by the Great Valley province to the west, the Basin and Range province to the east and the Cascade and Modoc Plateau provinces to the north.

According to the Geologic Map of the California (Department of Conservation, 2010), the project site is underlain by Mesozoic aged plutonic rocks (grMz). These plutonic rocks are composed of mostly of granite, quartz monzonite, granodiorite, and quartz diorite. Based on field observations, the type of rock encountered within the project limits is primarily composed of granodiorite. Figure 1 presents the Shaver Lake Geologic Map.

Figure 1: Shaver Lake Geologic Map



Surface Conditions

SR-168 is considered an east/west aligned highway, however, within the general project area, it is roughly aligned northeast/southwest. SR-168 consists of a 2-lane conventional highway paved with asphalt concrete (AC). The highway appears to have been constructed utilizing transition cut/fill methods. The north side of the highway is bounded by relatively short in vertical height (<10ft), 1.5:1 horizontal: vertical (H: V) cuts with relatively flat native ridgeline topography above the cuts. The south side of the highway is bounded by an approximate 16ft high, 1:2 (H: V) embankment slope that is armored with gabion baskets. Relatively flat shoreline topography extends south of the toe gabions for approximately 40 ft to the water's edge of Shaver Lake.

Subsurface Conditions

Alternative 2

According to the recent 2021 subsurface investigation for the Alternative 2 location, the subsurface soils beneath the proposed roadway layout generally consist of a loose to dense, silty sand with gravels in borings RC-21-008 to RC-21-

013 (hillside borings) down to depth of approximately 31.5 to 41.5 ft below ground surface (BGS) (~Elev. 5,411 to 5,370 ft). This material is derived from the decomposed granitic rock from the upper hillside. In boring RC-21-013, decomposed granodiorite was encountered at approximately 25 ft BGS (~Elev. 5,745 ft). This material was also noted to be moist to wet. Water was encountered at or near the ground surface in borings RC-21-012 and RC-21-013. In borings RC-21-014 and RC-21-015, which are located along the roadway (northeastern most portion of the proposed alignment), the subsurface material encountered consists of medium dense silty sand which overlies a mixture of fresh to decomposed granodiorite boulders and decomposed granodiorite bedrock. The boulders and decomposed granodiorite were encountered at approximately 10 to 13 ft below the existing roadway surface (~Elev. 5,363 to 5,380 ft). This material was also noted to be moist to wet.

Alternative 3A and 3B

According to the 2019 and recent 2021 subsurface investigations for the Alternative 3A and 3B locations, the subsurface begins with a layer of asphalt concrete (AC) that varies in thickness from approximately 1 to 5 feet below the existing roadway surface. Beneath this AC layer, the subsurface soils generally consist of very loose to medium dense layers of silty sand and silty sand with gravel to a depth of approximately 10 to 50 feet BGS (~Elev. 5,376 to 5,337 ft). These upper loose, soil like materials, which derives from the decomposed granitic rock from the upper hillside, are highly weathered to a point where the crystalline structure of the plagioclase minerals from the granodiorite are broken down into a silt/clay consistency. This upper soil material was also noted to be moist to wet. Below the upper layer, the sandy soils grade into dense to very dense conditions which are associated with decomposed granodiorite (DG). The DG grades to decomposed to highly weathered, friable, and weak to the depth of about 40 to 105 feet BGS (~Elev. 5,348 to 5,283 ft). Below these depths, the granodiorite ranges from intensely weathered to fresh, weak to hard, very intensely to slightly fractured, down to the maximum depth explored of 163 ft (~Elev. 5,224 ft) BGS.

Groundwater

The groundwater surfaces observed during 2019 and 2021 geotechnical investigations is relatively shallow as presented in Table 4. The groundwater levels are higher than the water level of Shaver Lake. The ground surfaces of the drilling locations are at least 15 feet from the bottom of the gabion wall on the lake side.

Table 4: Measured Groundwater Table

Borehole No.	Ground Surface Elevation (ft.)	Groundwater Table		Date Measured	Notes
		Depth (ft.)	Elevation (ft.)		
B-19-001	5386.8	9.6	5377.2	06-12-2019	Measured after drilling
B-19-002	5386.8	7.0	5379.8	06-12-2019	Measured after drilling
B-19-003	5387.8	6.1	5381.7	06-11-2019	Measured during drilling
B-19-004	5387.4	0.1	5387.3	06-11-2019	Measured after drilling
RC-21-001	5387.8	11.5	5376.3	11-09-2021	Measured after drilling
RC-21-002	5387.5	7.0	5380.5	11-02-2021	Measured after drilling
RC-21-003	5389.0	26.0	5363.0	11-07-2021	Measured after drilling
RC-21-006	5387.0	6.2	5380.8	11-16-2021	Measured after drilling
RC-21-007	5387.5	8.5	5379.0	11-18-2021	Measured after drilling
RC-21-009	5431.6	8.5	5423.1	11-21-2021	Measured after drilling
RC-21-010	5437.3	21.5	5415.8	11-20-2021	Measured after drilling
RC-21-012	5452.3	1.2	5451.1	11-20-2021	Measured after drilling
RC-21-013	5441.4	-0.5[1]	5441.9	11-20-2021	Measured after drilling
RC-21-015	5421.6	6.3	5415.3	11-10-2021	Measured after drilling

Note: 1- Groundwater level of RC-21-013 is 0.5 ft above ground surface

Seismic Hazards

Site Seismic Parameters

The average shear wave velocity (Vs30) for the upper 100 ft of soil at the site is estimated to be about 843 ft per second (257 m/s). The Vs30 was estimated using SPT correlations from the Boring Record of B-19-002 and 2021 Boring Records. The lowest V_s30 of all borehole locations is conservatively taken as the shear wave velocity of the site.

Ground Motion Parameters

According to the SDC, Appendix B, the design response spectrum is the probabilistic response spectrum obtained for 5 percent probability of exceedance in 50 years (return period = 975-years). The 2014 USGS National Seismic Hazard Map is used as the basis to determine the Design Spectrum in the form of the design Acceleration Response Spectrum (ARS).

Based on the Caltrans ARS Online v3.0.2 tool, the probabilistic fault scenario for the site was determined. Table 5 presents the recommended ground motions parameters for the geotechnical design.

Table 5: Recommended Ground Motion Parameters for Geotechnical Design

Project Component ID	Site Parameters			Design Ground Motion Parameters (Return Period = 975 years)		
	Locations		Shear-Wave Velocity V_{s30}, (m/sec)	Horizontal Peak Ground Acceleration (HPGA)[1] (g)	Mean Earthquake[1] M, Moment Magnitude	Mean Site to Fault Source Distance[1] R, (km)
	Latitude, Degrees	Longitude, Degrees				
PM 49.2	37.150524	-119.300697	257	0.29	6.03	62

Note: (1) Based on CalTrans webtool ARS online (Version v3.0.2)

Fault Rupture

The site is not located within an Earthquake Fault Zone, as defined by the California Geological Survey (CGS) in accordance with the Alquist-Priolo Earthquake Fault Zone Act of 1972 and the Seismic Hazards Mapping Act of 1990. Based on the digital map of Earthquake Fault Zones maintained by CGS and the quaternary fault and fold database maintained by the United States Geological Survey, there are no known "active" Holocene (up to 11,000 years) or younger faults within 1,000 ft of or trending towards the bridge location. Therefore, the potential for surface fault rupture is absent for this location.

Liquefaction

Soil liquefaction is a phenomenon where saturated and loose granular soil substantially loses its strength in response to cyclic loading from ground shaking during an earthquake. The project site may be considered susceptible to liquefaction since saturated loose granular soils are present at this site. Please note that the shallowest water table was measured at 0.1 ft (Elev. 5387.3 ft) from the existing ground level for the viaduct alternative. More information about the groundwater is presented in the section of Groundwater in this report.

Since liquefaction may be a concern at this site, liquefaction analyses will be performed during the design stage.

Liquefaction-Induced Lateral Spreading

In general, soil masses under the influence of static driving shear stresses, such as sloping grounds, earth retaining structures and bridge abutments, are susceptible to liquefaction-induced lateral spreading during earthquakes. Since there is a shallow water table within the height of the existing gabion wall and the proposed viaduct in the Alternative 3, there is a risk of liquefaction-induced lateral spreading to the existing gabion wall and the proposed Viaduct. Lateral spreading analyses will be performed during the design stage.

Geotechnical Design Evaluation

The continued pavement failure occurs due to the fine migration with the seeping water. During the field visit on October 11, 2021, a spring of the seeping water daylights below the existing gabion and the above the lake water level and make a washout before going into the lake. It is evident that the shallow ground water at the existing road goes under the existing gabion wall. Figure 2 presents picture of the spring and its washout.

Between Project Station 119+00 to 121+00, a slightly pavement settlement is observed in eastbound lane during field visit on October 11, 2021.

As per the As-built (Contract No. 06-0N0205 Dated June 24, 2010), there is a French drain (8-in Diameter) 2.1 to 6.0 ft BGS with three drainage inlets. The maximum depth of the French drain is 6 ft BGS whereas the loose to medium dense silty sand layer is approximately 50 ft below the existing ground along the French drain. Therefore, the French drain cannot capture the ground water deeper than 6 ft BGS.

Figure 2: Spring and its Washout

District 6-Mainetenance sent the TV and captured pictures of the French drains as per the email from David Ariad Jr. (dated October 25, 2021). There is a potential sag in the French drain between the Drainage Inlets since the French drainpipe

between the drainage inlets holds the water. The sag in the French drain can be attributed that the fines migrated below it and lost support to it. Therefore, the French drain may not be effectively collecting the water.

The gabion wall also settled near Project Station 120+40 of Alternative 3. The spring daylights near within the gabion wall settling zone.

There is a wet land where the soil at the surface is wet and plants are growing lush green. Three isolated wetlands are identified by the Environmental. This area is about 0.45 acres in total. Two piezometers are installed in the boring RC-21-012 and RC-21-013 that are at the edge of the biggest wetland defined by District Environmental as per the email from Ronald Cummings (dated August 31, 2021) with the approximate maps which is attached in Appendix III. Please note that the borings that are in the wetland in the map in Appendix III were moved to the edge of it.

The groundwater measured at the two piezometers RC-21-012 and RC-21-013 are 1.2 ft (Elev. 5451.1 ft) BGS and 0.5 ft (Elev. 5441.9 ft) above the ground surface respectively. A fine soil migration is highly likely in this area as well as along the proposed realignment since a shallow water table and loose to medium dense soil are present similar to the conditions of the existing road. Therefore, there may be a potential pavement settlement in the proposed realignment.

In accordance with SPGR for the Shaver Lake Viaduct Alternatives (dated September 3, 2021), a soldier pile ground anchor (SPGA) wall can be considered to replace a section of the existing gabion or the entire gabions wall along which the constant pavement distresses occur, instead of the viaduct alternatives. However, there is the loose to medium dense soil approximately 50 ft BGS as well as the top 40 ft of the soil in the Alternative 2. The maximum height of the existing gabion wall is 24 ft as per Typical Cross Section of the As-built (Contract No. 06-0N0205 Dated June 24, 2010). Therefore, it may not be feasible to install the ground anchors in the loose soil. And, the spring water still be able to migrate fines under the SPGA. The SPGA alternative is not a feasible option.

RECOMMENDATIONS

The following foundation recommendations are for the proposed alternatives. The recommendations are based on information collected from the existing reports, and subsurface conditions interpreted using the Boring Records at the project location.

Alternative 1: Do nothing and continue maintenance as needed

Since the fines evidently keep on migrating with the spring under the gabion wall, and there is already a slight pavement settlement on the existing pavement along eastbound pavement between approximate Station 119+00 to 121+00 since 2019 road repair and potential sag of the French drain on the hill side of the existing road, continuing the maintenance as needed basis may be costly over the long period of time. The District may evaluate the French drain and address the issue accordingly.

Alternative 2: Realignment to be 200 ft above the existing SR 168 failure area

Decomposed Granodiorite was encountered at shallow depths in most of the borings along Alternative 2. Granodiorite is highly susceptible to weathering to a point where the crystalline minerals from the granodiorite are broken down into a silt/clay consistency. This layer has high potential for fine migration. Groundwater was encountered at or near the ground surface in borings RC-21-012 and RC-21-013. Groundwater was encountered at shallow depths in all other borings along Alternative 2. The shallow groundwater may highly likely migrate fines under the proposed Alternative 2 roadway. This proposed roadway may undergo the same problem as it is in the existing road. Therefore, Alternative 2 may not be permanent solution.

Alternative 3: Viaduct

The subsurface soils generally consist of very loose to medium dense layers of silty sand and silty sand with gravel to a depth of approximately 10 to 50 ft BGS (~Elev. 5,376 to 5,337 ft) along the existing road and the ground water is present in this soil layer. The fine migration continuously takes place from this layer. The viaduct supported on piles that are extended into deeper competent soils/rock is a viable option. The viaduct can be constructed approximately between Station 118+00 to 125+80 as the 2021 field investigation revealed that loose soil layer with potential fine migration extends to these station limits.

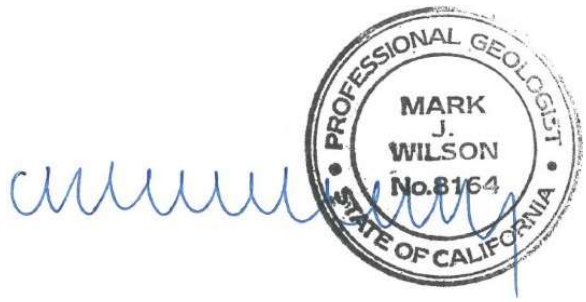
The existing gabion wall can be left in place to protect the slope for Alternative 3. Even though the fine migration continues under the gabion wall, it may extend the slope's life. The gabion wall may continue to settle as the fine migration continues.

The remainder of this page was intentionally left blank.

The recommendations contained in this report are based on the specific project information provided to this Office. If you have any questions or comments regarding this report, please contact Sathanathan Thileepan (916) 227-1042, Mark Wilson (916) 227-1056, or Fernando De Haro (916) 227-1064.

Prepared by:

Sathanathan Thileepan, P.E.
Transportation Engineer (Civil)
Office of Geotechnical Design North
Branch B



Mark Wilson, P.G.
Engineering Geologist
Office of Geotechnical Design North
Branch B

Fernando De Haro, P.E
Transportation Engineer (Civil)
Acting Branch Chief
Office of Geotechnical Design North
Branch B

cc: Chelsea Starr - Associate Environmental Planner
Thomas Song - Geotech Design North Office Chief
Jeannie Wiley-Project Manager
Peggy Lim - Project Liaison Engineer
Ted Mooradian - District Material Engineer
Geotechnical Archive - <https://geodog.dot.ca.gov>

Appendix I: Conceptual Layout of Viaduct
Appendix II-Boring Locations of 2019 & 2021 Subsurface Investigation
Appendix III-Map of Wetland

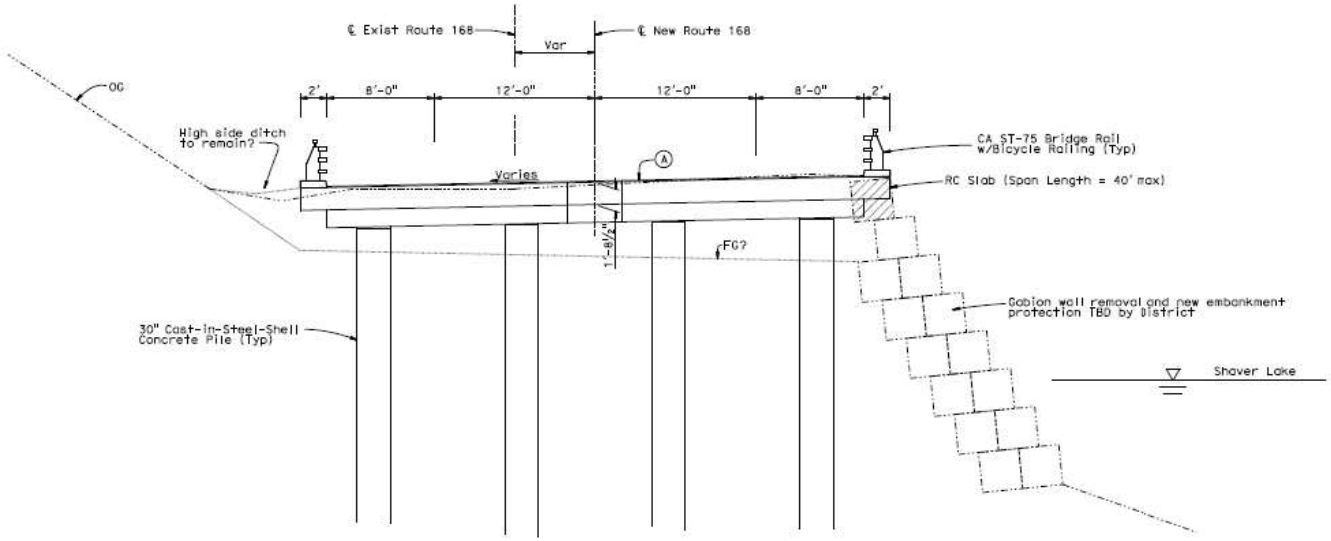
Appendix I: Conceptual Layout of Viaduct

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING SERVICES

Dist	COUNTY	ROUTE	POST MILE
6	Fre	168	x

Notes:
1. Stage construction with one-way traffic will be required.
2. Project located within freeze thaw area and will be exposed to chain use. Epoxy coated reinforcement will used in the superstructre and barrier curb.

(A) 1-inch minimum polyester concrete overlay



TYPICAL SECTION
¼" = 1'-0"

ALTERNATIVE 3A:
8-span (30', 6 @ 40', 30'), 300' long with one intermediate expansion joint

ALTERNATIVE 3B:
25-span (40' each), 1000' long with four intermediate expansion joints

CONCEPTUAL
FOR PIR ONLY

INCOMPLETE PLAN FOR DESIGN STUDY
PRINTED:
DATE: 01-JUN-2020
Office of Structure Design
STATE OF CALIFORNIA

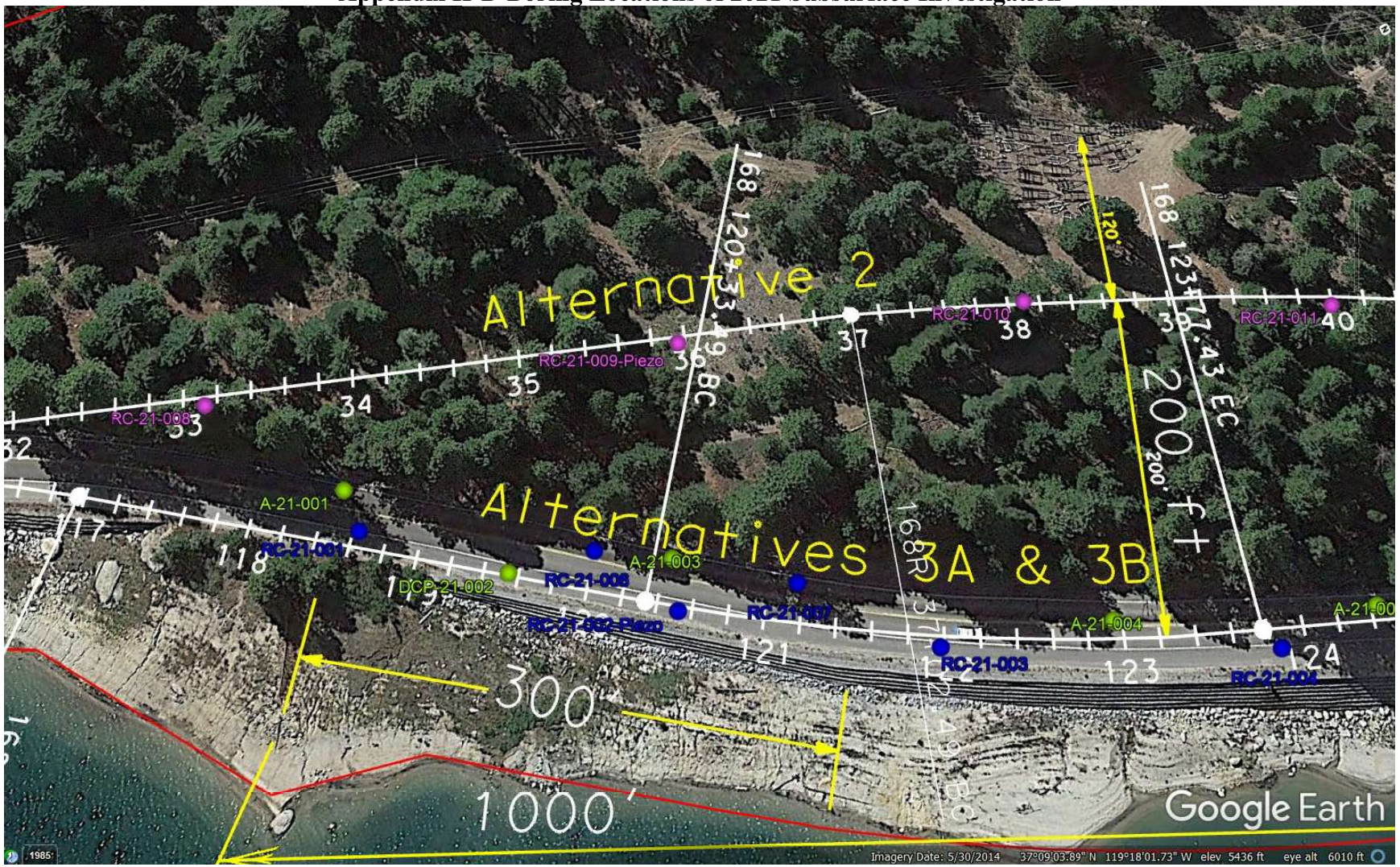
DESIGNED BY: M. Downs	DATE: 5/2020	STRUCTURE DESIGN	PLANNING STUDY
DRAWN BY: M. Downs	DATE: 5/2020	DESIGN BRANCH	SHAVER LAKE VIADUCT
CHECKED BY: X	DATE: X	—	UNIT: 3602 / BRIDGE No.: TBD
APPROVED: X	DATE: X		PROJECT EA: 06-1A090 / PROJECT No. & PHASE: 0620000065,K

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISED 7/17/2019)
DATE PLOTTED => 01-JUN-2020 TIME PLOTTED => 11:44
FILE => 06-1A090_ShaverLake_Concept.dgn NAME => s121298

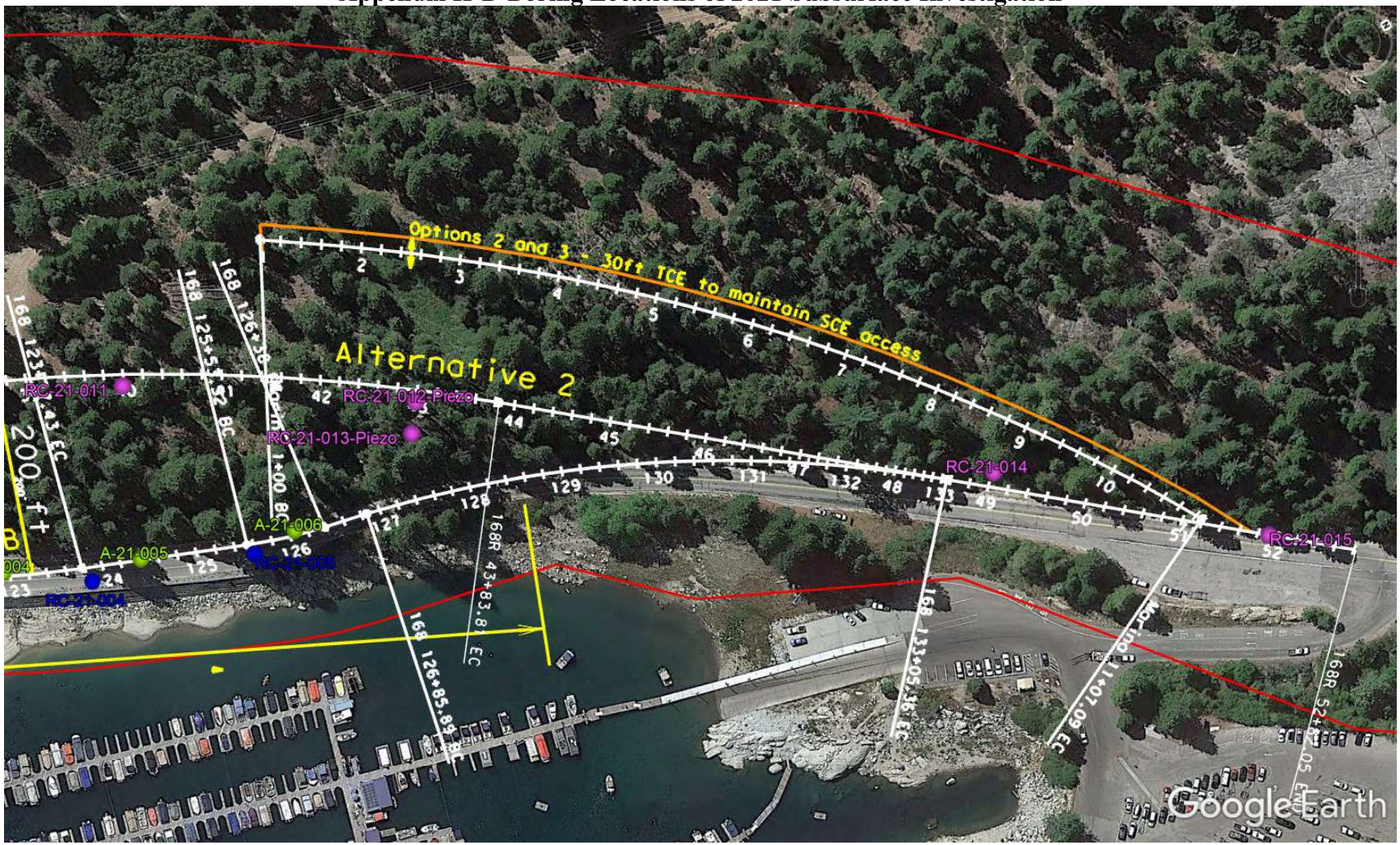
Appendix II-A-Boring Locations of 2019 Subsurface Investigation

Please note that the boring ID B-1 in Figure 1 denotes B-19-001 in Table 1 and likewise for other borings.

Appendix II-B-Boring Locations of 2021 Subsurface Investigation



Appendix II-B-Boring Locations of 2021 Subsurface Investigation



Appendix III-Map of Wetland

Department of Transportation
District 6

TRANSPORTATION MANAGEMENT PLAN DATA SHEET

06-Fre 168-PM 48.9/49.75

Shaver Lake Viaduct

PROJECT/EA NO: 0620000065/1A090

May 2, 2022

Prepared For: JUNE XU, Design Senior
Office of Design I, Branch Q

Prepared By: BRINDER BASSI

Concurred By:

ISIDRO PEREZ
District 6 – Traffic Management Chief

Approved By:

Brinder Bassi
BRINDER BASSI
District 6 – TMP Assistant Manager

This Transportation Management Plan (TMP) data sheet is prepared in response to a request from Office of Design I, Branch Q dated April 28, 2022.

Attached is the TMP Data Sheet for the above referenced project. Per Deputy Directive 60-R2, TMP must be considered at the early stage of all projects and activities performed on the State Highway System. The following items shall be included in the project initiation document (PID) and/or Project Report(PR):

1) The TMP Data Sheet shall be attached.
2) Any costs associated with the traffic impact mitigation measures listed in the TMP Data Sheet shall be included.
3) The following statements shall be included:

   "Preliminary traffic impacts and mitigation for this project have been outlined in the attached Transportation Management Plan Data Sheet (TMP Data Sheet). Costs associated with the traffic impact mitigation measures listed in the TMP Data Sheet have been included in this documents estimate."

ATTACHMENT G

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

"Lane requirement charts and detailed TMP will be provided during PS&E stage."

"Daytime work outside peak hours is anticipated for this project. Alternate one-way (reversing) traffic control will be implemented."

If you have any questions, please feel free to contact Isidro Perez at 559-383-5246 or Brinder Bassi at 559-383-5182.

Attachments:

- TMP Data Sheet

DISTRICT 6 - TRANSPORTATION MANAGEMENT PLAN

DATA SHEET

(TMP Elements and Costs)

CO/RTE	FRE	168	***PM***	48.9/49.8	***PROJ. NO.***	0620000065
					EA. NO.	1A090
PROJECT NAME	Shaver Lake Viaduct					
PROJECT LIMIT	0.66 miles west of Huntington Lake Road to 0.24 miles west of Huntington Lake Road					
PROJECT DESCRIPTION	Alternative 3 is a 780' viaduct					

A) ***The project includes the following:***
(Check all that applicable type of facility closures.)

- ☑ Highway or Freeway Lanes
- ☑ Highway or Freeway Shoulders
- ☐ Freeway Connectors
- ☐ Full/Complete Freeway/Highway Closure
- ☐ Freeway Off-ramps
- ☐ Freeway On-ramps
- ☐ Local Streets

B) ***Are there any construction strategies that can restore existing number of lanes?***

☐ No ☑ Yes *(Check all applicable strategies.)*

- ☐ Temporary Roadway Widening
  Structure Involvement? ☐ Yes ☑ No (If yes, notify Project Manager)
- ☐ Lane Restriping (Temporary narrow lane widths)
- ☐ Roadway Realignment (Detour around work area)
- ☐ Median and/or Right Shoulder Utilization
- ☐ Use of HOV lane as Temporary Mixed Flow Lane
- ☑ Staging Alternatives (Explain Below)

.

C) ***Calculated Delay***
(To be performed if construction strategies in Item B do not mitigate congestion resulting from Item A or on all projects along Interstate 5 and Route 99)

1. Estimated Maximum Individual delay _____ minutes
2. Existing or Acceptable Individual Vehicle Delay _____ minutes
3. Estimated Individual Vehicle Delay Requiring Mitigation _____ minutes
4. Estimate Delay Cost (Most Applicable)
   - ☐ Extended Weekend Closure
   - ☐ Weekly (7 days)
5. Estimated Duration of Project Related Delays _____ # of Days
6. Cost of Construction Related delays _____

TMP Estimates based on X-Number of Working Days
requiring Lane/Shoulder/Ramp/Freeway/Highway Closures: **425** Working Days

Total Working Days to Construct the Project: **550** Working Days

TMP DATASHEET

Date:	*May 2, 2022*			***Cnty/Rte:***	*FRE* *168*
Design Senior:	*June Xu*			***PM:***	*48.9/49.75* *168*
Branch:	*Q*	***Office of Design:***	*1*	***Project/EA No:***	*0620000065* *1A090*

D) ***Preliminary TMP Elements and cost:*** (Identify all elements and estimated costs that will be used to mitigate congestion resulting from the proposed construction activities.)

1.	**Public Information** (BEES #**066063**)	
☐	Brochures & Mailers	
☑	Press Release/Media Alerts	$43,000
☐	Paid Advertisements	
☐	Public Information Center/Kiosks	
☐	Telephone Hotline	
☑	Planned Lane Closure Website	$0
☐	Project Website	
☐	Pubic Meetings	
☐	Freight Travel Information	
2.	**Motorist Information Strategies**	
☑	Traffic Radio Announcements	$0
☐	Fixed CMS	
☑	Portable CMS (BEES #**128650**)	$128,000
☐	Temporary Motorist Information Signs	
☐	Ground Mounted Signs (Detour)	
☐	Dynamic Speed Message Sign	
☐	Highway Advisory Radio	
☑	CT Hwy Infom. Network (CHIN)	$0
3.	**Incident Management**	
☑	Transportation Management Center	$0
☐	Traffic Management Team (TMT)	
☐	Intelligent Transportation Systems	
☐	Traff. Surveillance (Loop & CCTV)	
☐	Helicopter Surveillance	
☐	Tow/Freeway	
☐	COZEEP (BEES #**066062**)	
4.	**Construction Strategies (In Addition to Elements Identified on Item B)**	
☑	Lane Requirement Chart	$0
☐	Construction Staging	
☐	Traffic Handling Plans	
☐	Full Facility Closures	
☐	Local Road Closures	
☐	Lane Modifications	
☐	One-Way Reversing Operation	

4.	**Construction Strategies (In Addition to Elements Identified on Item B)**	
☐	Two-way Traffic On One Side	
☑	Reversible Lanes	$0
☐	Ramp/Connector Closure	
☐	Night Work	
☐	Extended Weekend Work	
☐	Ped/Bicycle Access Improvements	
☐	Maintain Business Access	
☐	C + T Bidding	
☐	Innovative Construction Techniques	
☑	Coordination w/ Adj. Construction Site	$0
☐	Speed Limit Reduction	
☐	Traffic Screens	
5.	**Demand Management**	
☐	HOV Lane/Ramps	
☐	Variable Work Hours	
☐	Telecommuting	
☐	Truck/Heavy Vehicle Restrictions	
☐	Rideshare Promotions	
☐	Ramp Metering	
☐	Transit Incentives	
☐	Shuttle Services	
☐	Ridesharing/Carpooling Incentives	
☐	Park & Ride Promotion	
6.	**Alternative Route Strategies**	
☐	Off-site Detours/Use of Alt. Rtes	
☐	Signal Timing/Coord. Improvements	
☐	Temporary Traffic Signals	
☐	Signal Retiming	
☐	Street/Intersection Improvements	
☐	Turn Restrictions	
☐	Parking Restrictions	
7.	**Other Considerations**	
☐	Application of New Technologies	
☐	Other	

TOTAL ESTIMATED COST OF TMP	**$171,000**

PROJECT NOTES:

1. Current dollar values used. Inflation was not factored into the estimate.
2. There are no noise restrictions / moratoriums for night work.
3. Traffic Control/Maintain Traffic costs was not provided. Please consult with the OE or construction office for this estimate.
4. Portable CMS specified for this project by this estimate is designed for congestion relief as outlined by DD-60. Portable CMS required for other purposes should be included under other specifications.
5. COZEEP specified for this project by this estimate is designated for congestion relief as outlined by DD-60. COZEEP required for other purposes should be included under other specifications.
6. The TMP is a living document that is subject to change if material changes take place in the final version of the project phase or if changes are required during construction to respond to excessive levels of congestion.
7. This revised TMP Data Sheet supersedes the previous TMP Data Sheet dated December 6, 2021.
*The estimated cost will depend on the Design Engineer's and Office of Traffic Design's Estimate.

PREPARED BY:	**OFFICE OF TRAFFIC OPERATIONS**	**DATE:**
Brinder Bassi		May 2, 2022

Shaver Lake Viaduct

On State Route 168 from post miles 48.9 to 49.8 in Fresno County

06-FRE-168-PM 48.9-49.8

Project ID Number 0620000065

State Clearinghouse Number 2022100082

Initial Study with Mitigated Negative Declaration

Volume 1 of 2

Prepared by the
State of California Department of Transportation

November 2022

ATTACHMENT H

General Information About This Document

The Initial Study circulated for public review and comment for 30 days between October 5, 2022 and November 3, 2022. Comments received during this period are included in Appendix B, which has been added since the draft environmental document circulated. Elsewhere, language has been added throughout the document to indicate where a change has been made since the draft circulated. Minor editorial changes and clarifications have not been so indicated.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: Trais Norris, District 6 Environmental Division, California Department of Transportation, 2015 East Shields Avenue, Suite 100, Fresno, California 93726; phone number (209) 601-3521 (Voice), or use the California Relay Service 1-800-735-2929 (Teletype to Voice), 1-800-735-2922 (Voice to Teletype), 1-800-855-3000 (Spanish Teletype to Voice and Voice to Teletype), 1-800-854-7784 (Spanish and English Speech-to-Speech), or 711.

State Clearinghouse Number 2022100082
06-FRE-168-48.9/49.8 Project
ID Number 0620000065

Install a viaduct on a new alignment on State Route 168 south of Huntington Lake Road from post miles 48.9 to 49.8 in Fresno County

INITIAL STUDY
with Mitigated Negative Declaration

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

THE STATE OF CALIFORNIA
Department of Transportation

Jennifer H Taylor

Jennifer H. Taylor
Environmental Office Chief, District 6
California Department of Transportation
CEQA Lead Agency

11/28/2022

Date

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Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

State Clearinghouse Number: 2022100082
District-County-Route-Post Mile: 06-FRE-168-PM 48.9/49.8
EA/Project Number: 06-1A090/0620000065

Project Description

The California Department of Transportation (Caltrans) proposes to install a viaduct on a new alignment on State Route 168 to repair pavement settlement and prevent pavement failures due to slope subsidence along a section of gabion wall at the Shaver Lake shoreline in Fresno County, near Shaver Lake, from post miles 48.9 to 49.8.

Determination

An Initial Study has been prepared by Caltrans, District 6. On the basis of this study, it is determined that the proposed action with the incorporation of the identified mitigation measures will not have a significant effect on the environment for the following reasons:

The project would have no effect on air quality, cultural resources, energy, paleontological resources, hazards and hazardous materials, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, or wildfire.

The project would have less than significant effects to agriculture and forest resources, biological resources, hydrology and water quality, geology and soils, and greenhouse gases.

With the following mitigation measures incorporated, the project would have less than significant effects to aesthetics:

- Reforesting and revegetation will be done in coordination with Southern California Edison according to California Forest Practice Rules. Aesthetic treatments will be added to guardrails and viaduct. Natina coating will be applied to the proposed guardrail system to allow the structure's colors to better complement the surrounding natural environment. The existing gabion wall will be removed and replaced with rock slope protection backfilled with soil; this will create bench-like shelves that will be planted with native vegetation. The Federal Energy Regulatory Commission (FERC) guidelines will determine the erosion control plans along the Shaver Lake shoreline.

Jennifer H Taylor

Jennifer H. Taylor
Environmental Office Chief, District 6
California Department of Transportation

11/28/2022

Date

Table of Contents

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to realign State Route 168 and install a 780-foot-long viaduct south of Huntington Lake Road near the Shaver Lake shoreline in Fresno County. The project stretches from post miles 48.9 to 49.8.

State Route 168 serves as a major recreational route to Shaver Lake, Huntington Lake, and other destinations in the Sierra Nevada Mountains. Within the project area, State Route 168 runs east-west through the rural Shaver Lake community. Within the limits of the project, State Route 168 is a two-lane minor arterial conventional highway with 11-foot to 12-foot lanes and 1-foot to 8-foot shoulders. The roadway is used by vehicles as well as bicycles. Much of the property surrounding State Route 168 is within the Sierra National Forest that is owned and managed by Southern California Edison.

The Shaver Lake Launch Ramp and the Sierra Marina sit at the north end of Shaver Lake in the Sierra National Forest and make up the main boat launching area for the public at Shaver Lake. There are no fees for use of ramps or parking facilities. However, the Shaver Lake Launch Ramp and the Sierra Marina are privately owned by Southern California Edison and leased to Fresno County for public use.

Within the project area are three connecting driveways and roads: an unpermitted, unpaved rural road leading to boat parking and storage, a paved driveway leading to a private marina and a Shaver Lake day use access road, and Huntington Lake Road. To the northwest is a dense stand of trees damaged by wildfire in 2020. To the southeast lies the Shaver Lake shoreline.

The project area has a long history of repeated slope and pavement failures due to saturated soils and an abundance of groundwater at the project site. Each failure was addressed with an emergency project that attempted to permanently correct the issue. These emergency projects are listed below:

- 2004—Emergency Limited Bid Force Account project performed the removal and replacement of the failed embankment, replaced the pavement, and placed rock-slope protection and willow trees on the slope.
- 2008—Emergency project repaired sections of pavement that showed subsidence, potholes, delamination, and rutting. The scope of work included asphalt concrete removal and replacement.

- 2010—Emergency Limited Bid contract performed slope excavation and gabion wall (a wall made of rectangular wire mesh filled with rock or cobble) construction as recommended by Geotechnical investigators to repair the undermined pavement and tension cracks extending into the travel lanes.

- 2010—An emergency contract performed gabion wall and trench drain construction because the area showed erosion, soil saturation, and an impacted drainage trench system.

- 2011—Emergency Force Account contract removed and replaced failed asphalt concrete due to saturated base conditions and localized pavement failures. At this time, it was noted that emergency work to stabilize the pavement and fill potholes was beyond the means of State forces.

- 2017—Emergency Force Account contract performed slope excavation and reconstruction, and soil consolidation, two courses of gabion wall reconstruction and shoulder repair due to a natural occurring drainage path located beneath the wall that eroded out embankment materials.

- 2019—Emergency contract that replaced a failed 30-inch pipe culvert section, replaced a section of the gabion wall, excavated unsuitable and saturated material, reconstructed new fill material, and placed new hot mix asphalt. The slip-out had over 12 inches of vertical subsidence at the edge of the lane line and over 4 inches of horizontal cracking patterns that extend to the centerline of the roadway. This was thought to be due to the separated section of the culvert beneath the shoulder, which opened an 11-foot-deep sinkhole where water and fill material were seen to be flowing through the separated pipe. The culvert separation also allowed for the creation of a drainage path along the backside of the large gabion wall, eroding embankment materials.

- 2020—Emergency Force Account contract rebuilt 100 linear feet of slope, and repaired the asphalt concrete dike and pavement after damage caused by an inundated drainage system.

To determine long-term solutions, Caltrans performed a subsurface investigation in July 2019. Four bore holes showed subsurface soils were composed of mostly silty sand and medium dense silty sand with traces of gravel and cobbles down to a depth of 80 feet. Spring water was seen at the highway elevation and was also continually seeping out of various locations in the existing cuts north and northeast of the area. Spring water is likely causing subsurface soils to migrate through and under the gabion wall, creating voids, settlement, and roadway tension cracks.

This project proposes a permanent solution to the repeated slope failure and subsidence due to saturated soils by stabilizing the roadway with a deep foundation that penetrates the granite below the silty sand and gravel. A build

alternative and a no-build (no-action) alternative are being considered. See Figure 1-1 for the project vicinity map and Figure 1-2 for the project location map.

The project's escalated 2024/2025 construction cost is estimated at $30,000,000. The project is programmed in the 2024/2025 State Highway Operation and Protection Program.

Figure 1-1 Project Vicinity Map

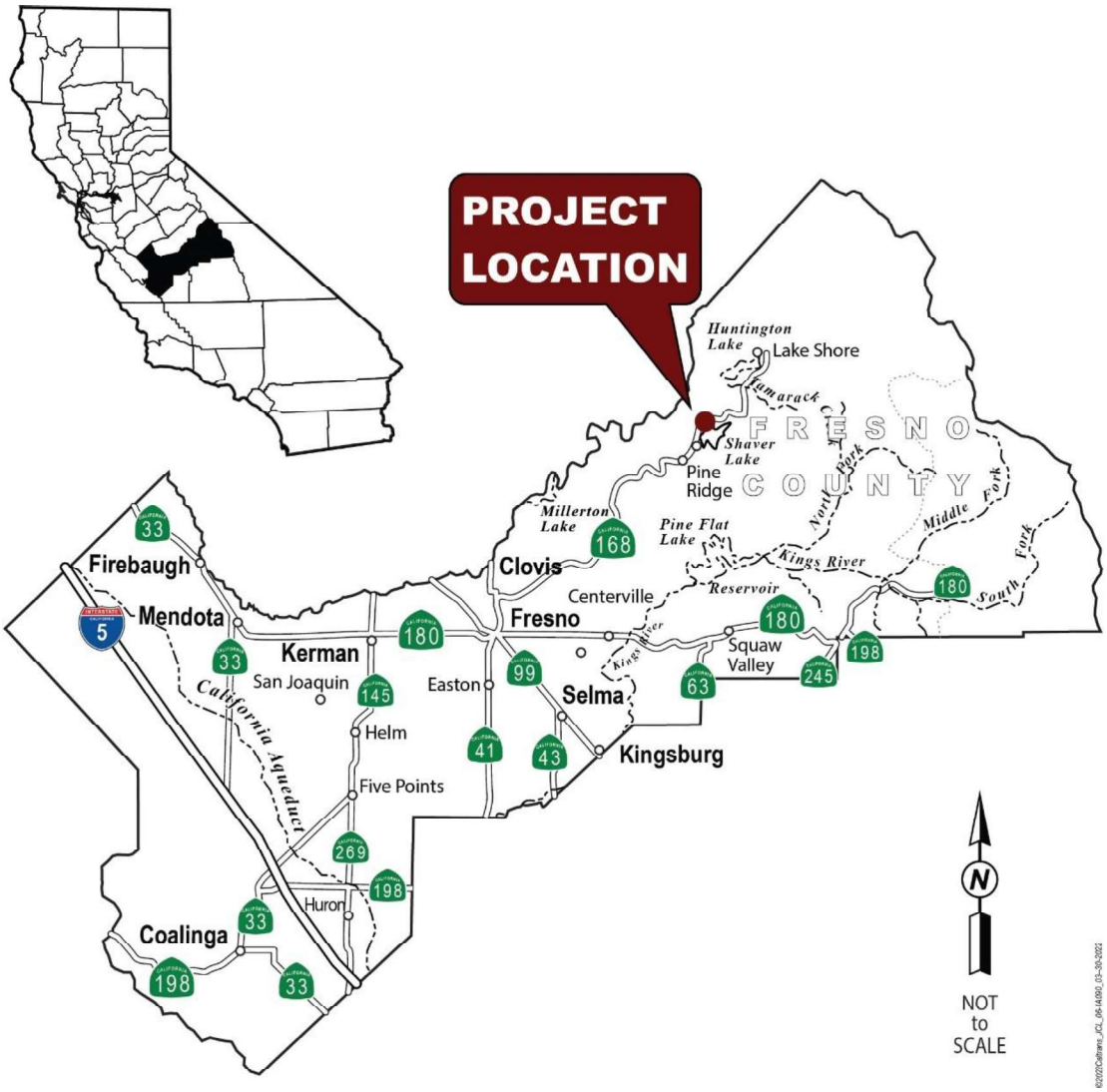
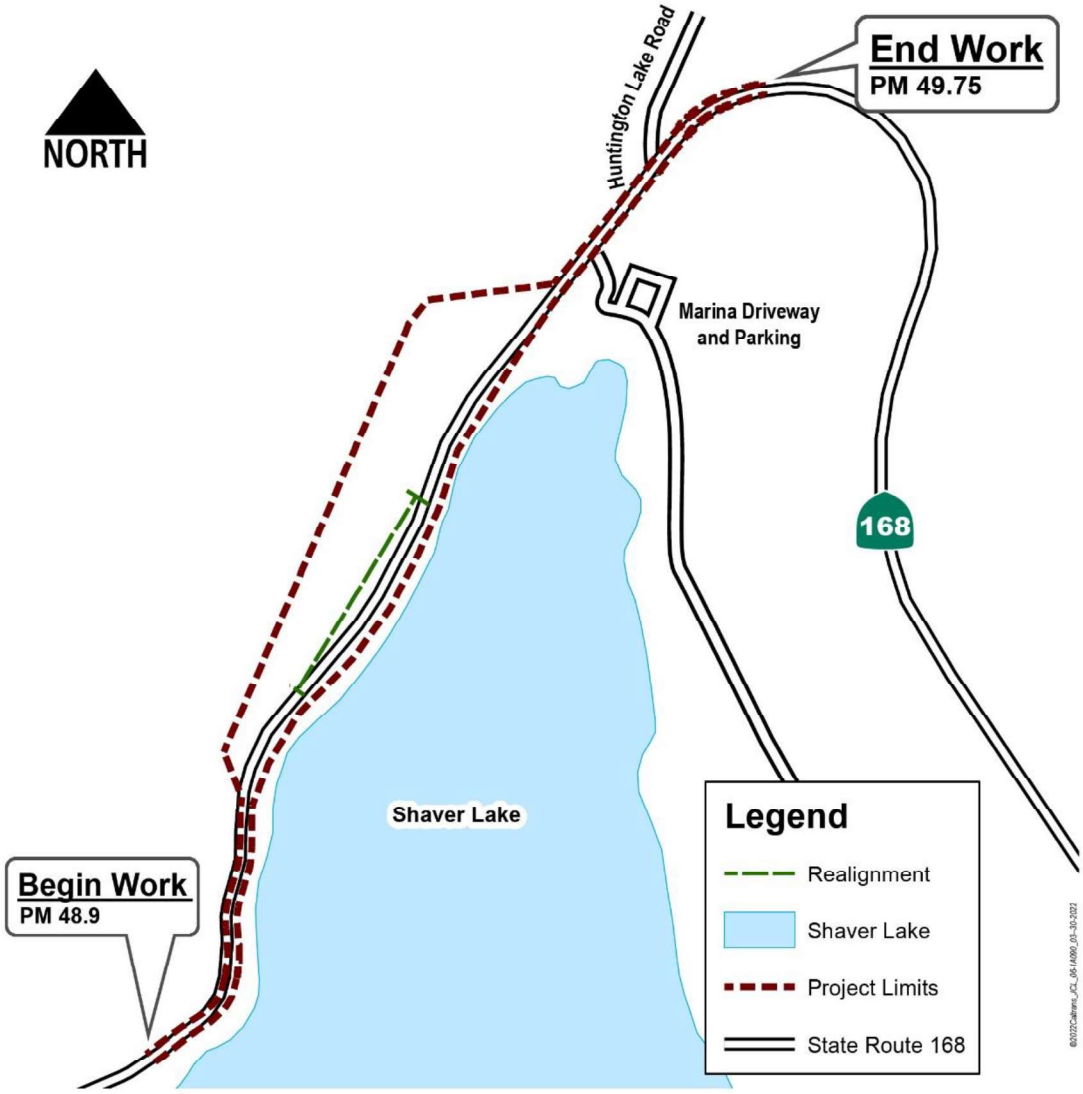


Figure 1-2 Project Location Map



1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to alleviate repeated slope and pavement failures on State Route 168 near the Shaver Lake shoreline.

1.2.2 Need

The roadway is unstable due to the presence of an underground spring, resulting in the repeated need for repairs due to deep subsidence.

1.3 Project Description

The project proposes a permanent solution to repair pavement settlement and prevent pavement failures due to slope subsidence along a section of gabion wall at the Shaver Lake shoreline in Fresno County, near Shaver Lake, from post miles 48.9 to 49.8. Alternative 1 is the no-build alternative. Alternative 2 was eliminated from further consideration and is discussed under Section 1.5, Alternatives Considered but Eliminated from Further Discussion. Alternative 3 is the build alternative.

1.4 Project Alternatives

1.4.1 Build Alternative

Alternative 3 would construct a two-lane viaduct on a new alignment. The viaduct would be a bridge-like structure set on deep foundations spanning the area of current pavement distress. The foundations would be made of large concrete posts driven 40 to 60 feet into the ground to act as a leg or support for the viaduct. Each lane would be 12 feet wide, with 8-foot-wide shoulders. The viaduct would be 780 feet in length and would be realigned 63 feet into the existing hillside. The realigned roadway would be 1,200 feet in length and would straighten the roadway. This realignment would simplify construction staging, reduce the need for reversing traffic control, and shorten construction days.

The beginning of construction would involve cutting into the slope next to the existing roadway; this would require a single-lane closure with reversing traffic control in the remaining lane. Once enough of the slope is cut away to provide adequate movement for construction equipment, both lanes would be open to the public. Reversing traffic control would also be used when the viaduct is connected to the existing roadway. Once the viaduct is constructed, traffic would be directed onto the new alignment as the existing alignment and gabion wall are removed. State Route 168 would remain open to the public during the entire construction period. Recreational services, including access to the marina, would be available during construction.

Southern California Edison right-of-way would be acquired for this alternative. No temporary construction easements or detours are anticipated. Construction would take about 550 days over the course of 19 months to complete.

This project contains a number of standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are listed later in this chapter under Section 1.6, Standard Measures and Best Management Practices Included in All Build Alternatives.

1.4.2 No-Build (No-Action) Alternative

Alternative 1 is the no-build alternative. The project would not meet the purpose and need under Alternative 1. Under Alternative 1, the pavement and slope would remain untouched and would be vulnerable to future subsidence and pavement failures. The potential pavement and slope failures could create a cost to life and property and involve additional construction.

1.5 Identification of a Preferred Alternative

[Section 1.5 Identification of a Preferred Alternative has been added since the draft environmental document was circulated.] The Build Alternative was selected as the preferred alternative because it will alleviate repeated slope and pavement failures on State Route 168 near the Shaver Lake shoreline. The Build Alternative is the only alternative that meets the purpose and need of the project.

1.6 Alternatives Considered but Eliminated from Further Discussion

Alternative 2 proposed to construct a bypass on a new alignment 200 feet above the existing State Route 168 failure area. This alternative would have realigned the highway away from the lake shore and upslope of any potential spring activity. The realignment would have disturbed up to 7.3 acres of land and required the purchase of new right-of-way. In addition, there would have been an additional 0.7 acre of Temporary Construction Easement needed to create a new access road north of the proposed right-of-way for Southern California Edison and the Sierra Marina. Approximately 60,000 cubic yards of cut and 17,000 cubic yards of fill would be needed for this alternative.

According to the Preliminary Geotechnical Design Report completed for this project in December 2021, shallow groundwater and decomposed Granodiorite were encountered at shallow depths throughout the proposed realignment. These conditions would be susceptible to the same subsidence as the current roadway, and therefore this alternative would not be a permanent solution to the repeated pavement failures. Alternative 2 would not meet the purpose and need of the project and was therefore eliminated from further discussion.

1.7 Standard Measures and Best Management Practices Included in All Build Alternatives

- Procedures pertaining to air pollution and dust control would be addressed in Caltrans Standard Specifications, Section 14-9.02—Air Pollution Control

and Section 10-5—Dust Control. A Dust Control Plan approved by the San Joaquin Air Pollution Control District is needed if at least 2,500 cubic yards of material are moved in a day for at least three days of the project or 5 or more acres of land will be disturbed during construction.

- A lead compliance plan developed by a Certified Industrial Hygienist is required and would be addressed in Standard Special Provision 7-1.02K(6)(j)(iii)—Unregulated Earth Material Containing Lead in the bid package.

- If guardrails, signposts, or other sources of treated wood waste are to be removed during construction, Standard Special Provision 14-11.14—Treated Wood Waste would be included in the bid package.

- Procedures to control erosion, sedimentation, and runoff would be included in the Stormwater Pollution Prevention Plan to be prepared before the start of project construction. The contractor, as required in Caltrans Standard Specifications Section 13-1, must abide by the Stormwater Pollution Prevention Plan and address all potential water quality impacts that may occur during construction operations.

- If the project disturbs 1 acre or more of soil, a Notice of Intent is to be submitted to the appropriate Regional Water Quality Control Board at least 30 days before the start of construction, a Stormwater Pollution Prevention Plan is to be prepared and implemented during construction to the satisfaction of the resident engineer, and a Notice of Termination shall be submitted to the Regional Board upon completion of construction and site stabilization. A project would be considered complete when the criteria for final stabilization in the Construction General Permit are met.

- If less than 1 acre of soil is disturbed, a Water Pollution Control Plan would be required to be prepared by the contractor per the 2018 Caltrans Standard Specifications Section 13-1—Water Pollution.

- During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans Standard Specifications Section 14-8—Noise Control.

1.8 Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with the California Environmental Quality Act (CEQA) and other state laws and regulations. Separate environmental documentation, supporting a Categorical Exclusion determination, has been prepared in accordance with the National Environmental Policy Act. When needed for clarity, or as required by CEQA,

this document may contain references to federal laws and/or regulations (CEQA, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the U.S. National Marine Fisheries Service and the U.S. Fish and Wildlife Service—that is, species protected by the Federal Endangered Species Act).

1.9 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications are required for project construction:

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers	Clean Water Act Section 404 Nationwide Permit	The 404 permit would be obtained before the start of construction.
Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification	The 401 certification (permit) would be obtained before the start of construction.
California Department of Fish and Wildlife	1600 Lake and Streambed Alteration Agreement	The 1600 permit would be obtained before the start of construction.

Chapter 2 CEQA Evaluation

2.1 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. Potential impact determinations include Significant and Unavoidable Impact, Less Than Significant Impact With Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A "No Impact" answer reflects this determination. The questions in this checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below.

"No Impact" determinations in each section are based on the scope, description, and location of the proposed project as well as the appropriate technical report (bound separately in Volume 2), and no further discussion is included in this document.

2.1.1 Aesthetics

Considering the information in the Visual Impact Assessment dated April 2022, the following significance determinations have been made:

Except as provided in Public Resources Code Section 21099:

Question—Would the project:	CEQA Significance Determinations for Aesthetics
a) Have a substantial adverse effect on a scenic vista?	**No Impact**
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	**Less Than Significant Impact**

Question—Would the project:	CEQA Significance Determinations for Aesthetics
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	**Less Than Significant Impact With Mitigation Incorporated**
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	**No Impact**

Affected Environment

State Route 168 serves as a major recreational route to Shaver Lake, Huntington Lake, and other destinations in the Sierra Nevada Mountains. Within the limits of the project, State Route 168 is a rural two-lane minor arterial conventional highway. The roadway is used by vehicles as well as bicycles. Much of the property surrounding State Route 168 is within the Sierra National Forest that is owned and managed by Southern California Edison.

The project is in the Sierra National Forest in the Sierra Nevada Mountains. The terrain is mountainous with dense pine wooded forest. Some of the project area suffered fire damage related to the Creek Fire in 2020 that burned a total of 379,895 acres and destroyed 853 structures and damaged 64 more. The project area contains expansive areas of burned trees. State Route 168 is aligned directly adjacent to Shaver Lake. The lake provides for an abundant array of recreational activities, including boating, fishing, swimming, kayaking, and camping. It is a popular destination all four seasons of the year because of its proximity to the Fresno/Clovis metropolitan area and surrounding communities.

The highway is built on grade supported on the lake side of the highway by a gabion wall approximately 40 feet tall. The Sierra Marina is a large boat launching facility at the base of the gabion wall. The facility has a boat dock with the capacity to store about 500 boats. There is also a parking lot for vehicles next to the boat launching area with the capacity to park about 300 vehicles.

The proximity of the lake and the elevated alignment of the highway combine to offer distant views across the lake to the east of scenic mountains, rock outcroppings, and pine trees. The mountainous landform plays a role in concealing and revealing views of the surrounding landscape. The landcover

also helps define the visual setting and the views within the project corridor. The landcover is defined as those physical objects on the land. The landcover in the project corridor includes the trees and other vegetation, the lake, a dam, large boulders, the highway, a boat dock with boats, a parking lot, a boat storage building, a gabion retaining wall, rock outcroppings, and other small buildings at the boat dock facility. These elements all contribute to the natural and scenic setting of the project corridor.

Visual Resources

Visual resources of the project setting are defined and identified below by assessing visual character and visual quality in the project corridor.

Visual Character

Visual character includes attributes such as form, line, color, and texture and is not considered good or bad.

The existing visual character of the project corridor is defined by the surrounding Sierra National Forest mountainside and Shaver Lake. The 2020 Creek Fire burned much of the trees on the upper portion of the mountainside that lies adjacent to the State Route 168 roadway. The fire opened views of the brown and grey granite rock outcroppings on the mountain. The most dominant feature of the area is the lake itself, visually framed by the pine trees. Varying patterns, density, and height of the trees on the mountainside highlight the diversity of views. The colors of the project area can be defined by the dark forest green of the adjacent pines, blues of the lake, greys from the roadway, gabion wall, and granite rock outcroppings, and browns from the fallen pine leaves on the forest floor. In winter, snow will sometimes cover the trees and the mountainside.

The visual character of the project would be somewhat compatible with the existing visual character of the corridor. The project would remove some vegetation, including mature pine trees and shrubs because the viaduct's proposed alignment would expand slightly into the adjacent hillside. The gabion wall will be removed. The proposed viaduct would feature a CA ST-75 bridge rail that would be stained with a Natina coating. A Natina coating is a long-lasting color treatment that reacts to the minerals in rock, concrete, and galvanized steel. The Natina coating's brown color would allow the bridge railing to complement the colors of the adjacent mountainside. The new alignment and bridge railing are expected to minimally impede views of the lake or the eastern views of the forest mountainside from the roadway.

Visual Quality

Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project corridor. The visual quality of the existing corridor would be altered by the proposed project. The proposed viaduct is expected to install a CA ST-75 bridge railing that, although Natina coated, would still be

expected to impact the intactness of the site because views of the lake and pine forest would be minimally impeded by the new structure. Eastern views of the lake and mountainside would still be visible for travelers, but installation of the proposed railing would act as a slight visual impediment to a previously clear view.

Along with intactness, the quality of unity would be impacted by the proposed viaduct as well. The proposed alignment would expand slightly into the adjacent hillside, causing the removal of some pine trees and shrubs. Subsequently, the previously uniform dense pine tree edge would be impacted. If the affected trees are tall enough, their removal may open previously unseen views of the top of the mountainside that was impacted by the Creek Fire, resulting in a less dense and uniform view of the adjacent forest.

Viewers

The population affected by the project is composed of viewers. Viewers are people whose views of the landscape may be altered by the proposed project—either because the landscape itself has changed or their perception of the landscape has changed.

Viewer Exposure

Viewer exposure is a measure of the viewer's ability to see a particular object. Viewer exposure has three attributes: location, quantity, and duration.

Highway neighbors with views to the road include residents, commercial properties, institutional properties, tourists, and recreationists. These neighbors have a close view of the roadway, lake, and surrounding mountain landscape. The density of the neighbors along the route is low because the area population is less than 500 people. Therefore, the quantity of neighbors viewing the roadway is low. Neighbor viewers to the route would have a long exposure to the views and many opportunities to see the views. Their view of the roadway is considered a distant view.

Viewer Sensitivity

Viewer sensitivity is a measure of the viewer's recognition of a particular object. It has three attributes: activity, awareness, and local values.

Because State Route 168 is a Fresno County Designated Scenic Highway, overall viewer awareness and local values are high for State Route 168 and the surrounding landscape. Fresno County places heavy emphasis on preserving the existing landscape surrounding the Shaver Lake area. The Fresno County General Plan emphasizes preserving natural vegetation and terrain in visually sensitive areas along the roadways such as the dense pine forest and mountainsides. Maintaining scenic beauty while providing public access to these scenic vistas is also a priority for Fresno County.

At a state level, State Route 168 is listed as a State Scenic Highway, meaning it is important to follow the California Streets and Highway Code to preserve scenic conservation resources in this area as much as possible. At a national level, the National Scenic Byway System highlights the importance of the Sierra National Forest and preserving the National Forest scenery.

Due to the roadway's Scenic Highway status at a county and state level, viewers would have a high sensitivity and concern for any visual changes within the project area to the scenic resources surrounding State Route 168.

Roadway users have a close view of the roadway features with views of the Sierra Nevada Mountains and Sierra National Forest. For the location attribute of viewer exposure, most viewers would fall into the moderate to high exposure category. The views are equally divided between the immediate edges of the roadway and views in the distance. The route, being the main road to Shaver Lake, is lightly to moderately traveled. Overall, the quantity of viewer exposure would be moderate.

The overall exposure for viewers *from* the highway is moderate. The overall exposure for viewers *to* the highway is moderate.

Key Views

Because it is not feasible to analyze all the views in which the proposed project would be seen, it is necessary to select a number of key views that would most clearly demonstrate the change in the project's visual resources. Key views at three locations are described below.

Figure 2-1 Key View 1

Key View 1—At the east side of Shaver Lake in the vehicle parking area of the marina looking west.

Figure 2-2 Key View 2

Key View 2—At the east side of Shaver Lake at the boat dock parking lot of the marina looking west.

Figure 2-3 Key View 3

Key View 3—At the west side of Shaver Lake at post mile 49.1 of State Route 168 looking northeast.

Environmental Consequences

The levels of visual impacts are determined by combining resource change and viewer response in an impact rating scale format. The impacting rating scale includes low, moderate-low, moderate, moderate-high, and high.

Resource Change

The change in color, texture, and diversity caused by the removal of mature vegetation and the installation of CA ST-75 bridge railing would cause a low change to the visual character within the project corridor. The change to the visual quality caused by the removal of vegetation from the new alignment and installation of the bridge railing on the proposed viaduct would result in a moderate-low change. The combined effects would result in an overall resource change of a moderate-low level.

Visual Impact

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. These impacts can be beneficial or detrimental. Cumulative impacts and temporary impacts due to the contractor's operations are also considered.

Visual impacts to the three chosen key views are described below, noting the visual changes and viewer sensitivity and exposure.

Figure 2-4 Key View 1

Key View 1—At the east side of Shaver Lake in the vehicle parking area of the marina looking west. The build alternative would remove some of the visible trees and vegetation from the bottom of the mountainside's edge because the new alignment would shift into the hillside. The project would also install a CA ST-75 Natina-coated guardrail.

Viewer exposure for this key view would be rated as moderate. Viewer sensitivity in this area would be considered moderately high. Visual changes would result in a moderate resource change. The viewer response is expected to be moderate-high. The visual impact would be moderate.

Figure 2-5 Key View 2

Key View 2—At the east side of Shaver Lake at the boat dock parking lot of the marina looking west. The build alternative would remove some of the visible trees and vegetation from the bottom of the mountainside's edge because the new alignment would shift into the adjacent hillside. The project would also install a CA ST-75 Natina-coated guardrail.

Viewer exposure for this key view would be rated as moderate. Viewer sensitivity in this area would be considered moderately high. Visual changes would result in a moderate resource change. The viewer response is expected to be moderate-high. The visual impact would be moderate.

Figure 2-6 Key View 3

Key View 3—At the west side of Shaver Lake at post mile 49.1 of State Route 168 looking northeast. The project would realign the roadway into the adjacent hillside causing the removal of some of the mature pine trees and vegetation. Also, the project would install a CA ST-75 bridge railing on the edge of the roadway closest to the lake. The bridge railing would be Natina coated to better complement the surrounding browns and greens of the environment.

Viewer exposure for this key view would be rated as moderate. Viewer sensitivity in this area would be considered moderate-high due to the local policy in place that ensures the preservation of scenic resources. The project would result in a moderate-low resource change. The viewer response is expected to be moderate-high. The visual impact would be moderate.

Project Visual Impact Summary

The resource change for this project would be moderate. The County places heavy emphasis on preserving the existing landscape surrounding the Shaver Lake area. The Fresno County General Plan emphasizes preserving natural vegetation and terrain in visually sensitive areas along the roadways such as the dense pine forest and mountainsides. Preserving scenic beauty while providing public access to these scenic vistas is also a priority for Fresno County. The project improvements appear to be within local aesthetic values and goals. The overall viewer response of neighbors and users is expected to be moderate-high. The visual impacts expected because of the project are expected to be moderate. The project would have no impact on scenic resources within a State Scenic Highway.

Temporary Construction-Related Impacts

Temporary visual impacts may occur during the construction of the project. Equipment and materials would need to be stored during construction. There

may be a temporary increase in light and glare if night work is required. These visual impacts are expected to be temporary only and have less than substantial impacts.

Avoidance, Minimization, and/or Mitigation Measures

The following measure to avoid or minimize visual impacts would be incorporated into the project:

- Minimize tree removal. Remove only those trees and shrubs required for the construction of the new roadway facilities. Avoid removing trees and shrubs for temporary uses such as construction staging areas or temporary stormwater conveyance systems.

The following mitigation measure to offset visual impacts would be incorporated into the project:

- Replacement planting for vegetation removed or damaged. Reforesting and revegetation would be done in coordination with Southern California Edison according to California Forest Practice Rules.

- Aesthetic treatments to guardrails and viaduct. Natina coating should be applied to the proposed guardrail system to allow the structure's colors to better complement the surrounding natural environment. The existing gabion wall will be removed and replaced with rock slope protection backfilled with soil. This will create bench-like shelves that will be planted with native vegetation. The Federal Energy Regulatory Commission (FERC) guidelines will determine the erosion control plans along the Shaver Lake shoreline.

2.1.2 Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

The project would not convert prime farmland, unique farmland, or farmland of statewide importance to nonagricultural use or conflict with existing zoning for agricultural use or a Williamson Act contract. The project is not in a

location zoned for timberland production. Considering the information available on the Fresno County Geographic Information System webpage accessed February 16, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Agriculture and Forest Resources
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	**No Impact**
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	**No Impact**
c) Conflict with existing zoning, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	**Less Than Significant Impact**
d) Result in the loss of forest land or conversion of forest land to non-forest use?	**Less Than Significant Impact**
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?	**No Impact**

Affected Environment

The property surrounding State Route 168 is within the Sierra National Forest, which is owned and managed by Southern California Edison. The project location is dominated by conifer forest vegetation typical of the central Sierra Nevada mountain range. The project is bordered to the south by the Shaver Lake shoreline and is bordered to the north by mostly incense cedar and lodgepole pine.

The project is also in a location vulnerable to wildfire. According to CalFire's Fire Hazard Severity Zone mapping tool, the project area is within a Moderate to Very High Fire Hazard Severity Zone. This area suffered burn damage

from the 2020 Creek Fire. According to the Fresno County Zoning ArcGIS Portal accessed in April 2022, the land north of the project is zoned as CR40—Conservation Resource and is considered both forest land as defined in Public Resources Code Section 12220(g) and timberland as defined by Public Resources Code Section 4526. Though the land is capable of growing commercial species used to produce lumber and forest products, the land is not being used for timber production. The project area does not contain timberland zoned for Timberland Production as defined by Government Code Section 51104(g).

Environmental Consequences

The project would disturb about 3.5 acres of forest land and convert 1.62 acres of forest land as a conservation resource to a transportation facility. Trees and vegetation removed because of the project would be replaced. Because of the fire damage the area sustained from the 2020 Creek Fire and because the land is not currently being used for timberland production, the project impacts to forest land and timberland are considered less than significant.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance, minimization and mitigation measures listed under Section 2.1.1, Aesthetics will also apply to minimizing impacts to forest resources.

2.1.3 Air Quality

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

Considering the information in the Air Quality Memorandum dated March 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Air Quality
a) Conflict with or obstruct implementation of the applicable air quality plan?	**No Impact**
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	**No Impact**
c) Expose sensitive receptors to substantial pollutant concentrations?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Air Quality
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	**No Impact**

2.1.4 Biological Resources

Considering the information in the Natural Environment Study (Minimal Impacts) dated March 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Biological Resources
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration Fisheries?	**Less Than Significant Impact**
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	**No Impact**
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	**Less Than Significant Impact**
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	**No Impact**
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Biological Resources
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	**No Impact**

Affected Environment

The Biological Study Area is defined as the action area. The action area encompasses all areas that could be directly or indirectly affected by the project. This includes the project footprint, adjacent areas subject to indirect effects, and any additional staging areas not included in the project footprint.

A list of federally endangered species and critical habitats that may be affected by the project was obtained from the U.S. Fish and Wildlife Service on November 23, 2021. In-office research (California Native Plant Society, California Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service) and field surveys were conducted by Caltrans biologists for the project.

General wildlife surveys were performed during three site visits on July 23, 2021, September 22, 2021, and November 16, 2021. Protocol-level botanical surveys were attempted by Caltrans biologists on July 12, 2021. These surveys could not be conducted to protocol because the action area was significantly damaged by the 2020 Creek Fire. The action area was surveyed where possible, and all observable plant species were identified. A wetland delineation was conducted on August 24, 2021. No listed species were seen during the surveys.

Wetlands and Other Waters

Wetland delineation surveys were conducted on August 24, 2021 by aquatic resource biologists. Seven boring sites proposed for geotechnical drilling were surveyed, and all wetlands present within the action area were delineated and mapped.

Plant Species

One plant species of special concern—Abrams' onion—identified in the species queries was found to have historic records of occurrence or potentially suitable habitat within the action area. No habitat for any potential special-status plant species was identified in the action area during surveys.

Abrams' Onion

Abrams' onion *(Allium abramsii)* is found in Fresno, Madera, and Tulare counties in the understory of coniferous forests with granitic sand soils. It is a California Native Plant Society 1B.2 plant, which means it is fairly rare, threatened, or endangered throughout its range. According to the California

Native Plant Society and the California Natural Diversity Database, there are records of Abrams' onion occurring next to the action area in the vicinity of Shaver Lake. The most recent sighting occurred 0.3 mile from the action area in 2009. The action area was surveyed during the active bloom period for Abrams' onion, and no observations were made. The potential for the species to occur in the area is low.

Animal Species

Twelve species of special concern identified in species queries were found to have historic records of occurrence or potentially suitable habitat within the action area. No special-status species were seen within the action area during surveys. Given the age and distance of historic observations, as well as limited suitable habitat in the project vicinity, three of these species—northern goshawk, Sierra marten, and fisher (Southern Sierra Nevada Evolutionarily Significant Unit)—are not expected to occur within the action area. Five species—western mastiff bat, long-eared myotis, fringed myotis, long-legged myotis, and Yuma myotis—came up in species queries but are not listed as species of special concern. The remaining species—pallid bat, Townsend's big-eared bat, spotted bat, and osprey—are discussed below.

Pallid Bat

The pallid bat (*Antrozous pallidus*) is a large bat species ranging from Mexico and the southwestern United States to Oregon and Washington. The pallid bat is a California Species of Special Concern. There are two records for this species adjacent to the action area, east of Shaver Lake.

Townsend's Big-Eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*) is a medium-sized bat ranging from western North America to Virginia. Townsend's big-eared bat is a California Species of Special Concern. Within the last 20 years, there were occurrences of Townsend's big-eared bat within 2 miles of the action area.

Spotted Bat

The spotted bat (*Euderma maculatum*) is a medium-sized bat ranging from western North America and southern British Columbia to southern Mexico. The spotted bat is a California Species of Special Concern. Within the last 20 years, there were two records of this species adjacent to the action area near Shaver Lake.

Osprey

The osprey (*Pandion haliaetus*) is the only raptor in North America adapted to eating a diet almost exclusively of fish. Ospreys are found in the vicinity of permanent water bodies that support fish, including lakes, bays, reservoirs, coasts, and large rivers. Ospreys are a world-wide species, occurring throughout North America and across large areas of South America, Africa, Northern Europe, Central and Southern Asia, and coastal Australia. In

California, they currently are protected as a raptor under the Migratory Bird Treaty Act. There is one recorded occurrence of the osprey (dated 2002) at Shaver Lake within 2 miles of the action area. Suitable nesting and foraging habitats exist in the region around Shaver Lake. Although no species-specific surveys have been performed, an osprey was seen soaring overhead during wetland delineation surveys.

Threatened and Endangered Species

Seven species identified in U.S. Fish and Wildlife Service special-status species queries were found to have historic records of occurrence or potentially suitable habitat within the action area: Yosemite toad, monarch butterfly, delta smelt, fisher (Southern Sierra Nevada Evolutionarily Significant Unit), California red-legged frog, Sierra Nevada yellow-legged frog, and Sierra Nevada red fox. Of these, none were found to have a high potential to occur onsite or be impacted by the project.

Environmental Consequences

Wetlands and Other Waters

There is 0.45 acre of wetlands in the project area, but only about 0.08 acre will be impacted by the project. Due to anticipated impacts to at least one wetland adjacent to State Route 168 within the project footprint, an Aquatic Resource Delineation Report will be prepared for this project and submitted to the Sacramento District Office of the U.S. Army Corps of Engineers during the project design phase once the project design and anticipated impacts are refined. Permit applications for the 401 and 404 nationwide permits under the Clean Water Act will also be prepared for the U.S. Army Corps of Engineers and Central Valley Regional Water Quality Control Board. The purchase of in-lieu fee credits will likely be a requirement of the 404 nationwide permit as a result of impacts to wetlands. In addition to the 401 and 404 nationwide permits under the Clean Water Act, a 1602 Lake and Streambed Alteration Agreement will be prepared by the Central Region of the California Department of Fish and Wildlife to permit work on the top bank of Shaver Lake.

Plant Species

Abrams' Onion

While the action area does have marginal habitat for the Abrams' onion, the project footprint lacks the necessary groundcover, soil type, and overall habitat to support the species. Surveys did not yield any observations of Abrams' onion, so the likelihood of its presence within the project area at the time of construction is low. Because of this, construction impacts to Abrams' onion are anticipated to be unlikely.

Animal Species

Pallid Bat, Townsend's Long-Eared Bat, and Spotted Bat

There are no mines or caves within or adjacent to the action area, and there would be no work in proximity to cliffs, rock outcrops, or buildings that may provide suitable roosting habitat for the bat species. There are no large trees with loose bark or cavities suitable for roosting that would be impacted by project activities. Due to the disturbed nature of the action area, impacts associated with construction of the project are minimal. Project impacts to bats are unlikely.

Osprey

Tree removal is expected during construction. At the time of biological surveys, no nest structures were found in the action area. The project would not remove any tree of sufficient size to provide osprey roosting or nesting habitat, nor cause any measurable impacts to the habitat of prey species; no habitat impacts are expected. Noise and activity resulting from construction in proximity to suitable osprey habitat may result in the disturbance of any osprey that may be present nearby. Due to the already disturbed nature of the right-of-way, impacts associated with construction of the project are unlikely.

Threatened and Endangered Species

The project would have no effect on species identified in U.S. Fish and Wildlife Service special-status species queries. There has been no consultation with the California Department of Fish and Wildlife regarding California special-status species in the project area. Potential impacts to California special-status species are anticipated to be minimal, temporary, and discountable, with no loss of habitat. Proposed avoidance and minimization efforts would prevent take and minimize disturbance to any individuals in proximity to work activities.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of the following avoidance and minimization measures, no habitat impacts are expected, and compensatory mitigation is not proposed.

Wetlands and Other Waters

In-lieu credit fees will likely be a requirement of the 404 nationwide permit under the Clean Water Act as a result of impacts to wetlands.

Plant Species

With implementation of the following avoidance and minimization measures, no habitat impacts are expected, and compensatory mitigation is not proposed.

- Worker Environmental Awareness Training will be performed by a qualified biologist for all work personnel to inform them of the special-status species potentially within the work area, protective measures,

reporting procedures, and consequences of violating environmental laws and permit requirements.

- Focused botanical pre-construction surveys will be performed during the flowering season at all work sites where ground-disturbance is anticipated, and with suitable habitat within or near California Native Plant Society and California Natural Diversity Database occurrence records.

- Populations found in proximity to work sites will be protected by an environmentally sensitive area buffer, clearly designated by high-visibility fencing.

Animal Species

- Worker Environmental Awareness Training will be performed by a qualified biologist for all work personnel to inform them of the special-status species potentially within the work area, protective measures, reporting procedures, and consequences of violating environmental laws and permit requirements.

- Tree removal will be restricted to the non-nesting season (October 1 to January 31) or until a Caltrans biologist has verified that no nesting is occurring, and the tree is cleared for removal.

- Pre-construction surveys will be performed within 500 feet of the action area to determine if any goshawks or osprey are nesting in proximity to the action area. Active nests would be protected by a 500-foot buffer from February 1 to September 30, or until any young have fledged and left the nest. Should goshawks or osprey nest in proximity to the work zone, a biological monitor would be present to ensure noise and activity do not disrupt nest-related activities including feeding, nest defense, and care of young.

- The action area will be surveyed prior to construction for the presence of roosting bats. If bats are determined to be present in the action area, a qualified biologist will monitor construction activities to determine if bats are being disturbed. If bats are disturbed, work will be suspended, and the situation will be evaluated to determine if an alternate work schedule can be developed in order to construct the project while bats are not roosting.

- Pre-construction surveys would be performed within the action area to determine if any Sierra marten or fisher denning is occurring. Active natal dens would be protected by a 500-foot buffer during the U.S. Forest Service Limited Operating Period (LOP). For Sierra marten, this would be from May 1 to June 30 or until any young have left the den. For the fisher, this would be from March 1 to June 30 or until any young have left the den.

- Construction vehicles would be limited to a 20-mile-per-hour speed limit within work zones.

- All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed daily from the entire project site to reduce the potential for attracting predator species.

2.1.5 Cultural Resources

Considering the information in the Historic Property Survey Report dated October 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Cultural Resources
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	**No Impact**
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	**No Impact**
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	**No Impact**

2.1.6 Energy

Considering the information in the Energy Memorandum dated April 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Energy
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	**No Impact**
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	**No Impact**

2.1.7 Geology and Soils

A Preliminary Geotechnical Design Report dated December 2021 and a Paleontological Identification Report dated February 2022 were completed for this project. The Preliminary Geotechnical Design Report noted the project site may be considered susceptible to liquefaction since saturated loose granular soils are present at this site. This could occur during a seismic event and would not be a result of the project or project construction. To ensure the

project can withstand a potential liquefaction-inducing event, a liquefaction analyses will be performed during the design stage. Considering this information, the following significance determinations have been made:

Question—Would the project:	**CEQA Significance Determinations for Geology and Soils**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	**No Impact**
ii) Strong seismic ground shaking?	**No Impact**
iii) Seismic-related ground failure, including liquefaction?	**No Impact**
iv) Landslides?	**No Impact**
b) Result in substantial soil erosion or the loss of topsoil?	**No Impact**
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	**No Impact**
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	**No Impact**
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	**No Impact**
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	**No Impact**

2.1.8 Greenhouse Gas Emissions

Considering the information in the Climate Change Memorandum dated April 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Greenhouse Gas Emissions
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	**Less Than Significant Impact**
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	**Less Than Significant Impact**

Affected Environment

The project is in a rural area, with a mostly natural resources-based agricultural and tourism economy. State Route 168 is the main transportation route to and through the area for both passenger and commercial vehicles. The nearest alternate route is State Route 41, 22 miles to the northwest. Traffic counts are low.

The existing right-of-way is bordered on both sides by land owned by Southern California Edison. To the northwest, there is a dense stand of trees damaged by wildfire in 2020. To the southeast lies the Shaver Lake shoreline.

The project is within the jurisdiction of the Fresno Council of Governments. The 2018 Regional Transportation Plan, Chapter 3–Sustainable Communities Strategy: People, Choices, Community, states that the plan will reduce greenhouse gas emissions by focusing growth in developed areas, moderately increasing residential densities, encouraging infill development, protecting open space and agricultural land, and providing transportation alternatives to the private automobile.

Environmental Consequences

Greenhouse gas emissions impacts of non-capacity-increasing projects like the Shaver Lake Viaduct project are considered less than significant under CEQA because there would be no increase in operational emissions.

However, construction equipment, traffic delays, material processing and transportation, and delivery may generate short-term greenhouse gas emissions during construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. Carbon dioxide emissions generated from construction equipment were estimated using the Caltrans

Construction Emissions Tool v1.1. The estimated emissions would be 1,126 tons of carbon dioxide per 550 working days.

All construction contracts include Caltrans Standard Specifications related to air quality. Sections 7-1.02A and 7-1.02C, Emissions Reduction, require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all California Air Resources Board emission reduction regulations. Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

While some construction greenhouse gas emissions would be unavoidable, implementing standard conditions or Best Management Practices designed to reduce or eliminate emissions as part of the project would reduce impacts to less than significant.

Avoidance, Minimization, and/or Mitigation Measures

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

- Recycle water: Reduce construction water consumption of potable water. Encourage recycled water for construction. This would be a part of the project contract as Caltrans Standard Specification 10-6.

- Reduce construction waste. This would be a part of the project contract as Caltrans Standard Specification 14-10.03, requiring Solid Waste Disposal and Recycling Report and a Recycled Materials Report demonstrating efforts to minimize landfill material.

- Long-life pavement: Minimize life-cycle costs by designing long-lasting pavement structures. This would be incorporated into the project design during the project design phase.

- Construction scheduling: Increase lane closure duration to reduce necessary mobilization efforts or lengthen the work week to maximize construction seasons. This would be incorporated into the Transportation Management Plan prepared during the project design phase.

- Fuel efficiency: Encourage improved fuel efficiency from construction equipment by maintaining equipment in proper working condition, using the right size equipment for the job, and using equipment with new technologies. This would be a part of the project contract as Caltrans Standard Specification 14-9.

- Reduce the need for the transport of earthen materials by balancing cut and fill quantities. This would be addressed during the project design phase.

- Provide construction personnel with the knowledge to identify environmental issues and best practice methods to minimize impacts to the human and natural environment. Supplement existing training with information from the following link regarding methods to reduce greenhouse gas emissions related to construction: https://www.sustainablehighways.org/122/project-development.html.

2.1.9 Hazards and Hazardous Materials

Considering the information in the Initial Site Assessment dated November 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hazards and Hazardous Materials
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	**No Impact**
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	**No Impact**
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	**No Impact**
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	**No Impact**
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Hazards and Hazardous Materials
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	**No Impact**
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	**No Impact**

2.1.10 Hydrology and Water Quality

Considering the information in the Water Compliance Memorandum dated February 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality?	**Less Than Significant Impact**
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	**No Impact**
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation onsite or offsite;	**Less Than Significant Impact**
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	**No Impact**
(iv) impede or redirect flood flows?	**No Impact**
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	**No Impact**
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	**No Impact**

Affected Environment

The project area lies in the San Joaquin River Hydrologic Unit. The watershed affected by the project is the Stevenson Creek-San Joaquin River. Shaver Lake is an artificial lake on Stevenson Creek, in the Sierra National Forest of Fresno County, California. Several smaller streams also flow into the lake, and the lake receives water from the tunnels of Southern California Edison's Big Creek Hydroelectric Project.

The lake was formed with the construction of Shaver Lake Dam, which was built by Southern California Edison and completed in 1927. Some water from the lake is discharged into Stevenson Creek for fish and other wildlife, but the rest is diverted to Big Creek, where it powers several hydroelectric plants in succession.

The Central Valley Regional Water Quality Control Board adopted a *Water Quality Control Plan for Sacramento and San Joaquin River Basins*, Fifth Edition, May 2018 (referred to below as the Basin Plan), that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.

The Basin Plan does not specifically identify beneficial uses for Shaver Lake and North Fork Stevenson Creek but does identify present and potential uses for the San Joaquin River from its sources to Millerton Lake, to which Shaver Lake and North Fork Stevenson Creek are tributaries. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution Number 88-63, which establishes state policy that all waters, with

certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

Environmental Consequences

Roadway construction and maintenance activities can have direct impacts on both supply and water quality characteristics of the project area. Impacts may include the erosion of disturbed soils and the chemical pollutants associated with roadway construction and maintenance practices. In addition, the operation of roadways causes other potential pollution sources created by the chemical and biological contaminants present in roadway stormwater runoff.

The project would not increase the impervious surface area of the project location. However, the extensive grading and excavation required to remove the roadway, gabion wall, and hillside to construct the proposed viaduct could result in erosion and concentrated flow conveyance during storms, resulting in onsite and offsite erosion and downstream sedimentation into surface waters. Other construction-related impacts could occur due to accidental spills or poor management of handling solid wastes, hazardous materials, fuels, and other potential chemicals used during road excavation and replacement of new culverts. Poorly maintained vehicles and heavy equipment leaking fuel, oil, antifreeze, or other fluids on the construction site are also potential sources of stormwater pollution and soil contamination.

Two general strategies are recommended to prevent construction-related products to migrate offsite. First, erosion control procedures should be implemented for those areas that must be exposed. Second, the area should be secured to control the offsite migration of pollutants. These Best Management Practices would be required in the Stormwater Pollution Prevention Plan to be prepared before the start of project construction. When properly designed and implemented, these practices are expected to reduce or eliminate the potential for short-term construction-related impacts.

Per the National Pollution Discharge Elimination System Stormwater Program, the project would be required to comply with existing regulatory requirements to prepare a Stormwater Pollution Prevention Plan designed to control erosion and the loss of topsoil to the extent practicable using Best Management Practices that the Regional Water Quality Control Board has deemed effective in controlling erosion, sedimentation, and runoff during construction activities. The specific controls are subject to review and approval by the Regional Water Quality Control Board and are an existing regulatory requirement. These activities would be addressed in the design and construction phases of the project.

Any potential impacts (erosion, accidental spills of hazardous material, and disruption to natural drainage) must be addressed, eliminated, or minimized to the maximum extent practicable during the design and construction phases

of the project by incorporating the appropriate permanent and temporary Best Management Practices into the project.

Because the project would disturb over 1 acre of soil, the following would be required:

- A Notification of Intent is to be submitted to the appropriate Regional Water Quality Control Board at least 30 days before the start of construction.
- A Stormwater Pollution Prevention Plan is to be prepared and implemented during construction to the satisfaction of the Resident Engineer.
- A Notice of Termination will 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.

By incorporating the practices listed above, the project will have less than significant impacts on water quality during and after construction.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is anticipated.

2.1.11 Land Use and Planning

The project would convert forest land to non-forest use. However, the project would not physically divide an established community and would not cause a significant environmental impact due to a conflict with the Fresno County General Plan or any other policy or regulation meant to avoid or mitigate an environmental effect. Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Land Use and Planning
a) Physically divide an established community?	**No Impact**
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	**No Impact**

2.1.12 Mineral Resources

Considering the information on the California Department of Conservation Online Mineral Land Classification Interactive Map accessed in February 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Mineral Resources
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	**No Impact**
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	**No Impact**

2.1.13 Noise

Considering the information in the Traffic Noise Assessment dated March 2022, the following significance determinations have been made:

Question—Would the project result in:	CEQA Significance Determinations for Noise
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	**No Impact**
b) Generation of excessive groundborne vibration or groundborne noise levels?	**No Impact**
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	**No Impact**

2.1.14 Population and Housing

The project would install a viaduct on a new alignment and would not directly or indirectly induce substantial unplanned population growth in the area. The project would acquire additional right-of-way, but no person or business would be relocated or displaced. Considering the scope and location of the project within a rural setting, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Population and Housing
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	**No Impact**
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	**No Impact**

2.1.15 Public Services

The project would install a viaduct on a new alignment and would not trigger the need for new or modified public services. Considering the scope and location of the project in a rural setting, the following significance determinations have been made:

Question:	CEQA Significance Determinations for Public Services
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	
Fire protection?	**No Impact**
Police protection?	**No Impact**
Schools?	**No Impact**
Parks?	**No Impact**
Other public facilities?	**No Impact**

2.1.16 Recreation

The project would install a viaduct on a new alignment. The Shaver Lake Marina, the Shaver Lake shoreline, and various other recreational areas and trails occur near the project area. But, the project would not alter roadway

capacity or traffic patterns in a way that might increase the use of the existing recreational facilities nor require the construction or expansion of recreational facilities. State Route 168 would remain open during construction, and all existing recreational facilities would be accessible during and after construction. Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Recreation
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	**No Impact**
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	**No Impact**

2.1.17 Transportation

The project would install a viaduct on a new alignment. The project would not conflict with any transportation program, plan, ordinance, or policy and would have no impact on vehicle miles traveled. The project would not increase hazards due to a geometric design feature or incompatible uses and would not result in inadequate emergency access. State Route 168 would remain open to the public and emergency vehicles during construction. The public would still be able to tow boats and other recreational equipment through the project area. The project is exempt from vehicle miles traveled analysis under Senate Bill 743 because the project would not lead to a substantial or measurable increase in roadway capacity, according to the California Governor's Office of Planning and Research, 2018 Technical Advisory. Considering this, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Transportation
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	**No Impact**
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Transportation
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	**No Impact**
d) Result in inadequate emergency access?	**No Impact**

2.1.18 Tribal Cultural Resources

Considering the information in the Historic Property Survey Report dated October 2021, the following significance determinations have been made:

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

Question:	CEQA Significance Determinations for Tribal Cultural Resources
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	**No Impact**
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	**No Impact**

2.1.19 Utilities and Service Systems

Considering the project would not create a demand for new or expanded utilities and service systems and have no impact on a utility or service system supply, or generate solid waste in excess as described in “d” below, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	**No Impact**
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	**No Impact**
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	**No Impact**
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	**No Impact**
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	**No Impact**

2.1.20 Wildfire

Considering the information in the Climate Change Memorandum dated April 2022, the following significance determinations have been made:

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

Question—Would the project:	CEQA Significance Determinations for Wildfire
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	**No Impact**
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Wildfire
concentrations from a wildfire or the uncontrolled spread of a wildfire?	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	**No Impact**
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	**No Impact**

2.1.21 Mandatory Findings of Significance

Question:	CEQA Significance Determinations for Mandatory Findings of Significance
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	**No Impact**
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	**No Impact**

Question:	CEQA Significance Determinations for Mandatory Findings of Significance
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	**No Impact**

Appendix A Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

September 2021

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures "*No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.*"

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a nondiscriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi .

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

Toks Omishakin
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment."

Appendix B Comment Letters and Responses

[This appendix has been added since the draft environmental document was circulated.] This appendix contains the comments received during the public circulation and comment period from October 5, 2022 to November 3, 2022, retyped for readability. The comment letters are stated verbatim as submitted, with acronyms, abbreviations, and any original grammatical or typographical errors included. A Caltrans response follows each comment presented. Copies of the original comment letters and documents can be found in Volume 2 of this document.

A public notice in English and Spanish was posted in *The Mountain Press* on October 5, 2022. A press release including the public notice was also posted on October 5, 2022. The public notice stated the public review and comment period for the draft environmental document would run from October 5, 2022 to November 3, 2022, and the notice announced the date and time of the virtual public hearing. The virtual public hearing was held on October 19, 2022.

Comment from the State Clearinghouse

Comment 1:

From: Meng Heu <Meng.Heu@OPR.CA.GOV>
Sent: Wednesday, October 5, 2022 12:42 PM
To: Starr, Chelsea@DOT <Chelsea.Starr@dot.ca.gov>
Subject: SCH Number 2022100082

Your project is published and the review period has begun. Please use the "navigation" and select "published document" to view your project with attachments on CEQAnet.

Closing Letters: The State Clearinghouse (SCH) would like to inform you that our office will transition from providing close of review period acknowledgement on your CEQA environmental document, at this time. During the phase of not receiving notice on the close of review period, comments submitted by State Agencies at the close of review period (and after) are available on CEQAnet.

- Please visit: https://ceqanet.opr.ca.gov/Search/Advanced
- Filter for the SCH# of your project OR your "Lead Agency"
- If filtering by "Lead Agency"
    - Select the correct project
- Only State Agency comments will be available in the "attachments" section: bold and highlighted

Thank you for using CEQA Submit.

Meng Heu
Office of Planning and Research (OPR)
State Clearing House
**Note: No reply, response, or information provided constitutes legal advice.

Response to comment 1:

Thank you for confirming the submission and publication of the draft environmental document.

Comment from Byron Riegel

Comment 1:

From: BYRON RIEGEL <bwriegel@me.com>
Sent: Saturday, October 15, 2022 12:29 PM
To: Norris III, Trais G@DOT <trais.norris@dot.ca.gov>
Subject: Shaver Lake Viaduct Notice

I believe there is an error in the notice. In the paragraph titled "What is Being Planned" the mileage number of "48.7" appears incorrect. I believe the correct mileage number should be "49.7".

Response to comment 1:

From: Starr, Chelsea@DOT
Sent: Monday, October 17, 2022 11:06 AM
To: bwriegel@icloud.com
Subject: RE: Shaver Lake Viaduct Notice

Good Morning Byron,

You are correct. The limits for the project are from postmile 48.9 to postmile 49.75.

Thank you for bringing this error to our attention.

Thank you,
Chelsea Starr
Acting Senior Environmental Planner
Caltrans District 6
Fresno, CA 93726
Cell: 559-383-5432

Comment from Jackson Hurst

Comment 1:

From: Jackson Hurst <ghostlightmater@yahoo.com>
Sent: Wednesday, October 5, 2022 8:46 PM
To: Wiley, Jeannie@DOT <Jeannie.Wiley@dot.ca.gov>
Subject: Shaver Lake Viaduct

Hi I would like to sign up for project updates and be added to the mailing list for the Shaver Lake Viaduct Project. My mailing address is 4216 Cornell Crossing, Kennesaw, Georgia 30144.

Sent from ghostlightmater@yahoo.com

Response to comment 1:

From: Wiley, Jeannie@DOT <Jeannie.Wiley@dot.ca.gov>
Sent: Thursday, October 6, 2022 8:52 AM
To: External, Ghostlightmater@DOT <ghostlightmater@yahoo.com>
Cc: Starr, Chelsea@DOT <Chelsea.Starr@dot.ca.gov>
Subject: 06-1A090 Shaver Lake Viaduct - include on mailing list

Hi Jackson, we will include you on the mailing list.

Thank you.

Sincerely,
Jeannie Wiley, PE
Project Manager
District 6 Program Project Management
California Department of Transportation
Work Mobile (559) 978-3234

Comment from the San Joaquin Valley Air Pollution Control District

Comment 1:

From: Eric McLaughlin <Eric.McLaughlin@valleyair.org>
Sent: Wednesday, November 2, 2022 1:49 PM
To: Norris III, Trais G@DOT <trais.norris@dot.ca.gov>
Cc: Wiley, Jeannie@DOT <Jeannie.Wiley@dot.ca.gov>
Subject: SJVAPCD Comment Letter Reference No. 20221458 for MND for Shaver Lake Viaduct

Hello Trais – Attached to this email are the SJVAPCD's comments for the Shaver Lake Viaduct project. Please confirm receipt of comments.

Please feel free to contact me should you have any questions.

Best Regards,
Eric McLaughlin, MBA
Air Quality Specialist II
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-5808
Fax: (559) 230-6061

Attached letter:

November 2, 2022

Trais Norris
California Department of Transportation
District 6 Environmental Division
2015 East Shields Avenue, Suite 100
Fresno, CA, 93726

Project: Mitigated Negative Declaration for the Shaver Lake Viaduct Project

District CEQA Reference No: 20221458

Dear Trais Norris:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Mitigated Negative Declaration (MND) from the California Department of Transportation (CALTRANS) for the Shaver Lake Viaduct Project. Per the MND, the project consists of the construction of a two-lane Viaduct on a new alignment (Project). The Project is located at the Shaver Lake shoreline on SR 168 between post miles 48.9 to 49.75, in Shaver Lake, CA.

The District offers the following comments regarding the Project:

1) Project Related Emissions

At the federal level under the National Ambient Air Quality Standards (NAAQS), the District is designated as extreme nonattainment for the 8-hour ozone standards and serious nonattainment for the particulate matter less than 2.5 microns in size (PM2.5) standards. At the state level under California Ambient Air Quality Standards (CAAQS), the District is designated as nonattainment for the 8-hour ozone, PM10, PM2.5 standards.

1a) Construction Emissions

The MND states that there will be "no impact" on air quality under Impact 2.1.3 Air Quality. However, the Project is expected to build a new viaduct 780 feet in length with each lane 12 feet wide and 8 feet wide shoulders. Therefore, the Project has the potential to generate construction related emissions from the use of various pieces of construction equipment. The determination of "no impact" may not be the appropriate determination for this Project. As such, the District recommends CALTRANS assess the criteria pollutants emissions from construction related activities for potential impact on air quality. Additionally, the Project should utilize the cleanest available off-road construction equipment, including the latest tier equipment, to reduce from construction-related diesel exhaust emissions.

1b) Recommended Model for Quantifying Air Emissions

Project-related criteria pollutant emissions from construction sources should be identified and quantified. Emissions analysis should be performed using the California Emission Estimator Model (CalEEMod), which uses the most recent CARB-approved version of relevant emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

2) Health Risk Screening/Assessment

CALTRANS should evaluate the risk associated with the Project for sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions.

To determine potential health impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care

facilities, etc.) a Prioritization and/or a Health Risk Assessment (HRA) should be performed for the Project. These health risk determinations should quantify and characterize potential Toxic Air Contaminants (TACs) identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) that pose a present or potential hazard to human health.

Health risk analyses should include all potential air emissions from the project, which include emissions from construction of the project, including multi-year construction, as well as ongoing operational activities of the project. Note, two common sources of TACs can be attributed to diesel exhaust emitted from heavy-duty off-road earth moving equipment during construction, and from ongoing operation of heavy-duty on-road trucks.

Prioritization (Screening Health Risk Assessment):

A "Prioritization" is the recommended method for a conservative screening-level health risk assessment. The Prioritization should be performed using the California Air Pollution Control Officers Association's (CAPCOA) methodology.

The District recommends that a more refined analysis, in the form of an HRA, be performed for any project resulting in a Prioritization score of 10 or greater. This is because the prioritization results are a conservative health risk representation, while the detailed HRA provides a more accurate health risk evaluation.

To assist land use agencies and project proponents with Prioritization analyses, the District has created a prioritization calculator based on the aforementioned CAPCOA guidelines, which can be found here: http://www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION-CALCULATOR.xls

Health Risk Assessment:

Prior to performing an HRA, it is strongly recommended that land use agencies/project proponents develop and submit for District review a health risk modeling protocol that outlines the sources and methodologies that will be used to perform the HRA. This step will ensure all components are addressed when performing the HRA.

A development project would be considered to have a potentially significant health risk if the HRA demonstrates that the project-related health impacts would exceed the District's significance threshold of 20 in a million for carcinogenic risk, or 1.0 for either the Acute or Chronic Hazard Indices.

A project with a significant health risk would trigger all feasible mitigation measures. The District strongly recommends that development projects that result in a significant health risk not be approved by the land use agency.

The District is available to review HRA protocols and analyses. For HRA submittals please provide the following information electronically to the District for review:

- HRA (AERMOD) modeling files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodologies.

For assistance, please contact the District's Technical Services Department by:

- E-Mailing inquiries to: hramodeler@valleyair.org
- Calling (559) 230-5900

Recommended Measure: Development projects resulting in TAC emissions should be located an adequate distance from residential areas and other sensitive receptors in accordance to CARB's Air Quality and Land Use Handbook: A Community Health Perspective located at https://ww3.arb.ca.gov/ch/handbook.pdf.

3) Ambient Air Quality Analysis

An Ambient Air Quality Analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The District recommends an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

An acceptable analysis would include emissions from both project-specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance, is available online at the District's website: www.valleyair.org/ceqa.

4) Voluntary Emission Reduction Agreement

Criteria pollutant emissions may result in emissions exceeding the District's significance thresholds, potentially resulting in a significant impact on air quality. When a project is expected to have a significant

impact, the District recommends the MND also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for this Project.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-related impacts on air quality can be mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-related emissions have been mitigated. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

5) <u>District Rules and Regulations</u>

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II (Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes.

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

5a) District Rule 9510 - Indirect Source Review (ISR)

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects.

This project may be subject to District Rule 9510. District Rule 9510 applies to any transportation or transit project where construction exhaust emissions equal or exceed two (2.0) tons of NOx or two (2.0) tons of PM10. Per Section 5.0 of the ISR Rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency.

At this time, there is not enough information for the District to determine the applicability of Rule 9510 to the Project. Please contact the District by phone at (559) 230-5900 or by email at ISR@valleyair.org for assistance with determining if the Project will be subject to Rule 9510.

5b) District Rule 4002 (National Emissions Standards for Hazardous Air Pollutants)

In the event an existing building will be renovated, partially demolished or removed, the Project may be subject to District Rule 4002. This rule requires a thorough inspection for asbestos to be conducted before any regulated facility is demolished or renovated. Information on how to comply with District Rule 4002 can be found online at: http://www.valleyair.org/busind/comply/asbestosbultn.htm.

5c) District Regulation VIII (Fugitive PM10 Prohibitions)

The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – Construction,

Demolition, Excavation, Extraction, and Other Earthmoving Activities.

Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, should the project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

The application for both the Construction Notification and Dust Control Plan can be found online at: https://www.valleyair.org/busind/comply/PM10/forms/DCP-Form.docx

Information about District Regulation VIII can be found online at: http://www.valleyair.org/busind/comply/pm10/compliance_pm10.htm

5d) Other District Rules and Regulations

The Project may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

6) <u>District Comment Letter</u>

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Eric McLaughlin by e-mail at eric.mclaughlin@valleyair.org or by phone at (559) 230-5808.

Sincerely,
Brian Clements
Director of Permit Services
For: Mark Montelongo
Program Manager

Response to the San Joaquin Valley Air Pollution Control District

Your comments have been restated below with a response below each comment.

Comment 1 (Project-Related Emissions):

1a) Construction Emissions

The MND states that there will be "no impact" on air quality under Impact 2.1.3 Air Quality. However, the Project is expected to build a new viaduct 780 feet in length with each lane 12 feet wide and 8 feet wide shoulders. Therefore, the Project has the potential to generate construction related emissions from the use of various pieces of construction equipment. The determination of "no impact" may not be the appropriate determination for this Project. As such, the District recommends CALTRANS assess the criteria pollutants emissions from construction related activities for potential impact on air quality. Additionally, the Project should utilize the cleanest available off-road construction equipment, including the latest tier equipment, to reduce from construction-related diesel exhaust emissions.

1b) Recommended Model for Quantifying Air Emissions

Project-related criteria pollutant emissions from construction sources should be identified and quantified. Emissions analysis should be performed using the California Emission Estimator Model (CalEEMod), which uses the most recent CARB-approved version of relevant emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

Response to Comment 1:

1a) Construction-related greenhouse gas emissions are calculated using the Department of Transportation's Construction Emissions Tool (CALCET 2021 v.1.0). Short-term construction-related emissions measures are applicable to Caltrans projects, including a construction equipment emission reduction program to encourage or require contractors to use cleaner (newer) diesel engines or to retrofit older engines. Contractors who accept Caltrans projects must adhere to these guidelines.

1b) Caltrans uses CT-EMFAC 2017 (short for Caltrans Emission Factor) to model criteria pollutants, which uses the California Air Resources Board's EMFAC emissions factors. CT-EMFAC 2017 has been modified to account for diesel truck emissions and is approved for use by the Federal Highway Administration.

Comment 2 (Health Risk Screening/Assessment):

> *CALTRANS should evaluate the risk associated with the Project for sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions.*

Response to Comment 2:

The zone of greatest health risk concern near roadways is within 500 feet (150 meters). No sensitive receptors have been identified for the Shaver Lake Viaduct project within 500 feet of the project area.

Comment 3 (Ambient Air Quality Analysis):

> *An Ambient Air Quality Analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The District recommends an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.*
>
> *An acceptable analysis would include emissions from both project-specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.*
>
> *Specific information for assessing significance, including screening tools and modeling guidance, is available online at the District's website: www.valleyair.org/ceqa.*

Response to Comment 3:

The project will not increase capacity, therefore, operational emissions in the project area will not increase. In addition, there are no sensitive receptors in the immediate vicinity of the project.

Comment 4 (Voluntary Emission Reduction Agreement):

> *Criteria pollutant emissions may result in emissions exceeding the District's significance thresholds, potentially resulting in a significant impact on air quality. When a project is expected to have a significant impact, the District recommends the MND also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for this Project.*
>
> *A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a*

process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-related impacts on air quality can be mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

Response to Comment 4:

The project will not increase operational emissions, therefore there will be no increases in criteria pollutants. During construction, construction emissions will be limited to temporary impacts. Although there are no residences or sensitive receptors in the immediate area, Caltrans sets construction standards to limit excessive construction emissions where feasible. Contractors must adhere to these guidelines.

Comment 5 (District Rules and Regulations):

5a) District Rule 9510 - Indirect Source Review (ISR)

This project may be subject to District Rule 9510. District Rule 9510 applies to any transportation or transit project where construction exhaust emissions equal or exceed two (2.0) tons of NOx or two (2.0) tons of PM10. Per Section 5.0 of the ISR Rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency.

5b) District Rule 4002 (National Emissions Standards for Hazardous Air Pollutants)

In the event an existing building will be renovated, partially demolished or removed, the Project may be subject to District Rule 4002. This rule requires a thorough inspection for asbestos to be conducted before any regulated facility is demolished or renovated. Information on how to comply with District Rule 4002 can be found online at: http://www.valleyair.org/busind/comply/asbestosbultn.htm.

5c) District Regulation VIII (Fugitive PM10 Prohibitions)

The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.

5d) Other District Rules and Regulations

The Project may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

Response to Comment 5:

5a) The project will include a Non-Standard Special Provision to include Indirect Source Review Rule 9510.

5b) The project does not include demolition of an existing building.

5c) A Non-Standard Special Provision pertaining to dust control plan requirements will be included in the bid package.

5d) These rules and regulations are not applicable to the project.

Comment 6 (District Comment Letter):

The District recommends that a copy of the District's comments be provided to the Project proponent.

Response to Comment 6 (District Comment Letter):

We have received the comment letter. Thank you for your comments.

List of Technical Studies Bound Separately (Volume 2)

Air Quality Memorandum, March 2022

Energy Memorandum, April 2022

Traffic Noise Assessment, March 2022

Water Compliance Memorandum, February 2022

Natural Environment Study (Minimal Impacts), March 2022

Historic Property Survey Report, October 2021

- Includes a summary of the Archaeological Survey Report, October 2021

Initial Site Assessment, November 2021

Preliminary Site Investigation, October 2021

Preliminary Geotechnical Design Report, December 2021

Paleontological Identification Report, February 2022

Visual Impact Assessment, April 2022

To obtain a copy of one or more of these technical studies/reports or the Initial Study, please send your request to:

Trais Norris
District 6 Environmental Division
California Department of Transportation
2015 East Shields Avenue, Suite 100, Fresno, California 93726

Or send your request via email to: trais.norris@dot.ca.gov
Or call: 209-601-3521

Please provide the following information in your request:

Project title: Shaver Lake Viaduct

General location information: On State Route 168 from post miles 48.9 to 49.8 in Fresno County

District number-county code-route-post mile: 06-FRE-168-PM 48.9-49.8

Project ID/EA number: 0620000065/06-1A090

CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM (rev. 06/2022)

Project Information

Project Name (if applicable): Shaver Lake Viaduct

DIST-CO-RTE: 06-FRE-168 **PM/PM:** 48.9-49.8

EA: 06-1A090 **Federal-Aid Project Number:** 0620000065

Project Description

The California Department of Transportation (Caltrans) proposes to install a viaduct on a new alignment on State Route 168 to repair pavement settlement and prevent pavement failures due to slope subsidence along a section of gabion wall at the Shaver Lake shoreline in Fresno County, near Shaver Lake, from post miles 48.9 to 49.8.

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** Enter class. (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

Print Name	Signature	Date

Project Manager

Print Name	Signature	Date

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, 2022, 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)(Enter activity number)**
- ☐ **Activity Enter activity number 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 May 27, 2022, and executed by FHWA and Caltrans.

Senior Environmental Planner or Environmental Branch Chief

G William "Trais" Norris, III	G William "Trais" Norris, III	11/28/2022
Print Name	Signature	Date

Project Manager/ DLA Engineer

Jeannie Wiley	Jeannie Wiley	11-29-2022
Print Name	Signature	Date

Date of Categorical Exclusion Checklist completion (if applicable): Enter date
Date of Environmental Commitment Record or equivalent: Enter date

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).

Continuation sheet:

Air Quality

- Procedures pertaining to air pollution and dust control would be addressed in Caltrans Standard Specifications, Section 14-9.02—Air Pollution Control and Section 10-5—Dust Control. A Dust Control Plan approved by the San Joaquin Air Pollution Control District is needed if at least 2,500 cubic yards of material are moved in a day for at least three days of the project or 5 or more acres of land will be disturbed during construction.

Hazardous Waste

- A lead compliance plan developed by a Certified Industrial Hygienist is required and would be addressed in Standard Special Provision 7-1.02K(6)(j)(iii)—Unregulated Earth Material Containing Lead in the bid package.

- If guardrails, signposts, or other sources of treated wood waste are to be removed during construction, Standard Special Provision 14-11.14—Treated Wood Waste would be included in the bid package.

Water Quality

- Procedures to control erosion, sedimentation, and runoff would be included in the Stormwater Pollution Prevention Plan to be prepared before the start of project construction. The contractor, as required in Caltrans Standard Specifications Section 13-1, must abide by the Stormwater Pollution Prevention Plan and address all potential water quality impacts that may occur during construction operations.

- If the project disturbs 1 acre or more of soil, a Notice of Intent is to be submitted to the appropriate Regional Water Quality Control Board at least 30 days before the start of construction, a Stormwater Pollution Prevention Plan is to be prepared and implemented during construction to the satisfaction of the resident engineer, and a Notice of Termination shall be submitted to the Regional Board upon completion of construction and site stabilization. A project would be considered complete when the criteria for final stabilization in the Construction General Permit are met.

- If less than 1 acre of soil is disturbed, a Water Pollution Control Plan would be required to be prepared by the contractor per the 2018 Caltrans Standard Specifications Section 13-1—Water Pollution.

Noise

- During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans Standard Specifications Section 14-8—Noise Control.

Greenhouse Gas Emissions

- Recycle water: Reduce construction water consumption of potable water. Encourage recycled water for construction. This would be a part of the project contract as Caltrans Standard Specification 10-6.

- Reduce construction waste. This would be a part of the project contract as Caltrans Standard Specification 14-10.03, requiring Solid Waste Disposal and Recycling Report and a Recycled Materials Report demonstrating efforts to minimize landfill material.

- Long-life pavement: Minimize life-cycle costs by designing long-lasting pavement structures. This would be incorporated into the project design during the project design phase.

- Construction scheduling: Increase lane closure duration to reduce necessary mobilization efforts or lengthen the work week to maximize construction seasons. This would be incorporated into the Transportation Management Plan prepared during the project design phase.

- Fuel efficiency: Encourage improved fuel efficiency from construction equipment by maintaining equipment in proper working condition, using the right size equipment for the job, and using equipment with new technologies. This would be a part of the project contract as Caltrans Standard Specification 14-9.

- Reduce the need for the transport of earthen materials by balancing cut and fill quantities. This would be addressed during the project design phase.

- Provide construction personnel with the knowledge to identify environmental issues and best practice methods to minimize impacts to the human and natural environment. Supplement existing training with information from the following link regarding methods to reduce greenhouse gas emissions related to construction: https://www.sustainablehighways.org/122/project-development.html.

Wetlands and Other Waters

In-lieu credit fees will likely be a requirement of the 404 nationwide permit under the Clean Water Act as a result of impacts to wetlands.

Plant Species

With implementation of the following avoidance and minimization measures, no habitat impacts are expected, and compensatory mitigation is not proposed.

- Worker Environmental Awareness Training will be performed by a qualified biologist for all work personnel to inform them of the special-status species potentially within the work area, protective measures, reporting procedures, and consequences of violating environmental laws and permit requirements.

- Focused botanical pre-construction surveys will be performed during the flowering season at all work sites where ground-disturbance is anticipated, and with suitable habitat within or near California Native Plant Society and California Natural Diversity Database occurrence records.

- Populations found in proximity to work sites will be protected by an environmentally sensitive area buffer, clearly designated by high-visibility fencing.

Animal Species

- Worker Environmental Awareness Training will be performed by a qualified biologist for all work personnel to inform them of the special-status species potentially within the work area, protective measures, reporting procedures, and consequences of violating environmental laws and permit requirements.

- Tree removal will be restricted to the non-nesting season (October 1 to January 31) or until a Caltrans biologist has verified that no nesting is occurring, and the tree is cleared for removal.

- Pre-construction surveys will be performed within 500 feet of the action area to determine if any goshawks or osprey are nesting in proximity to the action area. Active nests would be protected by a 500-foot buffer from February 1 to September 30, or until any young have fledged and left the nest. Should goshawks or osprey nest in proximity to the work zone, a biological monitor would be present to ensure noise and activity do not disrupt nest-related activities including feeding, nest defense, and care of young.

- The action area will be surveyed prior to construction for the presence of roosting bats. If bats are determined to be present in the action area, a qualified biologist will monitor construction activities to determine if bats are being disturbed. If bats are disturbed, work will be suspended, and the situation will be evaluated to determine if an alternate work schedule can be developed in order to construct the project while bats are not roosting.

- Pre-construction surveys would be performed within the action area to determine if any Sierra marten or fisher denning is occurring. Active natal dens would be protected by a 500-foot buffer during the U.S. Forest Service Limited Operating Period (LOP). For Sierra marten, this would be from May 1 to June 30 or until any young have left the den. For the fisher, this would be from March 1 to June 30 or until any young have left the den.

- Construction vehicles would be limited to a 20-mile-per-hour speed limit within work zones.

- All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed daily from the entire project site to reduce the potential for attracting predator species.

Aesthetics

- Minimize tree removal. Remove only those trees and shrubs required for the construction of the new roadway facilities. Avoid removing trees and shrubs for temporary uses such as construction staging areas or temporary stormwater conveyance systems.

The following mitigation measure to offset visual impacts would be incorporated into the project:

- Replacement planting for vegetation removed or damaged. Reforesting and revegetation would be done in coordination with Southern California Edison according to California Forest Practice Rules.

- Aesthetic treatments to guardrails and viaduct. Natina coating should be applied to the proposed guardrail system to allow the structure's colors to better complement the surrounding natural environment. The existing gabion wall will be removed and replaced with rock slope protection backfilled with soil. This will create bench-like shelves that will be planted with native vegetation. The Federal Energy Regulatory Commission (FERC) guidelines will determine the erosion control plans along the Shaver Lake shoreline.

STATE OF CALIFORNIA CALIFORNIA STATE TRANSPORTATION AGENCY

Memorandum

To: Jeannie Wiley

Attn: Ronnie Kier

Jun Xu

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

Date: 2/2/2023

File: **CD** 06 **EA** 1A0901 **Alt** Alt3-Rev2
Co FRE **RTE** 168

DESCRIPTION:
Construct Sidehill Viaduct structure

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 1/18/2023

The following assumptions and limiting conditions were identified:

Parcels

It is assumed that these parcels will have continued access both during and after construction. When accuarte area for required acquisition is available another RWDS should be requested.

Utility

Project engineer states on the Right of Way data sheet request form that potholing and utility relocation involvement will be necessary but did not provide the number of potholes nor conflicts identified. It is assumed that this means all utility facilities above ground and underground in the project area will be worked around. Any adjustment of facilities constitutes involvement and the full R/W utility process and timeline would be necessary before the project could be certified. Once the additional information requested from Design is received, it is recommended for a revised DS to completed.

Right of Way Lead Time will require a minimum 13 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: Sara Blum

SARA BLUM
Senior Right of Way Agent
(559) 383-5194

ATTACHMENT I

EA: 06-1A0901 ALT: Alt3-Rev2

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

This project proposes to eliminate the continual need for repairs due to slope and pavement failures on State Route 168 PM 49/49.4 near Shaver ca. Alternative 3 Rev 2 proposes to construct a two-lane viaduct on a new alignment. The viaduct would be a bridge-like structure set on deep foundations spanning the area of current pavement distress. The proposed viaduct would be 725 feet in length. There is one partial acquisition for an easement in the name of SCE, the acquisition area has no improvements and is currently dense timberland. The zoning on this parcel is consistent to the surrounding Sierra National Forrest, due to the steep slope of the parcel uses are limited to the current use of timberland. The assumption was made that the required acquisition is for 6.2 acres, per email dated 1/19/23. No ROW area was provided by design. There are no outdoor advertising signs in the project area.

General Description of Utility Involvement:

Alternative 3, proposes to construct a two-lane viaduct on a new alignment in new Southern California Edison Easement. The mapping received with this request is incomplete and additional information has been requested but has not been received. It is anticipated for utility involvement to be necessary but Desing has not been able to provide the additional information to determine the involvements.

General Description of Railroad Involvement:

No railroad facilities will be affected.

Right Of Way Cost Estimate	Current Year	Contingency Rate	Escalation Rate	Escalated Year
	2023	25%	5%	2025
Acquisition:	$23,250	25%	5%	**$25,633**
Mitigation:	$591,051	25%	5%	**$651,634**
State Share of Utilities:	$0	25%	5%	**$0**
Expert Witness:	$0	25%	5%	**$0**
Relocation Assistance:	$0	25%	5%	**$0**
Demolition and Clearance:	$0	25%	5%	**$0**
Title and Escrow:	$3,201	25%	5%	**$3,529**
Ad Signs:	$0	25%	5%	**$0**
Total Current Value:	$617,503			**$680,797**

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

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

Estimated Construction Contract Work (CCW): 0 R/W LEAD TIME/Mo. 13

Estimated Pothole Date:

Cost Break Down	
Pot Hole	
# Pot Holes	
Mitigation	
Land	0
Bank	456,750
Permit Fees	16,091

Parcel Area

Total R/W Required:	6.2
Total Excess Area:	0

Parcel Data

# of Parcel Type X:	0	
# of Parcel Type A: less than $10,000 non-complex	1	
# of Parcel Type B: more than $10,000 non-complex	0	
# of Parcel Type C: complex, special valuation	0	
# of Parcel Type D: most complex/time consuming	0	# of Duals Needed: 0
Totals:	1	**Totals:** 0

# of Excess Parcels: 0

Misc R/W Work

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

RR Involvement

Railroad Facilities or Right of Way Affected?	None
Const/Maint Agreement:	None
Service Contract Count:	0
Right of Entry:	None
Clauses:	None
Estimated Lead-time:	None

Utilities

0	Companies to be potholed
3	Companies for Verification
0	Companies for Utility Relocations
JUA/CCUAs are not needed	

Is there a significant effect on assessed valuation: No

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

Are RAP displacements required: No

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

Sufficient replacement housing will be available without last resort housing: N/A

Are material borrow or disposal sites required: No

Are there potential relinquishments or abandonments: No

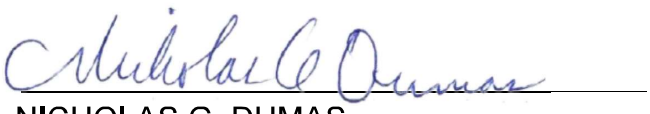
Are there any existing or potential airspace sites: No

Are environmental mitigation parcels required: Yes

Data for evaluation provided by:

Estimator:	Nicole Olsen	1/30/2023
Railroad Liaison Agent:	Sandra Sifuentes	1/24/2023
Utility Relocation Coordinator:	Rosa Rubalccaba	1/30/2023

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.



NICHOLAS G. DUMAS
Office Chief, District 6 Right of Way

Date
ENTERED PRSM 2/2/2023
BY: N Beebe Pence

Mitigation and Compliance Cost Estimate (MCCE)

PART 1 - PROJECT INFORMATION

DIST-CO-RTE: 06 - FRE - 168 **PM/PM:** 49.000/49.400

EA/Project Number: 06-1A090_ / 0620000065

Project Name: Shaver Lake Viaduct

Form Completed by: Chelsea Starr

Project Manager: WILEY, MARY J **Phone:** 559-243-3432

Date: 6/28/2022

MCCE Phase prepared for: DED

PART 2 - ENVIRONMENTAL COMMITMENTS FOR PERMANENT IMPACTS

Environmental Commitments for Alternative: 3

Commitment	Design $	FY	Ac/Crd	ROW $ Planned	FY	ROW $ Actual	Pd	Construction $	FY
Biological									
In-Lieu Fee			0.45	$456,750	23/24		☐		
Annual 401 Fee				$1,949	22/23		☐		
Annual 401 Fee				$1,949	23/24		☐		
Hazardous Waste									
ADL Survey	$35,000	20/21					☑		
Lead Compliance Plan							☐	$3,000	24/25
Landscape									
Revegetation Mitigation							☐	$1,500,000	24/25

PART 3 - PERMITS AND AGREEMENTS

Permit/Agreement	ROW $ Planned	FY	ROW $ Actual	Pd	Construction $	FY
CEQA Review	$2,406.75	22/23		☐		
CEQA Review	$2,406.75	21/22		☐		
1600	$5,430.5	22/23		☐		
401	$1,949	22/23		☐		
NOI/NOT (Stormwater)				☐	$1,432	24/25
TOTAL $35,000	$472,841				$1,504,432	

Approved by:

Shane Gunn — Shane Gunn — 12/23/2022

EA/Project ID: 06-1A090_/0620000065

Environmental Branch Chief (Print Name)	Signature	Date

If Right of Way Capital is needed:

Sara Blum	Sara Blum	12/27/22
Right-of-Way Office Chief (Print Name)	Signature	Date

Project needs a PCR SB

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)

Approximately 5 acres of area to be revegetated at a cost of $1.5 million. This includes planting and establishment period.

Project contains 0.45 acres of potentially impacted wetlands requiring purchase of ILF credits. Cost based on current price of credits. $315,000 per credit x number of credits + additional fees. see: https://www.nfwf.org/sites/default/files/2022-06/advance-credit-pricing-tables-effective-6-3-22.pdf
7/25/2022 - updated MCCE to reflect current increased price of ILF credits

1. 1" Minimum Polyester Concrete Overlay
2. Type 85 Concrete Barrier with Tubular Rail with Architectural Treatment.
3. Assumed finish grade approximately 5' below soffit.
4. 63" CIDH Pile extension with Isolation Casing for Column (25' column + 40' pile) total 2 per bent.
5. Structure Approach Type N (30)
6. MGS see ROADWAY PLANS

NOTE:

1. For Traffic during construction see ROADWAY PLANS.
2. Project is located within freeze thaw area and will be exposed to chain use. Epoxy coated reinforcement will be used in the superstructure, barrier curb and approach slabs.

LEGEND:

-·-·-·- Existing Structure

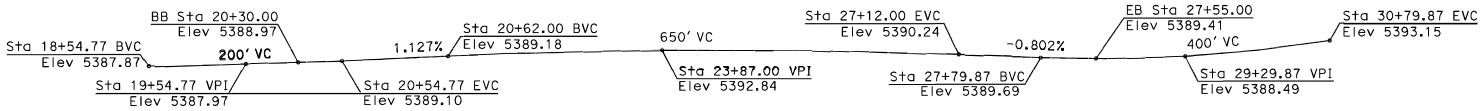
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER — DATE

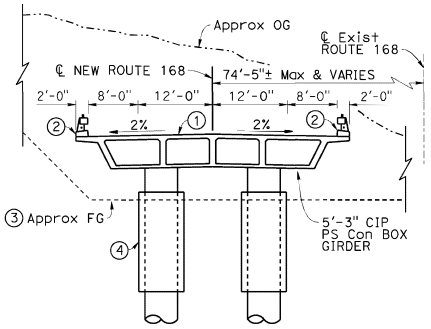
PLANS APPROVAL DATE

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

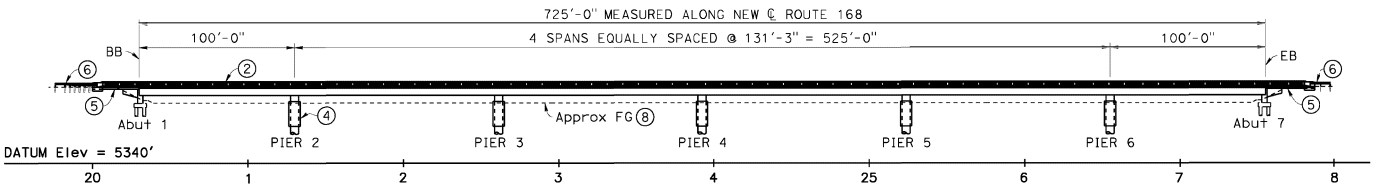
REGISTERED PROFESSIONAL ENGINEER — No. X — Exp. X — CIVIL — STATE OF CALIFORNIA



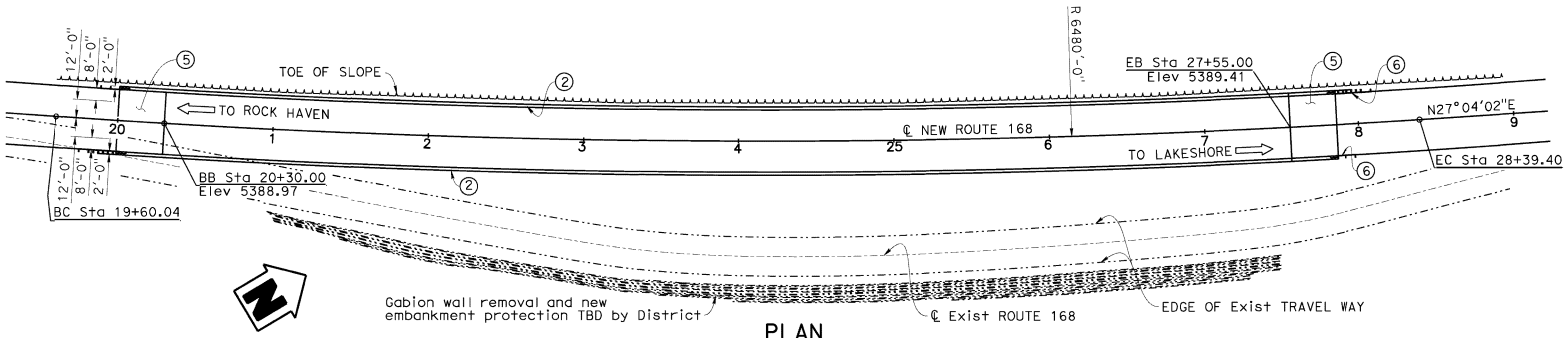
PROFILE GRADE
NO SCALE



TYPICAL SECTION
1" = 10'



DEVELOPED ELEVATION
1" = 40'



PLAN
1" = 40'

CURVE DATA
R = 6480.00'
Δ = 07°46'31" (LT)
T = 440.36'
L = 879.36'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

ATTACHMENT J

DESIGN	BY D. Desai	CHECKED X	SEISMIC ANALYSIS	BY X	CHECKED X	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES BRIDGE DESIGN BRANCH 13
DETAILS	BY Y. Zhurko	CHECKED X	LAYOUT	BY X	CHECKED X		
QUANTITIES	BY X	CHECKED X	SPECIFICATIONS	BY X	PLANS AND SPECS COMPARED X		

Paul Peterson
BRANCH CHIEF

BRIDGE No. XX-XXXX
POST MILE X.X

SHAVER LAKE VIADUCT
GENERAL PLAN

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REVISION 2/8/2022)

DATE PLOTTED => 7-DEC-2022 TIME PLOTTED => 16:27
FILE => anover lake-a-gp2b.dgn USERNAME => s152331
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3586
PROJECT NUMBER & PHASE: 06200000650
COUNTY/ROUTE: Fre/168
CONTRACT No.: 06-1A0904

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
01-07-22		12-01-22	X	X

PROBABILISTIC STRUCTURE COST ESTIMATE

INPUT

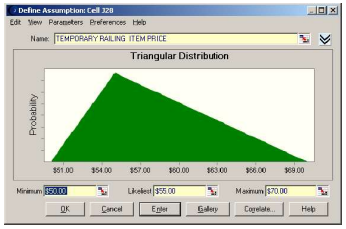
X	GENERAL PLAN ESTIMATE
	ADVANCE PLANNING ESTIMATE

Revised-June 14, 2019

IN EST:	12/9/2022
OUT EST:	1/13/2023

BRIDGE NAME:	Shaver Lake Viaduct
BRIDGE NUMBER:	TBD
TYPE:	CIP PS/BOX
EA:	06-1A090
PROJECT ID:	0620000650
ACCELERATED BRIDGE PROJECT	
DESIGN SECTION:	13
# OF STRUCTURES IN PROJECT :	01
PRICES BY :	VTD
PRICES CHECKED BY :	LV
QUANTITIES BY:	D Desai/J Erler

DISTRICT:	06
CO:	Fre
RTE:	168
PM:	
DEPTH	5.25 ft
LENGTH	725 ft
WIDTH	44 ft
AREA	31900
EST. NO.	1
COST INDEX:	1089
DATE:	1/12/2023
DATE:	1/4/2023



The Assumption Curves, unless noted otherwise, are modeled with a triangular distribution with the "Minimum, Likeliest and Maximum values."

CONTRACT ITEMS		TYPE	UNIT	QUANTITY	ITEM PRICE RANGE MINIMUM	LIKELIEST	MAXIMUM	AMOUNT
192020	STRUCTURE EXCAVATION (TYPE D)		CY	1047	$70.00	$100.00	$125.00	$104,700
193003	STRUCTURE BACKFILL (BRIDGE)		CY	306	$100.00	$150.00	$250.00	$45,900
490603	24" CAST-IN-DRILLED-HOLE CONCRETE PILING		LF	1680	$345.00	$380.00	$410.00	$638,400
490610	66" CAST-IN-DRILLED-HOLE CONCRETE PILING		LF	400	$1,425.00	$1,665.00	$1,900.00	$666,000
500001	PRESTRESSING CAST-IN-PLACE CONCRETE		LB	89543	$3.50	$4.50	$5.00	$402,944
510051	STRUCTURAL CONCRETE, BRIDGE FOOTING		CY	87	$600.00	$650.00	$720.00	$56,550
510053	STRUCTURAL CONCRETE, BRIDGE		CY	1668	$1,000.00	$1,150.00	$1,220.00	$1,918,200
510054	STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER)		CY	828	$900.00	$1,000.00	$1,200.00	$828,000
510086	STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)		CY	122	$1,000.00	$1,150.00	$1,460.00	$140,300
519097	JOINT SEAL ASSEMBLY (MR 5")		LF	88	$1,100.00	$1,400.00	$1,800.00	$123,200
520102	BAR REINFORCING STEEL (BRIDGE)		LB	485210	$1.00	$1.50	$2.00	$727,815
048204	BAR REINFORCING STEEL (BRIDGE, EPOXY COATED)		LB	198721	$2.50	$2.60	$2.75	$516,675
600037	PREPARE CONCRETE BRIDGE DECK SURFACE		SQFT	29000	$1.50	$1.80	$2.00	$52,200
600041	FURNISH POLYESTER CONCRETE OVERLAY		CF	2417	$85.00	$90.00	$100.00	$217,530
600043	PLACE POLYESTER CONCRETE OVERLAY		SQFT	29000	$3.00	$4.00	$5.00	$116,000
703450	WELDED STEEL PIPE CASING (BRIDGE)		LF	79	$140.00	$200.00	$240.00	$15,800
75XXXX	90" ISOLATION CASING		LB	42600	$4.00	$5.00	$6.00	$213,000
750505	BRIDGE DECK DRAINAGE SYSTEM		LB	7550	$14.00	$15.00	$17.00	$113,250
780440	PREPARE AND STAIN CONCRETE		SQFT	2748	$5.00	$7.00	$9.00	$19,236
048043	CONCRETE BARRIER (TYPE 85 MODIFIED)		LF	1570	$450.00	$500.00	$600.00	$785,000
833088	TUBULAR HANDRAILING		LF	1570	$70.00	$80.00	$90.00	$125,600
							SUBTOTAL	$7,826,299

	TYPE	UNIT	QUANTITY	MINIMUM	LIKELIEST	MAXIMUM	
BRIDGE REMOVAL		SQFT					

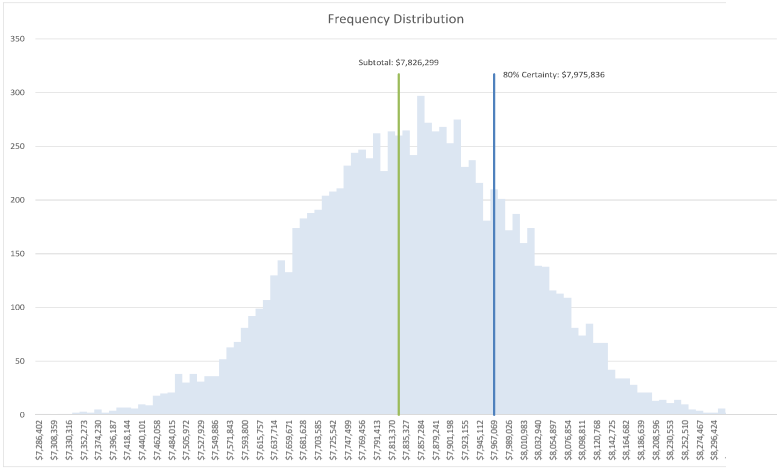
Notes

Highlighted cells represent the quantities and prices that are included in the model.
Base Case the sum of the Quantity multiplied by "Likeliest" Item Price

Comments

OUTPUT

The estimate ranges generated below were prepared using Crystal Ball software. Crystal Ball software automatically calculates and records the results of thousands of different "what if" cases. Analysis of these scenarios reveals to you the range of possible outcomes, their probability of occurring, the inputs that most impact your model, and where you should focus your efforts.



Time Related Overhead, Mobilization and Contingency NOT INCLUDED

Percentiles:	Forecast values
0%	$7,286,402
10%	$7,636,367
20%	$7,700,987
30%	$7,752,686
40%	$7,797,871
50%	$7,839,909
60%	$7,880,495
70%	$7,923,304
80%	**$7,975,836**
90%	$8,043,244
100%	$8,384,252

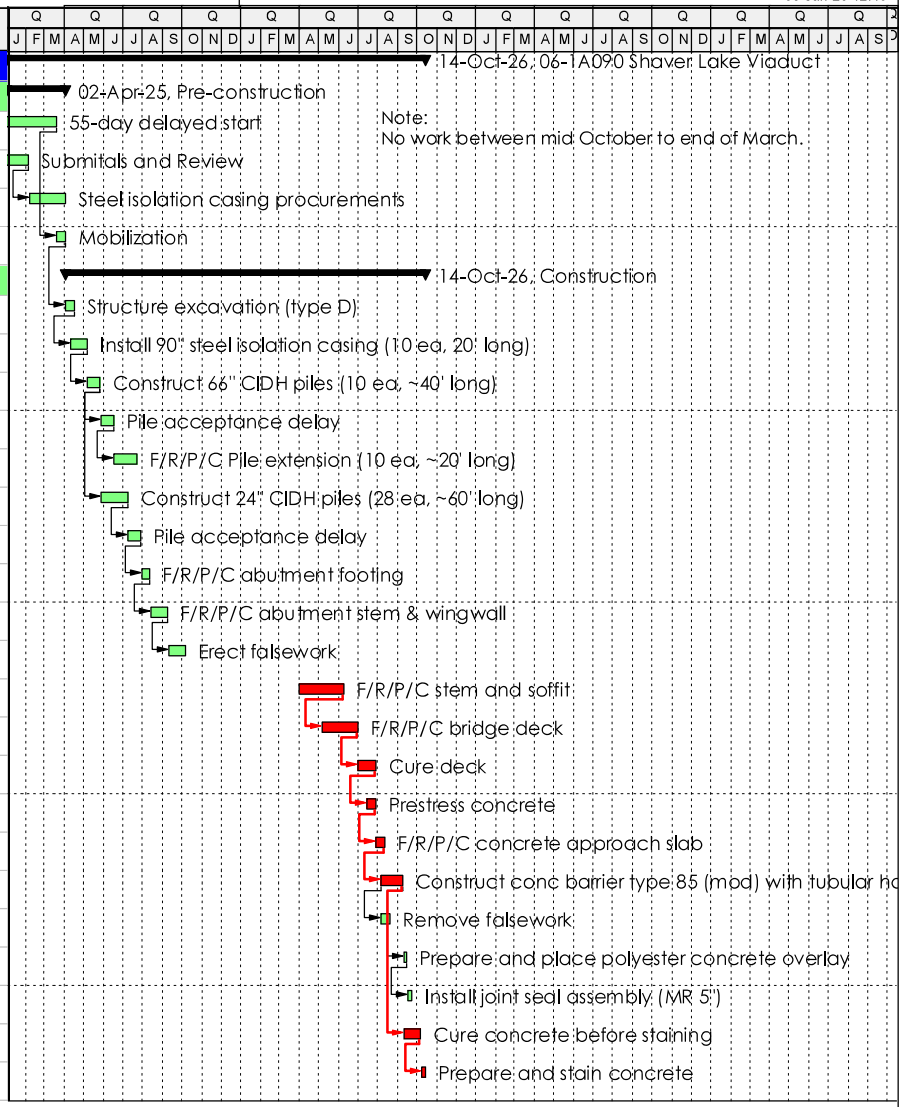
BASED ON THE ASSUMPTIONS USED TO CREATE THE MODEL, THE DES-STRUCTURE OFFICE ENGINEER RECOMMENDS THAT THE PROGRAMMING LEVEL BUDGET FOR THIS PROJECT BE DESIGNATED AT THE 80% FORECAST VALUE.

BRIDGE COST PER SQUARE FOOT	$250
BRIDGE REMOVAL	
ESTIMATED COST Subtotal + Bridge Removal	$7,976,000
TOTAL	$11,698,000

DOES NOT INCLUDE time related overhead (TRO), mobilization and contingency

INCLUDES mobilization: 10%, structure TRO: 10% and contingen20%

Activity ID	Activity Name	Original Duration	Start	Finish
06-1A090	**Shaver Lake Viaduct**	465	02-Jan-25	14-Oct-26
Pre-construction		65	02-Jan-25	02-Apr-25
A00000	55-day delayed start	55	02-Jan-25	19-Mar-25
A00010	Submitals and Review	25	02-Jan-25	05-Feb-25
A00020	Steel isolation casing procurements	40	06-Feb-25	02-Apr-25
A00030	Mobilization	10	20-Mar-25	02-Apr-25
Construction		400	03-Apr-25	14-Oct-26
A10010	Structure excavation (type D)	10	03-Apr-25	16-Apr-25
A10020	Install 90" steel isolation casing (10 ea, 20' long)	20	10-Apr-25	07-May-25
A10030	Construct 66" CIDH piles (10 ea, ~40' long)	20	07-May-25	27-May-25
A10040	Pile acceptance delay	15	28-May-25	17-Jun-25
A10050	F/R/P/C Pile extension (10 ea, ~20' long)	25	18-Jun-25	22-Jul-25
A10060	Construct 24" CIDH piles (28 ea, ~60' long)	30	28-May-25	08-Jul-25
A10070	Pile acceptance delay	15	09-Jul-25	29-Jul-25
A10080	F/R/P/C abutment footing	10	30-Jul-25	12-Aug-25
A10090	F/R/P/C abutment stem & wingwall	20	13-Aug-25	09-Sep-25
A10100	Erect falsework	20	10-Sep-25	07-Oct-25
A10110	F/R/P/C stem and soffit	50	01-Apr-26*	09-Jun-26
A10120	F/R/P/C bridge deck	40	07-May-26	01-Jul-26
A10130	Cure deck	20	02-Jul-26	29-Jul-26
A10140	Prestress concrete	10	16-Jul-26	29-Jul-26
A10150	F/R/P/C concrete approach slab	10	30-Jul-26	12-Aug-26
A10160	Construct conc barrier type 85 (mod) with tubular handrailing (157	25	06-Aug-26	09-Sep-26
A10170	Remove falsework	10	06-Aug-26	19-Aug-26
A10180	Prepare and place polyester concrete overlay	4	10-Sep-26	15-Sep-26
A10190	Install joint seal assembly (MR 5")	5	16-Sep-26	22-Sep-26
A10200	Cure concrete before staining	20	10-Sep-26	07-Oct-26
A10210	Prepare and stain concrete	5	08-Oct-26	14-Oct-26



Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
summary

Assumptions:
Start and end dates
Multiple work crews

PROJECT

PLANNING COST ESTIMATE ©

EA: 06-1A090 PID: 620000065

EA: 06-1A090

PID: 620000065

District-County-Route: 06-FRE-168

PM: 48.9/49.8

Type of Estimate : DPR

Program Code : SHOPP 20.10.201.131

Project Limits : From 16.6 miles south of the end of the route (PM 49.8) to 9.6 miles south of Tamarack Creek (PM 48.9).

Project Description: Two Lane Highway on New Alignment

Scope : The purpose of this project is to eliminate the continual need to perform repairs due to slope and pavement failures. The full scope and cost of the work will be explored and developed in the project study phase.

Alternative : Alternative # 3 Viaduct 725'

SUMMARY OF PROJECT COST ESTIMATE

	Current Year Cost	Escalated Cost	
TOTAL ROADWAY COST	$ 16,454,800	$ 19,443,000	Escalated to construction mid-point
TOTAL STRUCTURES COST	$ 11,300,000	$ 13,352,000	
SUBTOTAL CONSTRUCTION COST	$ 27,754,800	$ 33,000,000	Rounded up
TOTAL RIGHT OF WAY COST	$ 617,502	$ 680,800	$ -
TOTAL CAPITAL OUTLAY COSTS	$ 29,000,000	$ 33,680,800	
PA/ED SUPPORT	$ 4,600,000	$ 4,800,000	
PS&E SUPPORT	$ 3,400,000	$ 3,800,000	
RIGHT OF WAY SUPPORT	$ 216,000	$ 240,000	
CONSTRUCTION SUPPORT	$ 7,500	$ 9,100,000	
TOTAL SUPPORT COST	$ 8,224,000	$ 17,940,000	
TOTAL PROJECT COST	$ 37,250,000	$ 51,621,000	

Programmed Amount

	Month	/	Year
Date of Estimate (Month/Year)	2	/	2023
Estimated Construction Start (Month/Year)	9	/	2025
Number of Working Days =	550		
Estimated Mid-Point of Construction (Month/Year)	2	/	2027
Estimated Construction End (Month/Year)	10	/	2028
Number of Plant Establishment Days	0		

Estimated Project Schedule

PA/ED Approval	2/28/2023
PS&E	9/2/2024
RTL	3/3/2025
Begin Construction	10/3/2025

Reviewed by District O.E. or Cost Estimate Certifier

(PENDING)

Office Engineer / Cost Estimate Certifier | **Date** | **Phone**

Approved by Project Manager

Jeannie Wiley | (559) 978-3234

Project Manager | **Date** | **Phone**

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	4,397,200
2	**Pavement Structural Section**	$	708,000
3	**Drainage**	$	391,000
4	**Specialty Items**	$	259,400
5	**Environmental**	$	1,693,700
6	**Traffic Items**	$	989,000
7	**Detours**	$	2,000
8	**Minor Items**	$	844,100
9	**Roadway Mobilization**	$	928,500
10	**Supplemental Work**	$	1,066,700
11	**State Furnished**	$	1,302,800
12	**Time-Related Overhead**	$	1,726,100
13	**Roadway Contingency**	$	2,146,300
	TOTAL ROADWAY ITEMS	**$**	**16,454,800**

Estimate Prepared By :	Ronnie Kier - Project Engineer	6/16/2022	559-840-6860
	Name and Title	Date	Phone
Estimate Reviewed By :	Harith Kiran	6/16/2022	559-840-5067
	Name and Title	Date	Phone

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

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	99,908	x	40.00	=	$	3,996,320
152320	Lead Compliance Plan	LS		x		=	$	-
194001	Ditch Excavation	CY		x		=	$	-
198010	Imported Borrow	CY	416	x	50.00	=	$	20,800
192037	Structure Excavation (Retaining Wall)	CY		x		=	$	-
193013	Structure Backfill (Retaining Wall)	CY		x		=	$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		=	$	-
16010X	Clearing & Grubbing	LS	1	x	100,000.00	=	$	100,000
170101	Develop Water Supply	LS	1	x	100,000.00	=	$	100,000
210130	Duff	ACRE		x		=	$	-
XXXXXX	Remove Gabion Wall	CY	900	x	200	=	$	180,000

TOTAL EARTHWORK SECTION ITEMS	$	4,397,200

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement 0.5'	CY		x		=	$	-
400050	Continuously Reinforced Concrete Pavement	CY		x		=	$	-
404092	Seal Pavement Joint	LF		x		=	$	-
404093	Seal Isolation Joint	LF		x		=	$	-
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) **0.85'**	TON	2,359	x	200.00	=	$	471,800
390137	Rubberized Hot Mix Asphalt (Gap Graded) **0.'**	TON		x	300.00	=	$	-
39300X	Geosynthetic Pavement Interlayer (Type X)	SQYD		x		=	$	-
26020X	LCB	TON/CY		x		=	$	-
260203	CL2AB 0.6'	CY	822	x	150.00	=	$	123,300
250401	CL2AS	CY		x		=	$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		=	$	-
397005	Tack Coat	TON		x		=	$	-
377501	Slurry Seal	TON		x		=	$	-
3750XX	Screenings (Type XX)	TON		x		=	$	-
374492	Asphaltic Emulsion (Polymer Modified)	TON		x		=	$	-
190185	shoulder backing (double RTE 180)	TON	8	x	200.00	=	$	1,600
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 repair failed areas	SQFT		x		=	$	-
150860	Pvmt rpr fld area HMA	TON		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	SQFT		x		=	$	-
846051	Shoulder Rumble Strip (HMA, X-In Indentations)	STA	1	x	150.00	=	$	150
413113	Repair Spalled Joints, Polyester Grout	SQYD		x		=	$	-
390136	Minor Hot Mix Asphalt	TON		x		=	$	-
394095	Roadside Paving (Miscellaneous Areas)	SQYD		x		=	$	-
398300	Remove Base and Surfacing	CY	741	x	150	=	$	111,150

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS	$	708,000

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
15080X	Remove Culvert	EA/LF		x		=	$	-
150820	Modify Inlet	EA		x		=	$	-
155232	Sand Backfill	CY		x		=	$	-
15020X	Abandon Culvert	EA/LF		x		=	$	-
152430	Adjust Inlet	LF		x		=	$	-
155003	Cap Inlet	EA		x		=	$	-
510501	Minor Concrete	CY	0	x	0.00	=	$	-
510502	Minor Concrete (Minor Structure) 25 DI @ 1.5CY e	CY	38	x	2,000.00	=	$	76,000
5105XX	Minor Concrete (Type XX)	CY		x		=	$	-
620XXX	XX" Alternative Pipe Culvert (Type X)	LF		x		=	$	-
6500xx	18" Reinforced Concrete Pipe	LF	0	x	150.00	=	$	-
650018	24" Reinforced Concrete Pipe	LF	900	x	190.00	=	$	171,000
6500xx	30" Reinforced Concrete Pipe	LF	100	x	200.00	=	$	20,000
650026	36" Reinforced Concrete Pipe	LF	50	x	220.00	=	$	11,000
69011X	XX" Corrugated Steel Pipe Downdrain (0.XXX" Th	LF		x		=	$	-
70321X	XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF		x		=	$	-
7052xx	18" Concrete Flared End Section	EA	4	x	2,000.00	=	$	8,000
705206	24" Concrete Flared End Section	EA	18	x	2,500.00	=	$	45,000
7052xx	30" Concrete Flared End Section	EA		x	2,000.00	=	$	-
705210	36" Concrete Flared End Section	EA	10	x	3,000.00	=	$	30,000
729011	Rock Slope Protection Fabric (Class 8)	SQYD	0	x	6.00	=	$	-
721420	Concrete (Ditch Lining)	CY		x		=	$	-
721430	Concrete (Channel Lining)	CY		x		=	$	-
750001	Miscellaneous Iron and Steel DI 25 DI @ 240lb ea	LB	6,000	x	5.00	=	$	30,000
XXXXXX	Additional Drainage	LS		x		=	$	-

TOTAL DRAINAGE ITEMS $ 391,000

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
080050	Progress Schedule (Critical Path Method)	LS	1	x	10,000.00	=	$	10,000
582001	Sound Wall (Masonry Block)	SQFT		x		=	$	-
510530	Minor Concrete (veg control)	SQYD		x	60.00	=	$	-
192032	Rock in front of removed Wall (gabion fencing)	CY	2,000	x	100.00	=	$	200,000
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 (Type XX)	LF		x		=	$	-
80XXXX	XX" Chain Link Gate (Type CL-6)	EA		x		=	$	-
832001	Mid-West Metal Beam Guard Railing	LF	100	x	60.00	=	$	6,000
839303	Single Thrie Beam Barrier (Steel Post)	LF		x		=	$	-
839310	Double Thrie Beam Barrier	LF		x		=	$	-
839521	curb ramps	LF		x		=	$	-
8395XX	Terminal System (Type CAT)	EA		x		=	$	-
839585	Alternative Flared Terminal System	EA	4	x	5,000.00	=	$	20,000
839584	Alternative In-line Terminal System	EA		x		=	$	-
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		=	$	-
839543	Transition Railing (Type WB-31)	EA	2	x	4,200.00	=	$	8,400
597601	Prepare and Stain Concrete	SQFT		x		=	$	-
839561	Rail Tensioning Assembly	EA		x		=	$	-
83958X	End Anchor Assembly (Type X)	EA		x		=	$	-
780210	SURVEY MONUMENT (TYPE A)	EA	10	x	1,500.00	=	$	15,000

TOTAL SPECIALTY ITEMS $ 259,400

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL (PEAR)

Item code		Unit	Quantity		Unit Price ($)		Cost
070030	Lead Compliance Plan	LS	1	x	3,000.00	$	3,000
	Asbestos Compliance Plan	LS	1	x		$	-
	Paleontology Monitoring	LS	1	x		$	-
	NOI/NOT (Stormwater)	LS	1	x	1,432.00	$	1,432
	Bird/Bat Exclusions	LS	1	x		$	-

Subtotal Environmental Mitigation $ *4,432*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost	
20XXXX	Highway Planting	LS	1	x	1,504,432.00	= $	1,293,812	
20XXXX	Irrigation System	LS		x		= $	-	
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		= $	-	
20890X	Extend X" Conduit (Use for Extension of Irrigation x-overs)	LF		x		= $	-	current cost

Subtotal Landscape and Irrigation $ *1,293,812*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)		Cost
210010	Move In/Move Out (Erosion Control)	EA	*$ 2*	x	2000	= $	4,000
210350	Fiber Rolls	LF		x		= $	-
210360	Compost Sock	LF		x		= $	-
2102XX	Rolled Erosion Control Product (X)	SQFT		x		= $	-
21025X	Erosion control	SQFT/ACRE	*2*	x	13500	= $	27,000
210300	Hydromulch	SQFT		x		= $	-
210420	Straw	SQFT		x		= $	-
210430	Hydroseed	SQFT		x		= $	-
210600	Compost	SQFT		x		= $	-
210630	Incorporate Materials	SQFT		x		= $	-

Subtotal Erosion Control $ *31,000*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)		Cost
130300	Prepare SWPPP	LS	1	x	8,000.00	= $	8,000
130200	Prepare WPCP	LS		x		= $	-
130100	Job Site Management	LS		x		= $	-
130330	Storm Water Annual Report	EA		x		= $	-
130310	Rain Event Action Plan (REAP)	EA		x		= $	-
130320	Storm Water Sampling and Analysis Day	EA		x		= $	-
130520	Temporary Hydraulic Mulch	SQYD		x		= $	-
130550	Temporary Hydroseed	SQYD		x		= $	-
130505	Move-In/Move-Out (Temporary Erosion Control)	EA		x		= $	-
130640	Temporary Fiber Roll	LF		x		= $	-
130900	Temporary Concrete Washout	LS		x		= $	-
130710	Temporary Construction Entrance	EA		x		= $	-
130610	Const Site BMP=1.53% Const Cap/**See SWDR**	LS	1	x	354,455.10	= $	356,448
130620	Temporary Drainage Inlet Protection	EA		x		= $	-
130730	Street Sweeping	LS		x		= $	-

Subtotal NPDES $ *364,448*

TOTAL ENVIRONMENTAL **$ 1,693,700**

Supplemental Work for NPDES

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

Subtotal Supplemental Work for NDPS $ *7,500*

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

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Traffic Design	LS		x		=	$	-
860201	Electrical	LS		x		=	$	-
860990	TMP Data Sheet est	LS	1	x	171,000.00	=	$	171,000
86110X	Ramp Metering System (Location X)	LS		x		=	$	-
86070X	Interconnection Conduit and Cable	LF/LS		x		=	$	-
5602XX	Furnish Sign Structure (Type X)	LB		x		=	$	-
5602XX	Install Sign Structure (Type X)	LB		x		=	$	-
498040	XX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
86080X	Inductive Loop Detectors	EA/LS		x		=	$	-
8609XX	Traffic Monitoring Station (Type X)	LS		x		=	$	-
15075X	Remove Sign Structure	EA/LS		x		=	$	-
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
860090	Maintain Existing Traffic Management System Eler	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
	Install Interchange Lighting	LS		x		=	$	-
	Changeable Message Signs	LS		x		=	$	-
	Close Circuit TV & Temp Signal See Elect Est	LS	1	x	348,000.00	=	$	348,000
	Vehicle Classifacation System	LS		x		=	$	-
	Traffic Monitoring System	LS		x		=	$	-
	Round a bout lighitng system	LS		x		=	$	-
	Bridge lighting	LS		x		=	$	-
	Bridge Conduit	LS	1	x		=	$	-
XXXXX	Some Item	Unit		x		=	$	-

Subtotal Traffic Electrical $ *519,000*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
566011	Roadside Sign - One Post	LS	1	x	4,000.00	=	$	4,000
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		=	$	-
152320	Reset Roadside Sign	EA		x		=	$	-
152390	Relocate Roadside Sign	EA		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
840502	Thermoplastic Traffic Stripe (Enhanced Wet Night	LF		x		=	$	-
846012	Thermoplastic Crosswalk and Pavement Marking (	SQFT		x		=	$	-
120090	Construction Area Signs	LS	1	x	15,000.00	=	$	15,000
84XXXX	Permanent Pavement Delineation	LS	1	x	13,000.00	=	$	13,000

Subtotal Traffic Signing and Striping $ *32,000*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128652	Portable Changeable Message Signs	LS	1	x	$ 128,000	=	$	128,000

Subtotal Traffic Management Plan $ *128,000*

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	LS	1	x	210,000.00	=	$	210,000
129110	Temporary Crash Cushion	EA		x		=	$	-
129000	Temporary Railing (Type K)	LF		x		=	$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
	Construction Area Signs	LS	1	x		=	$	-
XXXXXX	Traffic Handling Including Detour	Unit	1	x	100,000.00	=	$	100,000

Subtotal Stage Construction and Traffic Handling $ *310,000*

TOTAL TRAFFIC ITEMS $ 989,000

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY		x		=	$	-
19801X	Imported Borrow	CY/TON		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON		x		=	$	-
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	100	x	20.00	=	$	2,000
128601	Temp Signal Sys / in Electrical Est	LS		x		=	$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
80010X	Temporary Fence (Type X)	LF		x		=	$	-
XXXXXX	Some Item	LS		x		=	$	-

* Includes constructing, maintaining, and removal

TOTAL DETOURS **$ 2,000**

SUBTOTAL SECTIONS 1 through 7 $ 8,440,300

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items						
	ADA Items		0.0%		$	-
8B - Bike Path Items						
	Bike Path Items		0.0%		$	-
8C - Other Minor Items						
	Other Minor Items		10.0%		$	844,030
	Total of Section 1-7	$ 8,440,300	10.0%	=	$	844,030

TOTAL MINOR ITEMS **$ 844,100**

SECTIONS 9: ROADWAY MOBILIZATION

Item code							
999990	Total Section 1-8	$ 9,284,400	x	10%	=	$	928,440

TOTAL ROADWAY MOBILIZATION **$ 928,500**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066670	Payment Adjustments For Price Index Fluctuations	LS	1	x	226.00	=	$	226
066094	Value Analysis	LS	1	x	10,000.00	=	$	10,000
066070	Maintain Traffic	LS	1	x	80,000.00	=	$	80,000
066919	Dispute Resolution Board	LS	1	x	7,500.00	=	$	7,500
066921	Dispute Resolution Advisor	LS	1	x		=	$	-
066015	Federal Trainee Program	LS	1	x	2,000.00	=	$	2,000
066610	Partnering	LS	1	x	20,000.00	=	$	20,000
066204	smoothness	Lane Mile	1	x	9,000.00	=	$	9,000
066222	Locate Existing Crossover	LS		x		=	$	-
XXXXXX	SWPPP Construction General Permit Fee	LS	1	x	2,000.00	=	$	2,000
	*Cost of **NPDES** Supplemental Work specified in Section 5D*					=	$	7,500
	Total Section 1-8	$ 9,284,400			10%	=	$	928,440

TOTAL SUPPLEMENTAL WORK **$ 1,066,700**

Note: For Project less than 50 Working Days Mobilization is not required as a separate contract item, however contract item prices should take into consideration mobilization as part of the price
If the building portion of the project is greater than 50% of the total project cost, then mobilization is not included.

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	321,300.00	=	$321,300
066063	Traffic Management Plan - Public Information	LS	1	x	43,000.00	=	$43,000
066901	Monitoring	LS	1	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		x		=	$0
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066065	haz waste	LS		x		=	$0
066916	Annual Construction General Permit Fee	LS		x		=	$0
XXXXXX	SWPPP Construction General Permit Fee	LS	1		10,000.00		$10,000
XXXXXX	Some Item	Unit		x		=	$0

Total Section 1-8	$	9,284,400		10%	= $	928,440

TOTAL STATE FURNISHED $1,302,800

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization	$17,260,400	(used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency)	$23,882,400	(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		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	550	X	$3,138	=	$1,726,100

TOTAL TIME-RELATED OVERHEAD $1,726,100

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	14,308,500	x	**15%**	=	$2,146,275

TOTAL CONTINGENCY $2,146,300

Recommended Contingency: (Pre-PSR (feasibility) 30%-50%, PSR (initiation) 25%, Draft PR (draft approval) 20%, PR (approval) 15%, after PR approval 10%, Final PS&E 5%)
Total recommended percentages includes any quantified risk based contingency from the risk register.

Note: TRO is a contract item if total project cost is (non-escalated) over $5 million AND 100 or more working days.
If the building portion of the project is greater than 50% of the total project cost, then TRO is not included.
TRO calculated for you as percentage of the sum of all contract items only;
excluding mobilization, supplemental work, state furnished materials and expenses, and contingency.

EA: 06-1A090 PID: 620000065

II. STRUCTURE ITEMS (PSR-PDS APS cost estimate)

	Bridge 1		Bridge 2		
DATE OF ESTIMATE	06/01/20		00/00/00		00/00/00
Bridge Name	780'		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Bridge Number	BASED OFF OF 1000'		57-XXX		57-XXX
Structure Type	pc/ps Concrete girder		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	44 LF		0 LF		0 LF
Total Bridge Length (Feet)	780 LF		0 LF		0 LF
Total Area (Square Feet)	34320 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	1.71 LF		0 LF		0 LF
Footing Type (pile or spread)	Pile		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$232		$0		$0
COST OF EACH	**$7,976,000**		**$0**		**$0**

	Building 1		Bridge 2		
DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Building Name	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Building Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0		$0		$0
COST OF EACH	**$0**		**$0**		**$0**

TOTAL COST OF BRIDGES	**$7,976,000**
TOTAL COST OF BUILDINGS	**$0**

Already Included **10% STRUCTURES MOBILIZATION 10% TRO & 15% Contingencies 42% **$3,324,000**

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

Total recommended percentages includes any quantified risk based contingency from the risk register.

Already Included **STRUCTURES CONTINGENCY 0% **$0**

TOTAL COST OF STRUCTURES $11,300,000

Estimate Prepared By: _____ _____

XXXXXXXXXXXXXXXX ------ Division of Structures Date

EA: 06-1A090 PID: 620000065

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	$		23,250
		A2)	SB-1210	$		0
B)	Acquisition of Offsite Mitigation			$		591,051
C)		C1)	Utility Relocation (State Share)	$		0
		C2)	Potholing (Design Phase)	$		0
D)	Railroad Acquisition			$		0
E)	Clearance / Demolition			$		0
F)	Relocation Assistance (RAP and/or Last Resort Housing Costs)			$		0
G)	Title and Escrow			$		3,201
H)	Environmental Review			$		
I)	Condemnation Settlements	0%		$		0
J)	Design Appreciation Factor	0%		$		0
K)	Utility Relocation (Construction Cost)			$		
				TOTAL	$	617,502

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$617,502**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$680,797**
N)	**RIGHT OF WAY SUPPORT**	**$240,000**

Support Cost Estimate Prepared By _____ Project Coordinator[1] _____ Phone

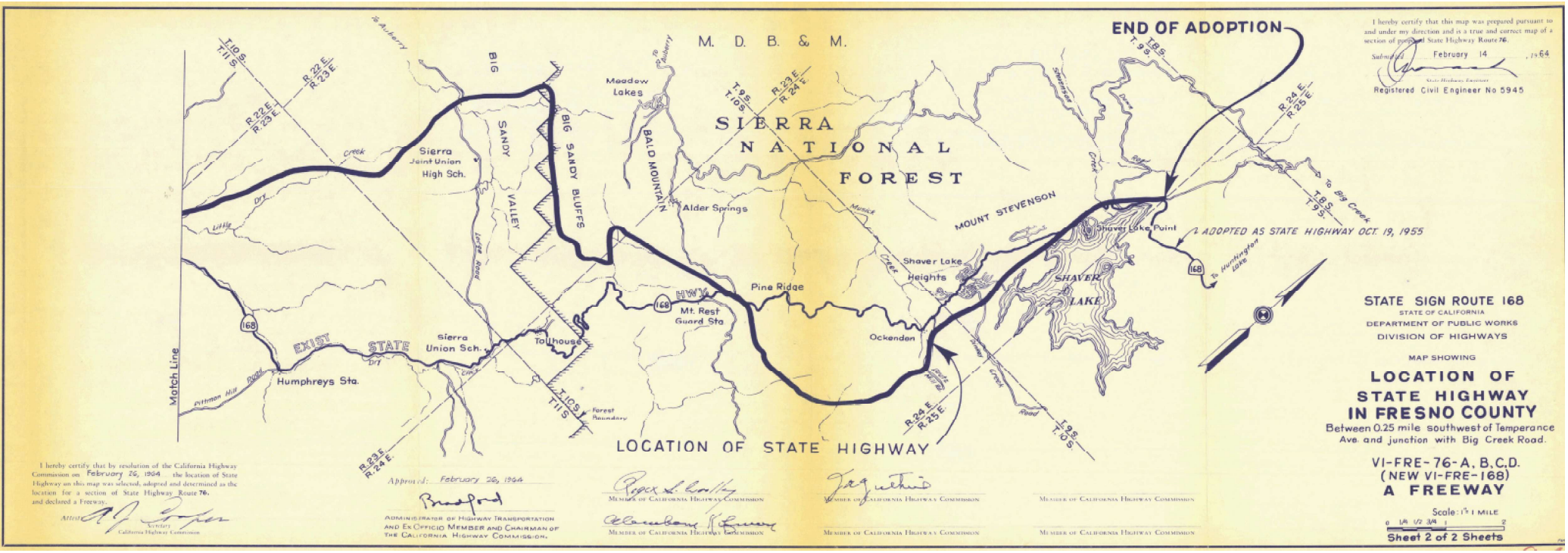
Utility Estimate Prepared By _____ Utility Coordinator[2] _____ Phone

R/W Acquisition Estimate Prepared By _____ Right of Way Estimator[3] _____ Phone

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

[1] When estimate has Support Costs only

[2] When estimate has Utility Relocation [3] When R/W Acquisition is required



I hereby certify that this map was prepared pursuant to and under my direction and is a true and correct map of a section of proposed State Highway Route 76.

Submitted February 14, 1964

State Highway Engineer

Registered Civil Engineer No 5945

I hereby certify that by resolution of the California Highway Commission on February 26, 1964 the location of State Highway on this map was selected, adopted and determined as the location for a section of State Highway Route 76, and declared a Freeway.

Attest: Secretary, California Highway Commission

Approved: February 26, 1964

Administrator of Highway Transportation and Ex Officio Member and Chairman of the California Highway Commission

Member of California Highway Commission

Member of California Highway Commission

Member of California Highway Commission

Member of California Highway Commission

Member of California Highway Commission

STATE SIGN ROUTE 168

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

MAP SHOWING

LOCATION OF STATE HIGHWAY IN FRESNO COUNTY

Between 0.25 mile southwest of Temperance Ave. and junction with Big Creek Road.

VI-FRE-76-A, B, C, D.
(NEW VI-FRE-168)
A FREEWAY

Scale: 1" = 1 MILE

0 1/4 1/2 3/4 1 2

Sheet 2 of 2 Sheets

ATTACHMENT L

ARTICLE 4
Transportation Planning Scoping Information Sheet

Proposed Project Summary

The purpose of the Project Summary is for Transportation Planning to highlight the key needs/improvements from the completed sections. Transportation Planners may use their discretion to modify the Project Summary page and whether it is necessary to reiterate the information provided in Sections 1 through 5. Bring this summarized form and the completed Transportation Planning Scoping Information Sheet to the Project Nomination Scoping Team meeting. Make sure to tie these proposed needs and improvements back to Caltrans' Strategic Management Plan goals.

Project Summary Table

EA	06-1A090
EFIS	TBD
County-Route-PM	FRE-168-49.0/49.4
Project Description	Major Damage Permanent Restoration - construct sidehill viaduct

Section 1–System Planning
Not applicable and/or will be considered during the Project Initiation Document and the Project Report and Environmental Document Phases.

Section 2–LD-IGR
Not applicable and/or will be considered during the Project Initiation Document and the Project Report and Environmental Document Phases.

Section 3–Smart Mobility, Complete Streets, and Regional Planning
Complete Streets was considered for inclusion in the scope of work for this project. As the project limits are accessible to both bicycles and pedestrians bicycle-tolerable drainage gates will be used where appropriate. Additional opportunities to incorporate other Complete Streets features will be considered during the Project Initiation Document and the Project Report and Environmental Document Phases.

Section 4–Climate Change and Environmental Considerations
Not applicable and/or will be considered during the Project Initiation Document and the Project Report and Environmental Document Phases.

Section 5–Tribal Government Coordination
Not applicable and/or will be considered during the Project Initiation Document and the Project Report and Environmental Document Phases.

Reviewed by:

Alec Kimmel
12/12/19
Chief, System Planning (Date)

Robert Polyack
12/12/19
Project Nomination Coordinator (Date)

ATTACHMENT M

Complete Streets Decision Document (CSDD)

1) Is the project located entirely on a facility where bicyclists and pedestrians are legally prohibited and the project does not involve a shared use path, pedestrian/bicycle structure or work impacting a local road crossing or interchange? (For example, a project including freeway mainline and ramp work, not including the ramp connection with the minor road, where the project freeway segment legally prohibits bicyclists and pedestrians.)

__X__ NO - Proceed to Question 2
_____ YES - Stop here. The project is exempt from further complete streets evaluation. Sign and attach to the Project Initiation Document (PID).

2) Is the primary project purpose to address assets that are outside of the roadbed where pedestrian and bicycle travel is not affected, and proposed project will not affect future pedestrian and bicycle facilities? Examples may include culvert outfalls, storm water treatment facilities, bridge substructure or scour mitigation, planting or vegetation removal, retaining walls, etc.

__X__ NO - Continue to Question 3
_____ YES - Stop here. The project is exempt from further complete streets evaluation. Sign and attach to PID.

3) Has a Transportation Planning Scoping Information Sheet (TPSIS) been completed for this project?

_____ NO – Proceed to Question 4
__X__ YES – Skip to Question 5 (Note: TPSIS is attached to the PID)

4) Which of the following planning documents were consulted to determine bicycle, pedestrian or transit needs? Select all that apply and proceed to Question 5.
   - _____a. District Active Transportation Plan
   - _____b. Other Caltrans or local/regional agency bike/ped/transit/safe routes to school plans
   - _____c. ADA Transition Plan/Grievances (consult with the District ADA Coordinator)
   - _____d. Corridor planning documents
   - _____e. Other (list here) _____

5) Based on the reviews completed in Question 4 or identified in the TPSIS, after a review of the roadway geometrics, or identified by the PDT, are there any bicycle, pedestrian, or transit needs, deficiencies or opportunities for improvement identified for the project location?

_____ NO – Provide brief description of findings: _____
Stop here. The project meets the requirements for consideration of Complete Streets elements. Sign and attach to the PID.
__X__ YES – Describe them here and proceed to Question 6: Complete Streets was considered for inclusion in the scope of work for this project. As the project limits are accessible to both bicycles and pedestrians' bicycle-tolerable drainage grates will be used where appropriate.

6) Based on the needs identified in Question 5, what would be the preferred complete streets elements to address those needs (e.g. road diet, separated bikeway, reconstructed sidewalk, etc.)? Resources include the Complete Streets Elements Toolbox, the Contextual Guidance for Bikeway Facility Selection, the Bikeway Facility Selection Guidance Memorandum, etc. List them in the table below and provide a rough estimated cost to construct preferred project complete streets elements (including right-of-way and support costs) and proceed to Question 7.

FACILITY TYPE	UNIT	QUANTITY	ESTIMATED TOTAL COST
Class III Bike Lane- Segment with 8 feet shoulders	LF	2,040	$4,000,000
Bicycle-tolerable drainage grates	EA	8	$4,000
Bicycle-tolerable bridge guardrail	LF	1,450	$857,000
Bicycle-tolerable approach guardrail	LF		$35,000

7) Was there any known public and stakeholder opposition to any preferred complete streets elements identified for the project? Provide response and proceed to Question 8.

__X__ NO
_____ YES – Describe the opposition position here: _____

8) Does the programmable project alternative/project scope include all the complete streets elements identified in Question 6?

_____ NO - Proceed to Question 9
__X__ YES - Stop here. The project has met the requirements for consideration of complete streets elements. Sign and attach to PID.

9) Does the project include any of the complete streets elements that are identified in Question 6? Or are there any proposed incremental improvements related to the complete streets elements in Question 6? Provide response and proceed to Question 10.

_____ NO – The programmable project alternative does not include any complete streets elements, and therefore does not address identified needs for complete streets elements.
_____ YES – List them here:

FACILITY TYPE	UNIT	QUANTITY	ESTIMATED TOTAL COST
e.g. Class III Bike Route- Segment [PM xx.x- xx.x]	*LF*	*8.5*	*$600,000*
e.g. Standard 8-foot shoulder- Segment [PM xx.x- xx.x]	*LF*	20.0	*$3,200,000*

10) Does the project funding have constraints that would preclude the ability to incorporate additional complete streets elements into the project (For example, cannot combine funding with other sources.)? Provide response and proceed to Question 11.

_____ NO
_____ YES – Describe the constraints here: _____

11) Provide a rationale and justification for not including all the recommended complete streets elements into the project: (Consider the engineering justification, right-of-way constraints, environmental impacts, etc.). _____

Prepared by:

Ronnie Kier

Name, PID Preparer in responsible charge
Branch/Company

Concurred by:

Name
District Complete Streets Coordinator

Date

Name
Deputy District Director, Planning

Date

Name
Deputy District Director, Design or
Division Chief, Design/Project Development

Date

Name
District Director

Date

Distribution: Attach completed original CSDD to PID and email to HQ Division of Design at CSDD@dot.ca.gov

INTRODUCTION AND BACKGROUND

The purpose of the Project Communication Plan (PCP) is to provide consistent and timely information to all project stakeholders. This plan will assist the project team in building an effective communication strategy to enhance communication throughout project delivery.

This project proposes to build a two lane viaduct on State Route 168 along a section of Shaver Lake shoreline in Fresno County, near Shaver Lake, from 16.5 miles south of the end of the route Post Mile (PM 48.90) to 9.6 miles south of Tamarack Creek (PM 49.8).

PROJECT TEAM REPRESENTATIVES

The project development team (PDT) is comprised of the following representatives:

NAME	DIVISION / OFFICE	PHONE NUMBER
Jeannie Wiley	Project Manager	(559) 978-3234
Ilda Thanas	Assistant Project Manager	(559) 383-5177
Jun Xu	Design Manager	(559) 908-8994
Ronnie Kier	Design Project Engineer	(559) 840-6860
Scott Harlan	Asset Management Office Chief	(559) 308-5241
Adam Wells	PID Program Manager	(559) 908-1783
Brent Haroldsen	Construction	(559) 246-6410
Derran Reitz	Electrical Design	(559) 981-7534
Shane Gunn	Environmental	(559) 832-0051
Chelsea Starr	Environmental	(559) 383-5432
Tom Fisher	Hydraulics	(559) 974-5061
Brad Cole	Landscape Architecture	(559) 974-4929
Raafat Shehata	Material Services	(559) 917-9276
Sara Blum	Right of Way	(559) 383-5194
Jon Russell	Surveys	(559) 284-4789
Andrey Chevychalov	Traffic Design	(559) 974-5082
Terence Cortez, Acting	Traffic Operations	(559) 383-5224
Nicolas Esquivel	Traffic Investigations	(559) 906-5654
Isidro Perez	Traffic Management	(559) 383-5246
Felix Vaquilar	Utility Engineering Workgroup	(559) 360-1951
Jason Miao	Maintenance Engineering	(559) 341-7990
Mandy Macias	Native American Coordinator	(559) 908-7706

Identified Stakeholders

The PDT identified the following entities as stakeholders:

Stakeholder	Contact Name	Contact Info	
SCE	Cynthia Calemmo	Cynthis Calemmo	559-906-9946
Sierra Marina	Jerry Sandstrom	jerry@sierramarina.com	559-841-3324
Sierra National Forrest	Annette Lambert	alambert@fs.fed.us	559-877-2218
Fresno County Public Works	Scott Tyler	Scott.tyler@fresno.gov	559-621-8654

COMMUNITY INVOLVEMENT

Public Participation:

Caltrans recognizes the importance of public participation as an essential element to the project. Provisions in the California Environmental Quality Act (CEQA) procedures include wide public involvement, formal and informal, consistent existing activities, and procedures, in order to receive and evaluate public reactions to environmental and project issues related to the agency's activities.

Under CEQA, the public is afforded input into Caltrans' decision-making process before and during the public review and comment period on environmental documents and is afforded the ability to challenge the CEQA decision during the legal challenge period. The public:

- Participates in the public scoping meeting.
- Review and comment on CEQA documents.
- Participates in public hearings; and
- Enforces CEQA through judicial action.

Based upon provided information, and the current knowledge of the community's concerns, the Project Manager consults with the Public Information Office regarding the following activities:

- Initial assessment of community interest.
- Mailing list development.
- Location of information repositories; and
- Other appropriate public participation activities.

METHODS OF COMMUNICATION

Communication Methods

- In-person meetings
- Email
- Phone
- WebEx
- Microsoft Teams

The Caltrans Project Manager will keep a detailed summary of the project status report, based on input from team members. This status is updated continuously. Components of the project status report may include meeting minutes and action item list. The action item list contains urgent and/or important issues and is discussed at team meetings. The project status is the responsibility of the Caltrans Project Manager to maintain and circulate before each meeting. Each team member and agency are ultimately responsible of tracking and being accountable for his/her action items from the meetings.

The Caltrans Project Manager, or the team member responsible for calling a meeting, shall either record or assign someone to record meeting minutes. The record shall include the date, time, subject matter, attendees and the issues and outcomes discussed. A copy of these minutes shall be emailed to all participants with the notation that they will become part of the official record if no objection to the content is made within 30 calendar days or sooner. Responses requesting changes to the minutes shall be filed with the final record.

Project Development Team (PDT) meetings are scheduled by the Project Manager and are held as needed. A listing of PDT members and contact information is provided in the section Project Team Representatives. Notices/invitations indicating date, time and location are sent out electronically through email by the Caltrans Project Manager or their appointee. Each agency is responsible for reviewing the agenda and previous meeting minutes/action items to determine the proper attendees for each meeting. Telephone connection to a PDT meeting can be arranged on an individual request basis. All PDT members will electronically receive PDT meeting minutes/action items, so they are able to stay up to date on the project. These meetings will constitute the primary means of communicating information to the project team and keeping the project team current with project status. All relevant project status information should be conveyed.

The Caltrans Project Manager will meet with the Caltrans Functional Units informally as needed to discuss and resolve issues.

PROJECT REPORTING INFORMATION

District 6 Project Management utilizes an online Project Reporting System. This web application is managed by the Central Region with the assistance of local IT and our Statewide partners. The intent is to provide timely, accurate and relevant project-related information to those involved in Statewide Project Delivery from multiple data sources, including Quality Management Reporting System (QMRS), Project Resource and Scheduling Management (PRISM) system, AMS Advantage software, California Transportation Improvement Program System (CTIPS), Geographic Information System (GIS), and more.

PROJECT RISKS AND COMMUNICATION

Risks on this project will be identified, quantified, appropriate response strategies developed by the PDT to minimize the likelihood and impact of negative events and to maximize the likelihood and impact of positive events in the project. Established risk management procedures would be implemented and risks register would be communicated appropriately with the PDT throughout the project lifecycle.

CONFLICT MANAGEMENT STRATEGY

All parties agree to work cooperatively to avoid and resolve conflicts at the lowest level possible. If disagreements emerge which cannot be resolved, the following procedure will be followed:

1. All parties involved must agree that an impasse exists
2. All parties involved must be able to respond in the affirmative to the following statements:
   - The position taken is legal and ethical
   - The position taken is good for our customers
   - The position taken makes efficient use of resources
   - Each party accepts full responsibility for the position he/she is taking
   - The position taken works towards meeting project delivery goals

When the parties at the lowest level are unable to come to a solution, the problem must be escalated to the next working level.

This Project communication management plan should be adhered to by the PDT. It is an appropriate approach and a plan for the project communications based on available information at this phase of the project. It would be used throughout the project life cycle to ensure the information needs and requirements of the project stakeholders are met.