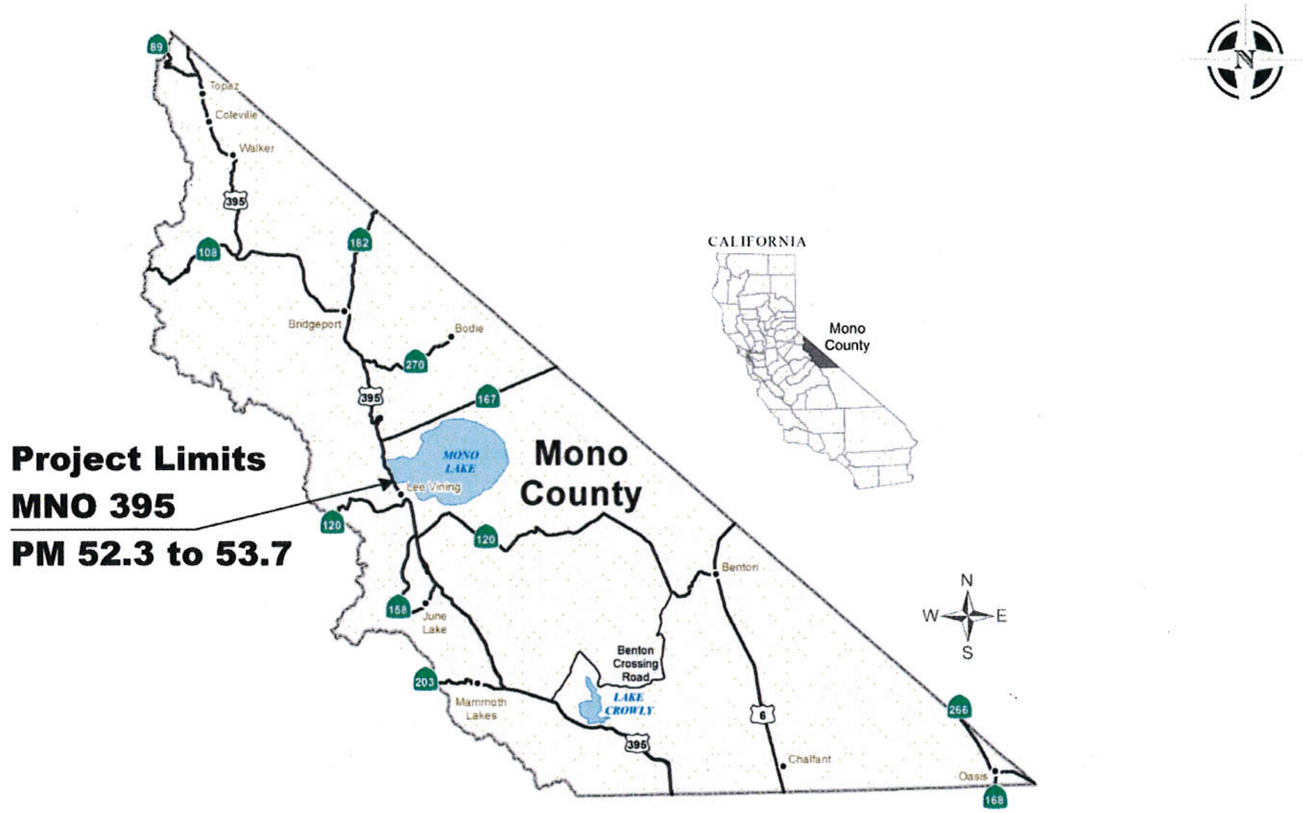
09-MNO-395 PM 52.3/53.7
RU: 06-229 1444 EA 09-335000 ID:0900020002
20.10.201.015 Collision Severity Reduction
June 2013

LEE VINING ROCKFALL PROJECT REPORT



In Mono County Near Lee Vining from 0.4 Mile North of National Forest Visitor Center Road to 0.7 Mile North of Picnic Grounds Road

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

Nancy Greene — 7/25/13
for DONALD E. GREBE — DATE
Acting Division Chief, Right Of Way

APPROVAL RECOMMENDED: Cedrik Zemitis — 7/25/13
CEDRIK ZEMITIS — DATE
Project Manager

APPROVED: T. P. Hallenbeck — 7/25/13
THOMAS P. HALLENBECK — DATE
District Director, District 09

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.

REGISTERED CIVIL ENGINEER

6-17-13
DATE

REGISTERED PROFESSIONAL ENGINEER
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1. INTRODUCTION

The State of California, Department of Transportation (Caltrans), is proposing a project to reduce rockfall along U.S. Highway 395 (U.S. 395), just north of the community of Lee Vining in Mono County between PM 52.3 and PM 53.7. The primary purpose of the project is to improve safety for the traveling public by reducing rockfall from the steep existing adjacent cut slopes between these post miles. The current non-escalated cost estimate (Fiscal Year 2013) for the project is $6,805,000 which includes $6,802,000 for construction and $3,000 for right of way. The project is programmed in the 2012 SHOPP Collision Severity Reduction Program (20.10.201.015) and is scheduled to begin construction in FY 2015. This project falls under Project Development Category 4B because it will require some new right of way and a Mitigated Negative Declaration under CEQA.

The Preferred Alternative, Alternative 1 - *Design Option 2,* as described herein, proposes to reduce rockfall on six slopes, identified herein as Slopes 1-6, by incorporating revegetation strategies recommended from the Lee Vining Test Plots Project, erosion control strategies, and rockfall containment strategies in the following manner: Slopes 1-3 will receive revegetation and erosion control strategies only to reduce rockfall from these three slopes; they will not be cut back to a less steep angle as previously proposed. In addition to the revegetation and erosion control strategies, as outlined for Slopes 1-3, Slopes 4-6 will receive mechanical stabilization of the slopes with anchored mesh.

2. RECOMMENDATION

It is recommended that this project be approved using the Preferred Alternative, Alternative 1 - *Design Option 2* as described herein, and that the project proceed to the Plans, Specifications, and Estimate (PS&E) phase. The affected local agencies and stake holders have been consulted with respect to the recommended plan, their views have been considered, and are in general accord with the plan as presented.

3. BACKGROUND

A. Project History

In 1933 U.S. 395 was realigned near Mono Lake which created the cut slopes identified herein as Slopes 4, 5, and 6. The steepness of the cut slopes, according to as-built plans, range from 0.5:1 horizontal:vertical (h:v) to 1:1 (h:v). In 1936 an additional realignment of U.S. 395 just north of Lee Vining and south of the 1933 realignment created the cut slopes identified herein as Slopes 1, 2, and 3. According to as-built plans the steepness of the cuts were originally 1:1 (h:v). As time has passed most of these six slopes have eroded to become steeper.

In 1997 Caltrans District 9 identified several cut slopes throughout the district as producing recurring rockfall and requested a field review and preliminary recommendations from the Caltrans *Geologic Services Section.* The six slopes outlined herein were included in that request. As a result of that request a field review limited to surficial observations only was conducted by Kenneth A. Cole, an engineering geologist, of the *Geologic Services Section.* Mr. Cole produced a Memorandum dated October 7, 1997 which recommended various rockfall solution strategies for each slope.

These six cut slopes were to receive rockfall solution strategies in conjunction with other facility improvements under the Mono Lake Shoulder Widening Project, which was proposed in 2000. Since that project was never constructed, rockfall still continues along this stretch of highway. On June 25, 2007 a Project Study Report (PSR) was approved that allowed this project to be programmed as an amendment in the 2008 State Highway Operation and Protection Program (SHOPP). The PSR provided two alternatives which encompassed laying back Slopes 1, 2, and 3 and utilizing anchored mesh for Slopes 4, 5, and 6 or utilizing anchored mesh on all slopes.

The Draft Environmental Document (DED) was circulated for public review and comments between July 27, 2012 to September 27, 2012 and a public meeting was held in Lee Vining on August 7, 2012. The comment period was extended at the request of the United States Forest Service (USFS).

B. Community Interaction

With the project location within the *Mono Basin National Forest Scenic Area* and proximity to Mono Lake it has received additional scrutiny by the community and local stake holders which have an interest or responsibility to the area. In addition to the general community there are a few key stake holders with which communication and interaction is critical to the success of the project. These organizations include the United States Forest Service (USFS), California State Parks (State Parks), Lahontan Regional Water Quality Control Board (Lahontan), and the Mono Lake Committee (MLC). The following discusses the key organizations with respect to the project and key communications and/or meetings that have occurred:

The USFS is charged with the oversight and management of the *Mono Basin National Forest Scenic Area* as stipulated by the *Mono Basin National Forest Scenic Area Comprehensive Management Plan*. Further, since this project proposes right of way acquisition from the USFS they were contacted early in the project development process. On March 17, 2011 and January 19, 2012 Caltrans met with USFS to provide an initial project overview and to discuss the project. The January 19, 2012 meeting took place at the project site. USFS provided formal comments to the DED dated Sept. 24, 2012. Their comments and Caltrans' responses to them are included in the attached Environmental Document.

State Parks has jurisdiction over Mono Lake which includes the Old Marina site, across from Slope 4. Though no work is proposed which directly impacts State managed lands, the project will affect visitors to those lands as they travel through the project. In an effort to inform them of the proposed project State Parks was invited to a site visit which they attended on December 13, 2011. State Parks provided formal comments to the DED dated Sept. 21, 2012. Their comments and responses to them are included in the attached Environmental Document.

Lahontan is one of nine regional water quality control boards under the jurisdiction of the State Water Resources Control Board, of California. Lahontan has the responsibility for the protection of water quality for Mono County, where this project resides. In May of 2012, Caltrans contacted Lahontan prior to circulation of the DED, by telephone and email, to inform them of the project, to request a written review of the project, and get their concerns, regarding water quality issues. Lahontan was sent descriptions of work and preliminary plans of the project. Lahontan's response via email was in agreement of assigning a low receiving water risk level with regards to Mono Lake because it is not impaired for sediment and does not include all the beneficial uses of SPAWN, COLD, and MIGRATORY. Their response went on to recommend using the low receiving water risk level in conjunction with the sediment risk factor to determine the overall project risk level. Lahontan provided formal comments to the DED dated Sept. 21, 2012. Their comments and responses to them are included in the attached Environmental Document.

The Mono Lake Committee (MLC) is a non-profit citizens' group dedicated to protecting and restoring the Mono Basin. They have had a strong influence regarding policy and decision making concerning the Mono Basin. MLC has been very proactive and involved with the proposed project.

Caltrans has met several times with MLC and have kept them up to date with the project via email, telephone conversations, and site visits. During the public review and comment period Caltrans received numerous letters from MLC members in addition to the formal response letter received by MLC. Most of the letters were the same form letter, downloaded from the MLC website. The letters advocated and supported a revegetated solution with a post-construction plant establishment program. Caltrans has worked with MLC to reach a mutually agreeable and beneficial *agreement* regarding revegetation monitoring and revegetation strategies for the project which is summarized in the attached Environmental Document. MLC provided formal comments to the DED dated Sept. 24, 2012. Their comments and responses to them are included in the attached Environmental Document.

From the numerous conversations with MLC and the comments received to the DED from the USFS and MLC, Caltrans understands the importance of successfully revegetating these six slopes and the special nature of the Mono Basin. Understanding the need to revegetate these slopes, and to maximize revegetation success, Caltrans has authorized a smaller test revegetation project, the Lee Vining Test Plots Project, adjacent to this proposed rockfall project. The Lee Vining Test Plots Project will study various revegetation and soil amendment strategies on slopes of similar steepness and soil composition. The slopes associated with the Lee Vining Test Plots Project are smaller in size compared to this rockfall project, but similar in composition and inclination. They are located between Slopes 2 & 3 of this proposed rockfall project. Based on the results of the Lee Vining Test Plots Project, recommendations will be made for revegetation strategies to be applied to this proposed rockfall project.

Prior to circulation of the DED the following interactions took place: An initial informal site meeting with MLC and State Parks, occurred on December 13, 2011. An overview of the project and the complexities were outlined for each slope. As a result of this initial meeting MLC drafted a letter to Caltrans dated March 13, 2012 recognizing the need for the project and stating what they would like to see the project accomplish. Their letter expresses a desire to see a solution that promotes successful revegetation of the slopes.

Caltrans has also met with the Mono County Local Transportation Commission (MCLTC) and has kept them updated regularly on the project status. On August 13, 2007 an initial presentation was given to the MCLTC. Caltrans has also presented this project twice to the Mono Basin Regional Planning Advisory Committee, once on July 13, 2011 and on November 9, 2011.

Through our communications with the community there has been recognition of the rockfall problem through this stretch of highway and general agreement that something should be done to mitigate for the rockfall potential.

C. Existing Facility

In 1933 U.S. 395 was improved by constructing a 20 ft. wide paved highway. Major horizontal and vertical realignments were completed. The construction of this project placed U.S 395 in its current location and created cut Slopes 4, 5, and 6 identified in this project. In 1936 an additional improvement and realignment of U.S. 395 just north of Lee Vining and south of the 1933 realignment created cut slopes identified herein as Slopes 1, 2, and 3. Sometime between 1965 and 1975 U.S. 395 was widened to a 30 foot paved width between PM 51.59 and 53.78.

Cut Slopes 1-6 have not reached surficial stability and continue to shed rocks onto U.S. 395. This project proposes to minimize the rockfall from these existing slopes.

In 1987 the southbound (uphill) passing lane and 8 ft. shoulders were constructed from Lee Vining to PM 52.9. The improvement was accomplished by an asymmetrical widening with most of the widening occurring on the east side the highway. Widening did occur on the west side however, Slopes 1-3 were not offset. The westward widening placed the edge of pavement and edge of travelled way closer to the cut slope and filled in the ditches that once provided rockfall catchment. The1987 passing lanes project provides a good example of the viability of reseeding cut slopes within the limits of this rockfall project. That project created 3:1 cut slopes on the west side just south of Slope 3 and south of Slopes 1 and 2. These slopes received a native seed mix and have revegetated well. The 2:1 (h:v) fill slopes on the east side have mostly revegetated.

Currently U.S. 395 is a two-lane undivided conventional highway within the limits of this proposed project. A southbound passing lane begins at PM 52.9, between Slopes 3 and 4, and continues south to the community of Lee Vining. The highway traverses gently sloping terrain at elevations between 6,450 and 6,620 feet. There are no residences or businesses within the project limits. The access point to the Mono Lake Marina is at PM 53.1, across from the start of Slope 4. Paved shoulder widths are 8 ft. between Lee Vining and PM 52.9. Three foot wide paved gutters with Type A dike abut Slopes 1, 2, and 3. The paved shoulder varies between 2 and 8 feet between PM 52.9 and the end of this project at PM 53.7.

From the south end of the project at PM 52.3 to PM 52.5 the posted speed limit is 55 mph. From PM 52.5 to the north end of the project at PM 53.7 the posted speed limit is 60 mph.

This section of U.S. 395 is an Officially Designated State Scenic Highway and is within the *Mono Basin National Forest Scenic Area.* These designations require an elevated degree of sensitivity concerning the visual character of the area. This project will be developed with an awareness of the scenic resources of the area.

4. PURPOSE AND NEED

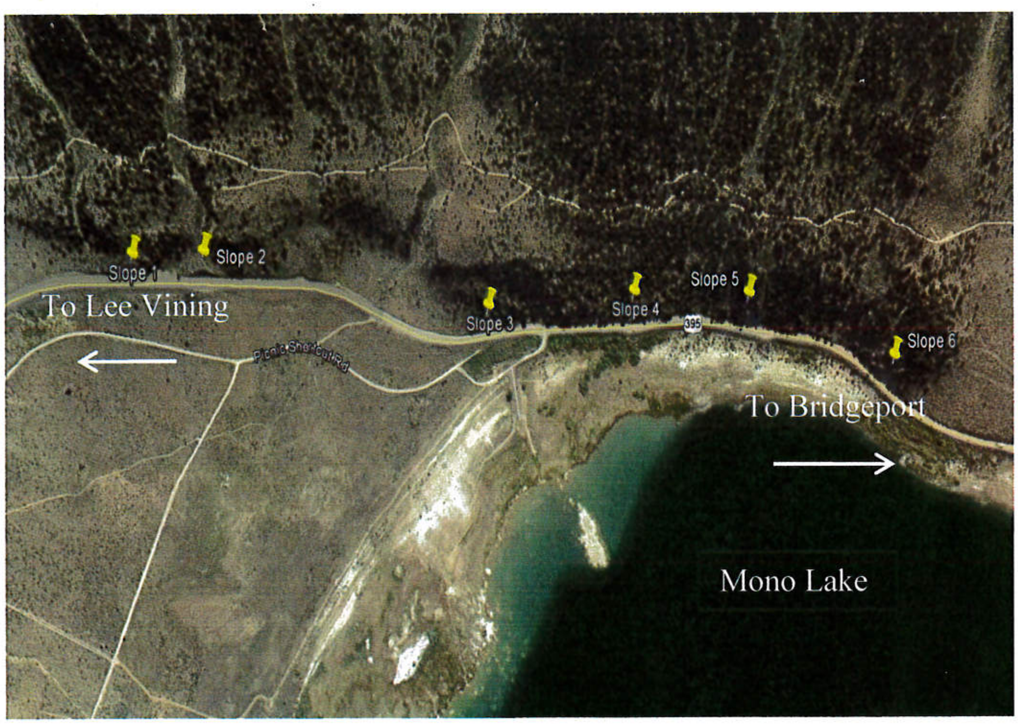
A. Problem, Deficiencies, Justification

The purpose of this project is to minimize the rockfall from the existing cut slopes, improve safety and reduce maintenance personnel's exposure.

Six discrete cut slopes have been identified between PM 52.3 and PM 53.7.

Slope #	Post Miles	Area (sq ft)	Max. Height (ft)	RockFall Hazard[2] Rating	Comments
1	52.34 to 52.43	7,400	37	92.2	rock size of 8" to 2ft in size
2	52.50 to 52.54	7,400	39	87.7	rock size of 6"to 1.5ft in size
3	52.91 to 52.97	6,530	40	69.5	rock size of 8" to 2ft in size
4	53.03 to 53.23	42,300	85	189.7	rock size of 8" to 2ft in size
5	53.28 to 53.44	41,000	117	228.5	rock size of 8" to 2ft and greater in size
6	53.51 to 53.62	15,300	58	567.6	Least amount of site distance and containment area, rock size of 18" to greater than 4ft in size

Note: 1. Areas and height measurements are approximate values of the existing condition.
2. The larger the rockfall hazard rating value the higher the probability of rockfall and the more hazardous of a slope.



Location of Work PM 52.3 to PM 53.7

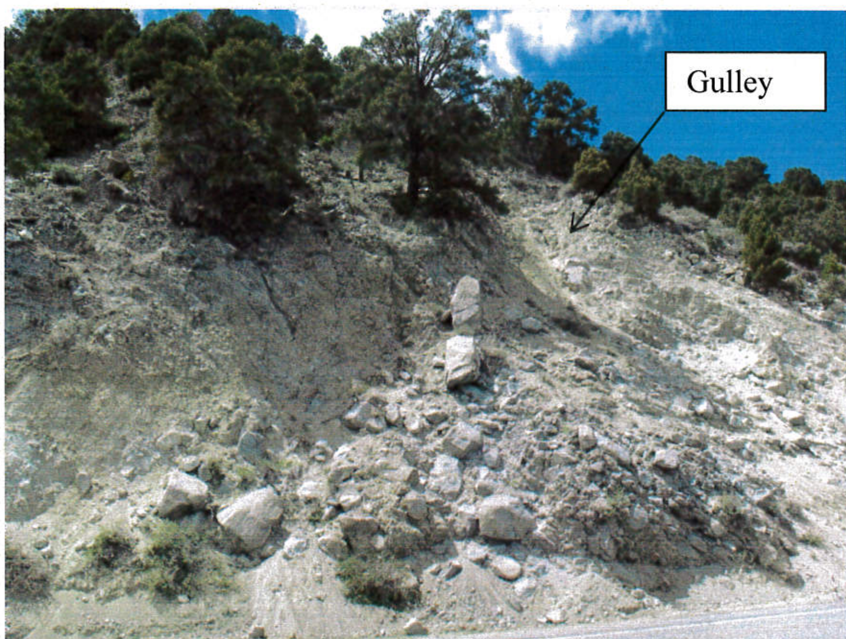
Slope #1 – Post Miles 52.34 to 52.43

Slope #2 – Post Miles 52.50 to 52.54

Slope #3 – Post Miles 52.91 to 52.97 from the Old Marina (Picnic Grounds Rd.)

Slope # 4 - 53.03 to 53.23 as seen from lake level

Slope # 5 - 53.28 to 53.44 as seen from lake level



Slope # 5 – Looking up at the gulley on Slope 5.

Slope #6 - 53.51 to 53.62 as seen from lake level

Slope #6 – containment area of Slope 6, looking north at southbound traffic coming around the curve.

The six existing cut slopes identified above are surficially unstable and have the potential for rockfall. The steepness of the slopes and lack of vegetation contributes to their instability particularly on Slopes 5 and 6. Of the six slopes identified herein, Slope 6 received the highest value from the Rockfall Hazard Rating System (RHRS) because of the combination of limited sight distance afforded by the horizontal curve and limited containment area below the slope. Slope 5 has the next highest rating followed by Slopes 4, 1, 2, and 3. All six slopes were evaluated using the RHRS. Of the six slopes evaluated, Caltrans Maintenance has indicated that Slope 3 produces the least amount of rockfall. The results of the RHRS for each slope can be found in Attachment H.

Because of the looseness of the slopes and propensity to shed rock, District 9 Maintenance personnel stationed in Lee Vining make daily "rock runs" along this stretch of highway. Rocks found along the shoulder or within the traveled way are removed from the pavement surface. When the accumulation of rocks can no longer be stored off to the side of the roadway Caltrans Maintenance must remove and dispose of the rocks with a front end loader and dump trucks. Even with these daily "rock runs" District 9 Maintenance personnel have indicated that minor vehicular collisions with rocks are common. A majority of these collisions are minor in nature with most going unreported and are not reflected in the traffic accident data included herein. Because of this the traffic accident data does not accurately represent accident history related to rockfall along this stretch of highway. Five accidents due to rocks on the road have been formally documented between April 1, 2000 and March 31, 2010, three of which occurred in the last five years for this section of U.S. 395.

B. Regional and System Planning

According to the Caltrans District 9 U.S. 395 Transportation Concept Report dated May 2000, the majority of this project is within segment Mono 5-01 which covers PM 52.6 to 55.6. Therefore, for analysis the entire length of this project will be based upon the planning concepts outlined for segment Mono 5-01. For this segment of U.S. 395 the ultimate facility would be a 2 lane conventional highway with turnouts. The "ultimate facility" identifies the number of highway lanes and type of facility (freeway, expressway, conventional highway) needed to manage to traffic for the entire life of the highway typically beyond a 20 year horizon. The ultimate facility is determined by Caltrans, in consultation with Mono County and the Mono County Local Transportation Commission.

U.S. 395 is a High Emphasis Focus Route on the Interregional Road System and is a major transportation corridor connecting the Eastern Sierra, Western Nevada, Southern California, and the Intermountain West. U.S. 395 is the major element of a transportation corridor connecting the Eastern Sierra Region (Inyo and Mono Counties) and Western Central Nevada to the Southern California region. The corridor is one of eleven major inter-regional transportation corridors in California and is vital to the economy of the Eastern Sierra region, which imports nearly all of its goods and materials. It is also recognized as one of five major recreational corridors serving all of Southern California and experiences heavy recreational use. It connects transportation systems across four states.

The highway serves multiple purposes including recreation, tourism, and goods movement to and through the communities of Inyo and Mono Counties. The highway is vital for the economy of the Eastern Sierra. An Origination and Destination Study conducted in 2000 found that 54.7 % of the traffic on U.S. 395 was recreationally oriented and that recreation vehicles comprised 3.2% of the vehicle mix. It also found that 36% of the vehicles originated in Southern California.

U.S. 395 is functionally classified as a Rural Principle Arterial and is included in the Federal Aid Primary (FAP) Highway System. It is also included in the State Freeway and Expressway System, is part of the system of routes of statewide significance, and is included in the National Highway System. Within the project limits U.S. 395 is within the *Mono Basin National Forest Scenic Area* and is an officially designated State Scenic Highway.

U.S. 395 is included in the Subsystem of Highways for the Movement of Extra Legal Permits Loads (SHELL) system, and is a Federal Surface Transportation Assistance Act (STAA) route that authorizes use by larger trucks and gives them access to facilities off the route.

U.S. 395 is recognized by the District System Management Plan (DSMP) as one of the two major transportation corridors in the District. South of Lee Vining, the District's goal is to continue efforts to upgrade U.S. 395 to a four-lane facility. North of Lee Vining, efforts to provide passing lanes, truck-climbing lanes, and operational improvements continue.

This portion of U.S. 395 is a conventional highway without a Controlled Access Highway Agreement or Freeway Agreement in place. This project will not affect its current status in this regard.

The Mono County Trails Plan states that the County will work with Caltrans to develop a bike route on U.S. Highway 395 along the west side of Mono Lake from Lee Vining to the County Park.

C. Traffic

Summaries of various current and projected traffic data are presented below based on 2010 traffic volume.

	2010	**2014**	**2024**	**2034**
AADT	3550	3710	4140	4620
Peak Hour Volume	610	NA	NA	NA
% Trucks	11.2	NA	NA	NA

NA-Not Applicable

The ten-year (04/01/2000 to 03/31/2010) accident rate within the project is 0.76 Accidents per Million Vehicle Miles (ACC/MVM) which is the below the statewide average total accident rate of 0.94. The following table shows a breakdown of accidents during this period:

Mono 395 P.M. 52.3/53.7				
Type and Number of Accidents		**Accident Rate/MVM**		
Fatal	0		**Actual**	**Statewide Average**
Injury	6	**Fatal**	0	0.026
Property Damage Only	8	**Fatal + Injury**	0.33	0.41
Total	14	**Total**	0.76	0.94

There were fourteen collisions total with no fatalities. Five of the collisions were the result of rocks in the roadway. Three of the seven injuries reported were due to rocks in the roadway. Of the five rockfall related collisions four occurred on dry roads and the last one during icy conditions. A summary of the types of collisions were as follows:

- 7 Hit object
- 1 Broadside
- 2 Head On collision
- 3 (Other)

5. ALTERNATIVES

A. Viable Alternatives

Preferred Alternative (Alternative 1, *Design Option 2*)

The DED presented one viable build alternative, Alternative 1, with two design options. Design Option 1 proposed cutting back Slopes 1 & 2 to a less steep angle and applying standard Caltrans erosion control strategies. For Slope 3, Design Option 1 recommended a revegetation strategy only and not cutting back the slope to a less steep angle. Slope 4 was to receive a hybrid rockfall system and drapery. Slope 5 was to receive a hybrid rockfall system. Slope 6 was to receive an anchored mesh treatment. In addition to the rockfall strategies outlined above, Slopes 4-6 were to receive standard Caltrans erosion control strategies. Slope rounding and rock scaling would be applied as needed to Slopes 3-6 prior to mesh installation.

The other design option shown under Alternative 1, Design Option 2, recommended the following: Slopes 1-3 would be the same as that proposed under Design Option 1. Anchored mesh was recommended for Slopes 4-6 under Design Option 2. All slopes would receive standard Caltrans erosion control strategies. Slope rounding and rock scaling would be applied as needed to Slopes 3-6 prior to mesh installation.

Since circulation of the DED, Alternative 1, *Design Option 2*, previously presented has been revised based on comments received. Both the USFS, MLC, and Lahontan's comments stress the need for a rockfall solution which also incorporates successful revegetation of the slopes. Both the USFS and MLC comments advocate a post-construction plant establishment program as part of the project scope.

The comments received were also overwhelmingly in favor of minimizing ground disturbance and advocate a regevetation only strategy to Slopes 1-2; similar to that proposed for Slope 3 in the DED. Both the USFS and MLC in their comments recognize the difficulties in stabilizing Slopes 4-6 and the potential rockfall hazards associated with them. Their comments recognize the need for and support a solution of mechanical stabilization combined with a revegetation strategy.

After numerous meetings with MLC to discuss their comments and concerns regarding the DED an *agreement* was drafted which outlines a post construction plant establishment program and revegetation strategies. The USFS is in agreement with these proposed strategies and monitoring plan.

Instrumental to the *agreement* is implementing the results obtained from the nearby Lee Vining Test Plots Project. Successful revegetation strategies gleaned from this project will be applied to all slopes of the project as applicable and appropriate.

In light of the comments received to the DED the Preferred Alternative as recommended by the PDT is Alternative 1, *Design Option 2*, with revisions made to address the comments received. The following is a summary of the *Preferred Alternative*, Alternative 1, *Design Option 2*:

PREFERED ALTERNATIVE						
	Slope 1	**Slope 2**	**Slope 3**	**Slope 4**	**Slope 5**	**Slope 6**
ALTERNATIVE 1 *Design Option 2*	Revegetate	Revegetate	Revegetate	Anchored Mesh	Anchored Mesh	Anchored Mesh

Alternative 1, Design Option 2 (Preferred Alternative) Description:

Summary for All Slopes

All slopes will receive revegetation strategies taken from and recommended from the Lee Vining Test Plots Project. Slopes 4-6 will require a mechanical form of stabilization by use of anchored mesh in addition to revegetation strategies. The use of revegetation strategies and mechanical stabilization where required will reduce the rockfall hazard, stabilize the soil, and reduce potential storm water run-off from the project. Revegetation strategies used will utilize weed free native species as specified by Caltrans Standard Specifications. Caltrans Standard Specifications will also require that vehicles be washed prior to their arrival to the project site to minimize the spread of invasive species.

All slopes will require slope rounding, and rock scaling, the degree to which is dependent on the individual slope as described below. The total material removed from all six slopes is estimated to be 3600 cubic yards. This material will be removed from the site and disposed of by the contractor at a commercial disposal facility. Caltrans Standard Specifications would address removal and collection methods of this material to assure air and water quality standards are maintained.

Right of way from the USFS will be required at all slopes totaling five acres total. See Section 6C for a discussion of additional right of way issues pertaining to the Preferred Alternative.

Description of Work at Each Slope

Slopes 1 & 2: Originally these two slopes were proposed to be cut back to a less steep angle and revegetated using standard Caltrans erosion control methods to reduce rockfall. Since these two slopes pose a lesser risk of rockfall potential, as shown in the rockfall hazard rating assessment in section 4 and attached to this document, a vegetated only solution to control rockfall and erosion is now proposed. Caltrans Maintenance has also stated they collect less rockfall along these two slopes and Slope 3 compared to Slopes 4-6. The two slopes will not be cut back as previously proposed. This will significantly reduce the amount of ground disturbance and amount of exported soil from the site required. Successful results taken from the Lee Vining Test Plots Project will be implemented on these two slopes. Slope rounding of the crown will be required to reduce the potential for erosion and facilitate revegetation strategies. Where applicable and/or feasible, existing topsoil/duff will be collected prior to any slope rounding or rock scaling operations and be placed back on the finished slope. Rock scaling will occur as needed and as applicable prior to implementation of revegetation strategies. Best Management Practices (BMPs) will be implemented to protect water quality. A new dike may be added to maintain the toe of slope and flow line. A post-construction five year revegetation monitoring program will occur as summarized in the attached Environmental Document.

With the vertical crowns removed (rounded), loose rocks removed (rock scaling), and revegetation established, the slope surface will be stabilized. This will reduce rockfall and soil erosion from these slopes.

Slope 3: Will receive the same revegetation only strategies recommended for Slopes 1 & 2 above. The existing slope would not be laid back to a lesser angle but would require rounding of the top of slope and rock scaling. Where applicable and/or feasible, existing topsoil/duff will be collected prior to any slope rounding or rock scaling operations and be placed back on the finished slope. Successful results taken from the Lee Vining Test Plots Project would be implemented on this slope as well. BMPs and storm water monitoring will be implemented to protect water quality as described in section 6E. A post-construction five year revegetation monitoring program will occur as summarized in the attached Environmental Document.

With the vertical crowns removed (rounded), loose rocks removed (rock scaling), and revegetation established, the slope surface will be stabilized. This will reduce rockfall and soil erosion from these slopes.

Slope 4, 5, 6: These slopes would all receive an anchored mesh application along with revegetation strategies from the Lee Vining Test Plots Project to reduce rockfall and sediment erosion. Double Twisted Wire Mesh (DTWM) would be used for Slope 4 due to the smaller size rocks at this location. Because of the larger rocks found on Slopes 5 & 6 a combined DTWM and cable mesh would be utilized. The smaller openings in DTWM combined with the larger cable mesh would be effective at holding back both small and large rocks found on these slopes. The nominal opening size for DTWM varies in width between 2.5-3.25 inches. Cable mesh openings vary in width between 6-12 inches. Mesh size along with anchor size/spacing would be as specified by Caltrans Geotechnical Department. A color treatment would be applied to the mesh and associated anchors and hardware consistent with the guidelines found in the *Mono Basin National Forest Scenic Area Comprehensive Management Plan.* A color treatment would be applied to the mesh and associated anchors and hardware consistent with the guidelines found in the *Mono Basin National Forest Scenic Area*

Comprehensive Management Plan. The color treatment would be chosen by the USFS. Anchoring the mesh to the slope would hold rocks on the slope preventing them from rolling out on the highway and help stabilize the smaller soil particles.

Slope rounding and rock scaling would be applied where appropriate to minimize erosion potential and remove loose rocks from the surface. Where applicable and/or feasible, existing topsoil/duff will be collected prior to any slope rounding or rock scaling operations and be placed back on the finished slope.

Localized grading within the eroding portion of the slope may be required to remove any surficial irregularities to promote improved contact between the slope surface and the mesh. Large keystone rocks shall be left in-place undisturbed below grade, but the portion above grade may be trimmed to within the tolerances specified in the standard specifications for earthwork. The existing available dirt shoulder will be uniformly graded to a back slope and angled towards the toe of slope of approximately 5 percent. This will be done to contain any loose rock that finds its way down the slope and without widening the existing catchment area. A dike could be added to the toe of slope to prevent under cutting of the slope.

Implementation of the revegetation strategies gained from the Lee Vining Test Plots Project will further stabilize the slope surface and minimize soil erosion. BMPs and storm water monitoring will be implemented to protect water quality as described in section 6E. A post-construction five year revegetation monitoring program will occur as summarized in the attached Environmental Document.

PREFERRED ALTERNATIVE Alternative 1 - Design Option 2 – Estimated Cost (2013)	
Roadway	$ 6,802,000
Structures	$ 0
R/W Acquisition	$3000
Utility Relocation	$ 0
TOTAL	$6,805,000

(Amounts in June, 2013 dollars)

Selection of the Preferred Alternative

The rationale for selecting Alternative 1, Design Option 2, as the Preferred Alternative are as follows, and in no particular order:

1. Satisfies the purpose and need.
2. Meets the requirements specified by the USFS and those found in the *Mono Basin National Forest Scenic Area Comprehensive Management Plan.*
3. Will provide a long term solution to stabilizing these slopes, reduce rockfall, and reduce soil erosion. While Design Option 1 would have met the purpose and need of the project, it would have allowed continuation of controlled rockfall and soil erosion on slopes 4-6. This would not have meet the requirements of the local stake holders of incorporating a revegetation strategy.

4. Will reduce Maintenance's operating costs and risk exposure more so than Design Option 1. The frequency of "Rock Runs" made by Maintenance would be reduced.
5. Addresses the concerns of the local stake holders in the area of the project (USFS, MLC, State Parks).
6. Environmental impacts would be reduced with this option. Less ground disturbance (soil and vegetation) would occur.

Other Viable Alternatives

Design Option 1:

Slopes 1 & 2 are proposed to be laid back to a less steep angle of 1.5:1(h:v). A new dike will be added to the toe of slope to replace the existing dike, which will be removed, to maintain the flow line and prevent undermining the toe. Existing topsoil and duff will be collected prior to grading operations and stockpiled for placement on the finished slope. Slope rounding will be done at the perimeter of the new slope to reduce erosion of the hinge point and to enhance the visual aesthetic. Standard Caltrans erosion control and revegetation standards utilizing native plant seeds would be applied to the slopes. This erosion control procedure would act as both a short term storm water Best Management Practice (BMP) and a long term storm water design solution.

Slope 3 is proposed to receive a vegetated solution applied to the existing slope. Under this alternative the existing slope would *not* be laid back to a lesser angle as proposed for slope 1 and slope 2 but would require rounding the top of the slope and rock scaling of the slope itself. Existing topsoil and duff will be collected prior to any grading or rock scaling operations and be stockpiled for placement on the finish slope. Standard Caltrans erosion control and revegetation standards utilizing native plant seeds would be applied to the slopes. A new dike would replace the existing deficient dike to prevent undercutting of the slope and maintain the flow line.

Slope 4: the southern half will receive a hybrid system composed of double twisted wire mesh (DTWM) while the northern half will receive DTWM drapery. Standard Caltrans erosion control and revegetation standards utilizing native plant seeds would be applied to the slopes. This erosion control procedure would act as both a short term storm water Best Management Practice (BMP) and a long term storm water design solution.

Slope 5: will receive a hybrid system composed of cable mesh with DTWM. As an option, DTWM could be placed over the cable mesh instead of beneath it to provide a uniform look with other DTWM drapery installed on slope 4. Standard Caltrans erosion control and revegetation standards utilizing native plant seeds would be applied to the slopes. This erosion control procedure would act as both a short term storm water Best Management Practice (BMP) and a long term storm water design solution.

Slope 6: Because of the limited sight distance for southbound travelers compounded by the limited containment area below the slope for rockfall debris a hybrid or drapery system is deemed inappropriate here; instead this slope will receive an anchored cable mesh system with DTWM. As an option, DTWM could be placed over the cable mesh instead of beneath it to provide a uniform look with other DTWM drapery installed on slope 4. Standard Caltrans erosion control and revegetation standards utilizing native plant seeds would be applied to the slopes. This erosion control procedure would act as both a short term storm water Best Management Practice (BMP) and a long term storm water design solution.

For *slopes 4-6* Existing topsoil and duff will be removed and stockpiled prior to grading where feasible. Rock scaling and slope rounding will precede any placement of drapery or anchored mesh in order to remove any unstable surficial rock from the slope. In addition to the rock scaling, localized grading within the eroding portion of the slope may be required to remove any surficial irregularities to promote improved contact between the slope surface and the mesh. For drapery installations, large keystone rocks on the slope may be left in-place and either pinned or lashed down instead of excavated. For anchored mesh, large keystone rocks shall be left in-place undisturbed below grade, but the portion above grade shall be trimmed to within the tolerances specified in the standard specifications for earthwork. The existing available dirt shoulder will be uniformly graded to a back slope and angled towards the toe of slope of approximately 5 percent. This will be done to contain any loose rock that makes its way down the slope; the existing catchment area will not be widened. A dike could be added to the toe of slope to prevent undercutting of the slope. Slope rounding would be performed where the actively eroding slope and the uphill non eroding slope meet and at any top of existing cuts which are not rounded. This would reduce surface erosion and prevent erosion of the hinge point. DTWM and/or cable mesh products along with any supporting appurtenances would be colored to blend in with the surrounding environment.

Right of way from the USFS will be required at all slopes for this option. An estimated 5.4 acres total would be required. Design Option 1 would produce approximately 10,400 cubic yards of excess material which would need to be removed from the site and disposed of at a commercial disposal facility. The majority of this material would be generated from cutting Slopes 1 & 2 back to a less steep slope.

Alternative 1 - Design Option 1 – Estimated Cost (2013)	
Roadway	$ 3,184,000
Structures	$ 0
R/W Acquisition	$ 0
Utility Relocation	$ 0
TOTAL	$ 3,184,000

(Amounts in June, 2013 dollars)

This option was not chosen because it did not meet the requirements of the local stake holders (USFS, MLC, CA. State Parks). The local stake holders preferred a more long term vegetated solution which Design Option 1 may not have provided. While Slopes 1 & 2 would have likely revegetated in the long run, Slopes 4-6 may not have revegetated. Use of drapery on Slopes 4 and 5 by its' design would allow rocks to fall and continued erosion of the slope, albeit in a controlled manor. Under this design option Slope 6 would have likely revegetated as it would use an anchored mesh design. However, application of standard Caltrans erosion control methods and its ability to successfully revegetate the slopes using those methods was questioned in the comments received during circulation of the DED. With regards to Slopes 1 & 2, since these posed less rockfall risk, the PDT chose to try a lesser ground disturbing strategy for revegetation.

Alternative 2 No Build

The "No Build" alternative would leave the slopes as-is and unimproved. This alternative would not address the project purpose and need.

Common Features of the build Alternatives:

Geometrics: No modifications to the existing highway alignment are proposed.
Drainage Improvements: No drainage improvements are proposed.
Nonstandard Features: No nonstandard features are proposed.
ADA Facilities: No ADA facilities are proposed nor will any be modified.
Park and Ride Facilities: No park and ride facilities are proposed.
Utility Involvement: There is no utility involvement associated with this project.
Railroad Involvement: There is no railroad involvement associated with this project.
Non-motorized facilities: The California Complete Streets Act of 2008 required the Department to include complete street policies as part of planning, design and construction so that roadways will safely accommodate all users including bicyclists, pedestrians, transit riders, children, older people, and disabled people, as well as motorists. The alternatives proposed in this project are consistent with the California Complete Streets Act of 2008. In addition, construction staging will be designed to allow for the passage of bicycles and pedestrians.

B. Geotechnical Engineering Recommendation

The Preferred Alternative recommended herein is in accordance with the Geotechnical Design Report included as Attachment H. Caltrans Geotechnical will provide an updated recommendation for the anchored mesh design.

C. Rejected Alternatives

This project has considered several rockfall solution strategies which have been used throughout the state. The rockfall strategies listed below were deemed to be inappropriate for this project due to the combination of factors listed.

- **Offset U.S. 395 to the East**: This solution would realign U.S. 395 to the east of its existing location to move the highway away from the slopes producing rockfall. It would also construct a rockfall containment ditch to collect rockfall and prevent it from getting on the highway. An offset of 50 feet from Slopes 4-6 was used for the analysis. The additional benefits of doing this would increase stopping sight distance, reduce the potential for ice formation on the roadway, and would provide additional snow storage in the winter. This solution was rejected because of its' potentially significant environmental impacts and excessive costs noted below:
    - Would require the acquisition 4(f) public park and recreational lands as defined by Federal Department of Transportation Law (49 USC 303).
    - Would directly impact special status species habitat
    - Would require placement of fill in the future footprint of the management high water level of Mono Lake as set by the Mono Lake Basin Water Right Decision 1631. The State Water Resources Control Board mandated LADWP raise the level of Mono Lake to

a median elevation of 6,392.0 feet above sea level. The lake may occasionally rise to as high as 6,400 feet.
- The length of realignment would be over one mile, extending beyond the rockfall locations.
- Fill slopes would be up to 40 feet tall.
- Up to 200,000 cubic yards of imported material would be required to construct fill slopes.
- The cost is estimated at $9,000,000 for capital construction only (mitigation costs were not estimated).

- **Shotcrete Wall with Soil Nails or Tie-Backs**: This type of wall is an effective rockfall and erosion reduction strategy. A structural shell is constructed over the degraded cut slope encapsulating it and preventing movement or erosion. This alternative was proposed for Slope 6 but rejected for the following reasons:
  - Excessive cost at approximately $2,200,000 for just Slope 6.
  - Hydrostatic pressure must be accounted for and mitigated by costly drainage features.
  - There is potential for erosion at the structure boundaries.
  - Walls were considered inappropriate in the project context compared to other viable options.

- **Grade or Bench the Slope:** Grading a slope to an angle where rocks are stable and not prone to movement is one of the most effective rockfall and erosion reduction strategies available. Benching a slope can be effective if a steeper slope is required because the cost of acquiring additional right of way is prohibitive. Flattening (grading) or benching Slopes 4, 5, and 6 was rejected for the following reasons:
  - Technically infeasible: Slopes would not "daylight" at an inclination where rockfall would be mitigated.
  - Excessive disturbed area
  - Excessive cost based upon excessive quantity of material generated.

- **Rock Shed**: Rock sheds function similarly to tunnels, traffic passes through a structure and rockfall is channeled over the structure. Rock Sheds are usually built in areas of severe rockfall. Consideration of rock sheds was rejected by the PDT for the following reasons:
  - Rockfall not severe enough to warrant a rock shed.
  - Excessive cost: $140,000,000

- **Viaduct:** A viaduct functions similarly to a highway realignment in that the roadway is moved away from the rockfall. A viaduct is a structure that is either elevated off of the ground or has a portion of the roadway structure cantilevered over the ground. A viaduct can be designed to allow rockfall to pass under the structure or catchment ditches can be constructed in addition to a cantilevered viaduct. Consideration of constructing a viaduct around Slopes 4-6 was rejected for the following reasons:
  - Excessive cost. It would cost in excess of $30,000,000.
  - The concrete piers and box sections of a viaduct would be highly visible.
  - Would directly impact special status species habitat
  - This solution would require the acquisition of 4(f) public park and recreational lands as defined by Federal Department of Transportation Law (49 USC 303).

- **Flexible Rockfall Barriers:** Flexible rockfall barriers are designed to catch and ensnare rocks within an energy absorbing mesh to prevent rocks from reaching the roadway. If a rockfall event does occur, the rocks would need to be removed from the mesh quickly in order to reestablish the systems rockfall prevention effectiveness. This system would likely be installed high up-slope, making removal of the rockfall difficult and costly. Because the rock is being caught in the mesh, larger design forces and energies imparted to the system components would require more robust components thus increasing the costs as compared to a hybrid system. Further, the flexible rockfall barrier would need to be disassembled in order to release the rock from the mesh. The rockfall debris would then fall to the road where maintenance forces or contractor would then remove it. Though technically feasible and effective at preventing rocks from reaching the road, this method was rejected for the following reasons:

- Increase maintenance forces' exposure to rockfall and traffic during removal.
- More complicated method of rockfall debris removal as compared to draped, hybrid, or current "rock patrol" methods.
- More costly and time consuming, may require maintenance contract. Approximately $2,800,000 for barrier only at Slopes 4 through 6.
- Depending on the frequency and size of the rockfall event, the system may need recurring replacement of various components or whole sections at a time.

- **Rigid Barriers:** Rigid barriers such as concrete walls, timber walls, k-rail, and earthen berms provide a protective barrier between the roadway and the rockfall. The physical size, height and width, and construction materials utilized depend on the size of the potential rockfall, width of catchment area between the toe of slope and the barrier, and its' proximity to the roadway. Over time as rockfall events occur, the debris will accumulate behind the wall and need to be removed. An area large enough behind the barrier to accommodate removal equipment such as front end loaders is usually required. This allows maintenance forces to remove the debris as quickly as possible, reducing traffic impacts (lane closures) and exposure to rockfall. Without adequate access behind a barrier system, debris would have to be scooped out from behind, increasing the time involved to remove said debris. This would create longer traffic impacts and increase maintenance forces' exposure to rockfall and traffic. This rockfall prevention strategy was rejected for the following reasons:
    - The project site has variable width catchment areas from 2 feet to 10 feet in width making removal methods difficult to unattainable.
    - The close proximity to the traveled way could pose a traffic hazard
    - A barrier may only be feasible at some locations because of the limited catchment widths.
    - Walls were considered inappropriate in the project context compared to other viable options.

6. CONSIDERATIONS REQUIRING DISCUSSION

A. Hazardous Waste

There are no known hazardous waste sites within the project limits.

B. Value Analysis

Because the project cost is less than $50 million ($50 million (Deputy Directive DD-92-R1, December 1, 2012) in capital costs, a formal value analysis is not required. However, the principles of value engineering have been applied throughout the development of the project to ensure cost effectiveness of the proposal.

C. Right of Way Issues

Right of Way from the USFS will be required for the Preferred Alternative. All six slopes will require new right of way for a total of five acres required for the project. New right of way is required to allow slope rounding, rock scaling, and installation of the anchored mesh as described in section 5 above.

In their comments to the DED, the USFS has stipulated as a condition of any right of way granted that:

1. A "...specific revegetation plan be submitted and reviewed by a forest botanist that includes a specific seed mix and performance standards for the regrowth of vegetation on these slopes."
2. "...a weed monitoring plan for the project area, with removal of weed infestations, be implemented."

There is no cost to the State for the proposed required right of way from the USFS. However there is a fee associated with the review of the project by the Department of Fish and Wildlife. This is shown in the attached Right of Way Data Sheets for the Preferred Alternative. There are no utilities associated with this project.

D. Environmental Issues

The Environmental Document for this project is An Initial Study with Mitigated Negative Declaration/Environmental Assessment with Finding of No Significant Impact (FONSI). The ND has been prepared in accordance with Caltrans' environmental procedures, as well as State and federal environmental regulations. The attached ND is the appropriate document for the proposal. The Federal Highway Administration (FHWA) and Caltrans will act as lead agency in the preparation of the document. The Environmental Document and the final Project Report are anticipated to be approved in June of 2013. Based upon the findings in the Environmental Document, the project has no potential to significantly impact the following environmental resources:

<u>Wetlands and Waters of the U.S.</u>

A wetland delineation was completed and it was determined that no wetlands will be directly or indirectly impacted by the construction of this project. Refer to the attached Environmental Document and the Natural Environment Study dated June 2012 for more detail information.

<u>Cultural Resources</u>

The entire project study area has been surveyed for cultural resources. The proposed project will have no potential to affect historic properties as determined in the Cultural Clearance Memo dated April 17, 2012. Refer to the attached Environmental Document for more detail information.

<u>Paleontological Resources</u>

The proposed project would not affect paleontological resources. Refer to the attached Environmental Document and the Paleontological Identification Report dated March 26, 2007 for more detail information.

<u>Biological Resources</u>

The proposed project will have no adverse impacts to Natural communities, Plant Species, Animal Species, or Threatened and Endangered Species and no compensatory mitigation is proposed based on the findings in the Natural Environment Study (NES) dated June 2012.

Though no adverse impacts have been identified, there are three special-status species of wildlife, the willow flycatcher, the long-eared owl, and yellow warbler, which may have the potential to undergo disturbance-related impacts from the proposed construction activities. All three species have the potential to inhabit the riparian willow habitat located in three places on the east side of the highway across from Slopes 3, 4, and 6; though none of these species were observed during the field surveys conducted for the NES. Because of the potential for these three species to be present during the proposed construction activities the following minimization measures are proposed:

- Preconstruction surveys and monitoring would be required for the areas across from Slopes 3, 4, and 6 to determine if nesting birds were in the area.
- Construction personnel and equipment would not be allowed to enter these three willow habitat locations located across from Slopes 3, 4, and 6.
- Applicable contract language as found in the Biological Resources, section 14-6 of the 2010 Standard Specifications, would be included in the contract documents.

Should nesting birds be found, construction activities would not be allowed to start or would need to be suspended at Slopes 3, 4, and 6 until subsequent surveys indicate that nesting birds are no longer present. Should special-status species be found they would need to be protected as directed in the contract language. Detailed information regarding these issues can be found in the Natural Environment Study dated June 2012.

Though no special-status plant species were located during field surveys, there does exist the possibility that some could be present within the project footprint. Because the possibility exists pre-construction botanical surveys of the project impact areas will be required. Applicable contract language as found in the Biological Resources, section 14-6 of the 2010 Standard Specifications, would be included in the contract documents.

<u>Community Impacts</u>
The proposed project will not have any impacts on the cohesion and character of the local community and it will not require the relocation of any homes or businesses.

<u>Visual Impacts</u>
The project is located in the *Mono Basin National Forest Scenic Area* and U.S. 395 is a designated State Scenic Highway within the project limits. The existing slopes are highly visible from the highway due to the white exposed soils that make up the slope surface. This is in contrast to the adjacent non-eroded surfaces covered with native vegetation which consists of mostly green and brown earthen tones. The existing cut slopes remain mostly unvegetated and in a state of constant erosion.

The primary visual impacts would be a result of disturbance and removal of native vegetation during construction. These impacts would be temporary and would be mitigated by minimizing slope rounding and minimizing the amount of new ground disturbance. Further, collection of topsoil prior to ground disturbing activities would be placed back on the finished surfaces where feasible. Application of revegetation strategies taken from the Lee Vining Test Plots Project to the slopes would further serve to stabilize the slope and mitigate for the temporary visual impact. A five year post-construction plant establishment program will be implemented as outlined in the attached Environmental Document. A color treatment would be applied to the mesh and associated anchors and hardware consistent with the guidelines found in the *Mono Basin National Forest Scenic Area Comprehensive Management Plan.* The color treatment would be chosen by the USFS.

A Visual Impact Assessment was completed in June 2012 and determined that the build alternative would contrast less with the surrounding native context. Refer to the attached Environmental Document attached herein and the Visual Impact Assessment technical report for more detailed information.

Noise
The project will not have any significant impact on noise levels. There are no receptors in the vicinity of the project. Please refer to the Noise Study Report for more detailed information.

E. Water Quality Considerations

The project has the possibility to indirectly discharge to Mono Lake. Mono Lake, a saline water-body, is listed on the 303(d) list but is not considered a sediment-sensitive water body and is listed for salinity/TDS/chlorides. There are no TMDLs established for it and it does not meet the criteria of having beneficial uses for COLD, SPAWN, and MIGRATORY.

Mono Lake is designated as an Outstanding National Resource Water (ONRW), by the State Water Resources Control Board (1994) and the EPA, one of two such designations in the State of California. This is a Federal Antidegradation Policy which provides protection to high quality water resources of national importance. ONRW designation allows some limited activities which result in temporary and short-term changes to water quality, but such changes should not adversely affect existing uses or degrade the essential character or special uses for which the water was designated an ONRW. Appropriate Best Management Practices(BMPs) in combination with the project's proposed slope stabilization methods, appropriate Storm Water Pollution Prevention Plan (SWPPP) and a five year plant establishment program will prevent degradation of water quality. There are no other listed receiving water bodies within the project limits. Considering the sensitivity of the Mono Basin, proximity of Mono Lake to the project, and the erodible soils found within the project, an overall combined risk level of 2 has been determined.

The six project slopes consists of existing cut slopes which vary in steepness from 1:1 or steeper. The existing surface of these slopes are currently in a constant state of erosion and shed rock and sediment. The Preferred Alternative will disturb approximately 5.5 acres total. Approximately 2.8 acres of the 5.5 acres of disturbed soil is the existing eroded surfaces. This 2.8 acres of existing eroded surface will be disturbed during installation/construction of the revegetation strategies and rockfall prevention strategies this project proposes; as such it was included in the total disturbed soil area of the project. Ground disturbing activities will include rounding the tops of existing cut slopes to reduce erosion potential and rock scaling activities to remove loose rock from the slope. Minor grading of the existing eroded slope surface may be required to facilitate better revegetation establishment and/or anchored mesh contact with the slope. The project will maintain the original purpose of the facility and will not increase hydraulic capacity.

Because the project proposes a Disturbed Soil Area (DSA) greater than 5.0 acres a Long Form Storm water Data Sheet (Attachment I) has been prepared for the project. The proposed project will comply with the Construction General Permit (CGP) and implement BMPs and water quality monitoring appropriate for a risk level 2 project as stipulated by the CGP to address construction related water quality issues. In accordance with the CGP requirements a SWPPP will be required as well. Revegetation strategies taken from the Lee Vining Test Plots Project will be applied to all six slopes. Additional mechanical stabilization utilizing anchored mesh will be installed on Slopes 4-6. Once installed the revegetation strategy and mechanical stabilization methods will provide both short term and long term soil stabilization; reducing potential soil erosion and minimize potential impacts to water quality. It's expected that once these revegetation and mechanical stabilization strategies are in-place the disturbed surface areas will be stabilized and meet the requirements of the CGP's *Conditions for Termination of Coverage*. Once project is finished with construction, Caltrans will implement a five year post-construction plant establishment program. With regards to water quality, the plant establishment program will maintain the revegetated areas as needed to maintain water quality standards.

F. Air Quality Conformity

Impacts to air quality during construction would be addressed by Caltrans Standard Specifications section 14-9.02, Air Pollution Control and section 14-9.03 Dust Control. The Mono Lake area is classified as a "non-attainment, unclassified" area and is exempt from further air pollution impact studies.

G. Title VI Considerations

In accordance with Caltrans' Title VI Policy, no person would be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination during the development and construction of this project on the grounds of race, color, sex, or national origin. The project would not discriminate against any private landowners within or adjacent to the project limits and would benefit all people regardless of race, color, sex, or national origin.

H. Complete Streets

The California Complete Streets Act of 2008 required the Department to include complete street policies as part of planning, design and construction so that roadways will safely accommodate all users including bicyclists, pedestrians, transit riders, children, older people, and disabled people, as well as motorists. The alternatives proposed in this project are consistent with the California Complete Streets Act of 2008. In addition, construction staging will be designed to allow for the passage of bicycles and pedestrians.

7. OTHER CONSIDERATIONS AS APPROPRIATE

A. Public Hearing Process

A public meeting was held in Lee Vining on August 7, 2012. The Draft Environmental Document (DED) was circulated for public review and comments between July 27, 2012 to September 27, 2012. The comment period was extended at the request of the USFS. The public meeting was held to address potential concerns of this project. There was a low attendance from the general public. Those who showed up asked questions about the project and were asked to leave a formal comment. MLC had a representative attend the meeting and asked questions about the project. Refer to section 5A of this report regarding changes in the project as a result of comments received. The local agencies are in general agreement with the project and the Preferred Alternative.

B. Route Matters

This project will not require relinquishments, route adoptions, freeway agreements or controlled access highway denominations.

C. Material Sites

The Preferred Alternative will generate approximately 3600 cubic yards of excess material which will need to be removed from the site. This would be disposed of at a commercial disposal site or taken to an approved Caltrans Material Site by the contractor.

D. Stage Construction

Contractor staging may be utilized on the west side within the work zone. Temporary stockpiles may be placed along the road where room is available and 15 feet of clearance can be maintained from public traffic. The Lee Vining Maintenance Supervisor has indicated that the Lee Vining Maintenance Station can be used for contractor staging and operations. The contractor is free to develop arrangements with private entities for staging so long as proper permits and agreements are acquired by the contractor. The Old Marina location which is located across from Slope 4 will not be utilized for stage construction purposes and will remain open to the public during construction.

It's anticipated that portions of the south bound lane between Slopes 4-6 will be closed to create a work zone as detailed in the staging plans and contract language. Since this is a two lane section, 24 hour reversible one way controlled traffic will be required as k-rail will likely be installed along with a temporary chain link fence rock barrier. Traffic control for this section would likely require a pilot car escort 24 hours a day for the duration of work. The traffic management plan would include measures to notify the public of this traffic control, construction area signs, k-rail channelization of traffic, crash cushions, restriping, flashing arrow signs, and portable changeable message signs. There are no practical alternate routes available for traffic during construction of this project.

For Slopes 1 - 3 daily standard traffic control procedures would be required to provide safe passage through the work zone. Standard construction area signs and devices would be used to alert motorists in advance of entering the construction area. Standard Special Provisions, Lane Closure Plans, and other appropriate plans would be included in the project documents to ensure traffic safety throughout the project. Further traffic management measures may also be implemented for unusual and unplanned circumstances, and would be determined on an individual basis.

Due to the additional risk of accidents in the winter, the project should be scheduled so all work affecting traffic can be done in one construction season.

Staging plans and contract language would be created to minimize traffic congestion during one-way controlled traffic.

E. Permits

The only permits anticipated for the project are those associated with the NPDES Construction General Permit for storm water.

F. Transportation Management Plan

A Transportation Management Plan has been prepared for this project (Attachment J). Media releases, public meetings, and internet websites will be used to keep the public informed on construction progress and information relating to delays, closures, and major changes in traffic patterns. The District 9 Public Information Officer would be responsible for coordinating media releases and updating relevant project information. Project information would also be disseminated to Local tourist destinations such as Yosemite National Park, the Inyo National Forest Service Visitor centers, locations throughout Mono County, and the Mono Lake Visitor Center.

G. Other Agreements

As a result of comments collected during the public comment period, Caltrans has entered into an agreement with the MLC to implement a revegetation strategy based on the results and recommendations taken from the Lee Vining Test Plots Project and implement a post-construction five year plant establishment program. The details of which are included in the attached Environmental Document.

8. FUNDING/PROGRAMMING

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

Capital Outlay and Capital Outlay Support

This project was programmed as an amendment in the 2008 SHOPP program. $5,968,000 was programmed for capital construction and $90,000 was programmed for capital right of way.

The following table provides the current programming information.

Existing Programming - Funding Table (Capital & Support)

Project Cost Component	Fiscal Year				Total
	2011/12	2012/13	2013/14	2014/15	
PA & ED Support	$1,120				$1,120
PS & E Support		$840			$840
R/W Support		$90			$90
CON Support				$770	$770
R/W Capital			$90		$90
Const Capital			$5,968		$5,968
Total	**$1,120**	**$930**	**$6,058**	**$770**	**$8,878**

Notes:
1) All costs x$1,000;
2) Support Costs escalated at 3.1% to mid-point of required fiscal year
3) Capital Construction cost escalated at 6.0 % to mid-point of construction

Programming requested:

Project Cost Component	Prior FY	Fiscal Year			Total
	2011/12	2012/13	2013/14	2014/15	
PA & ED Support	$1,120				$1,120
PS & E Support		$840			$840
R/W Support		$90			$90
CON Support				$770	$770
R/W Capital			$3		$3
Const Capital				$7,273	$7,273
Total	**$1,120**	**$930**	**$3**	**$8,043**	**$10,096**

Notes:
1) All costs x$1,000;
2) Support Costs escalated at 3.1% to mid-point of required fiscal year
3) Capital Construction cost escalated at 6.0 % to mid-point of construction

The following table provides the escalated cost of the Preferred Alternative, Alternative 1, *Design Option 2* escalated to the mid-point of construction (2015 fiscal year):

Preferred Alternative Construction Costs (by Fiscal Year)

Project Component	Fiscal Year	
	2012/2013	2014/15
Construction	$6,802	$7,272
Right of Way	$3	$3
TOTAL	$6,805	$7,275

All costs x$1,000;
Costs escalated at 3.1% to mid-point of construction

9. SCHEDULE

The current schedule as identified in the Project Status Report is shown below:

Milestone	Milestone Dates	Month/Day/Year
M200	PA & ED	07/01/2013
M224	R/W Maps	03/29/2013 (A)
M225	Regular R/W	08/01/2013
M377	PS&E to DOE	02/01/2014
M380	Project PS&E	06/01/2014
M410	R/W Certification	08/01/2014
M460	Ready to List	09/01/2014
M480	HQ Advertise	12/01/2014
M495	Award Contract	02/15/2015
M500	Approve Contract	03/01/2015
M600	Contract Acceptance	12/01/2015
M800	End Project	09/01/2016

(A) = Actual

10. RISKS

For project related risks see Attachment K.

11. FHWA COORDINATION

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

12. PROJECT REVIEWS

This Project Report and the Environmental Document have been reviewed by all pertinent functional units within Caltrans and all appropriate comments have been incorporated.

Scoping team field review		Date July 19, 2011
District Program Advisor	*Terry Erlwein*	Date May 31, 2013
District Maintenance	*Mark Logan*	Date Dec. 13, 2012
Project Manager	*Cedrik Zemitis*	Date May 31, 2013
District Safety Review	Lianne Talbot	Date June 13, 2013
Constructability Review		Date June 13, 2013
Right-of-Way Review		Date May 31, 2013

13. PROJECT PERSONNEL

Title	Name	Telephone
Project Manager	Cedrik Zemitis	(760) 872-5250
Design Manager	Brian Wesling	(760) 872-0630
Project Engineer	Cory Freeman	(760) 872-0716
Environmental Unit Supervisor	Susan Schilder-Thomas	(559) 445-6429
Environmental Generalist	Susan Schilder-Thomas	(559) 445-6429
Right of Way Branch Chief	Nancy Escallier	(760) 872-0641

14. LIST OF ATTACHMENTS

ATTACHMENT	TITLE
A	Environmental Document
B	Location Map – Title Sheet
C	Layout Sheets
D	Typical Cross Sections
E	Cost Estimates
F	Right of Way Data Sheets
G	Traffic Report
H	Geotechnical Design Report
I	Storm Water Data Report
J	Traffic Management Plan Checklist
K	Risk Management Plan

Attachment A

Lee Vining Rockfall Safety Project

On U.S. 395 near Lee Vining from 0.4 mile north of National Forest Visitor Center Road to 0.7 mile north of Picnic Grounds Road
Mono County, California

09-MNO-395-PM 52.3/53.7
Project No. 0900020002
SCH No. 2012072055

Initial Study with Mitigated Negative Declaration/ Environmental Assessment with Finding of No Significant Impact

Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation under its assumption of responsibility pursuant to 23 U.S. Code 327.

July 2013

Caltrans

General Information About This Document

What's in this document?

The document contains a Mitigated Negative Declaration and Finding of No Significant Impact that examines the environmental effects of the proposed project on U.S. Route 395 near the town of Lee Vining in Mono County.

The Initial Study with proposed Negative Declaration and Environmental Assessment were circulated for public review from July 27, 2012 to September 24, 2012. Written comments received on the draft document and Caltrans' responses are shown in the Comments and Responses appendix (Appendix H), which has been added since the draft document circulation. Elsewhere throughout this document, a line in the right margin indicates a change to the document since the draft was circulated.

What happens after this?

The proposed project has completed environmental compliance after the publication of this document. When funding is approved, Caltrans, as assigned by the Federal Highway Administration, can design and build all or part of the project.

This document is available at the following locations:

- Caltrans district office, 500 South Main Street, Bishop, CA 93514
- Mono Basin Scenic Area Visitor Center, 1 Visitor Center Drive, Lee Vining, CA 93541
- Lee Vining Branch of the Mono County Library, 51710 U.S. 395, Lee Vining, CA 93541
- Mono Lake Committee Information Center and Bookstore at the corner of U.S. 395 and Third Street, Lee Vining, CA 93541
- The document can also be accessed electronically at the following website: http://www.dot.ca.gov/dist6/environmental/envdocs/d9/.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to the Department of Transportation, Attn: Susan Schilder-Thomas, Central Region Environmental Division,855 M Street, Suite 200, Fresno, CA 93721; (559) 445-6429 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

09-MNO-395-PM 52.3/53.7
Project ID: 0900020002
SCH #: 2012072055

Install rockfall protection measures on U.S. 395 from post mile 52.3 to 53.7 in Mono County

INITIAL STUDY
with Mitigated Negative Declaration
/ENVIRONMENTAL ASSESSMENT with
Finding of No Significant Impact

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S. Code 4332(2)(C) and 23 U.S. Code 327

THE STATE OF CALIFORNIA
Department of Transportation

7/25/2013
Date of Approval

Thomas P. Hallenbeck
District 9 Director
California Department of Transportation
NEPA Lead Agency

7/25/2013
Date of Approval

Janet Newland
Office Chief, Central Region
Environmental Central Coast Office
California Department of Transportation
CEQA Lead Agency

Finding of No Significant Impact

The California Department of Transportation (Caltrans) has determined that the build alternative will have no significant impact on the human environment. This FONSI is based on the attached Environmental Assessment which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached Environmental Assessment.

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

4/25/2013
Date

Thomas P. Hallenbeck
Caltrans District 9 Director

Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to reduce rockfall at six slopes along U.S. 395 north of Lee Vining in Mono County. The proposed project begins at post mile 52.3 and ends at post mile 53.7. The main purpose of the project is to improve safety for the traveling public and maintenance personnel by reducing rockfall from the existing steep slopes between these post miles.

Determination

Caltrans has prepared an Initial Study for this project and, following public review, has determined from this study that the project will not have a significant effect on the environment for the following reasons:

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

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

- Existing vegetation will be preserved as much as possible.
- Existing landforms will be preserved where feasible.
- A color treatment will be applied to the anchored mesh and associated hardware to match the surrounding natural setting. The color of the system elements will be approved by a U.S. Forest Service Landscape Architect.
- A plant establishment program will be implemented to promote successful revegetation.

Janet A. Newland

Janet Newland
Office Chief Central Region
Environmental Central Coast Office

July 25, 2013
Date

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List of Abbreviated Terms

Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
FHWA	Federal Highway Administration
NEPA	National Environmental Policy Act
PM	post mile
EPA	Environmental Protection Agency

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans), as the California Environmental Quality Act lead agency and National Environmental Policy Act lead agency, proposes to reduce rockfall at six steep slopes along U.S. 395 north of Lee Vining in Mono County. The project begins at post mile 52.3, about 0.4 mile north of National Forest Visitor Center Road, and ends at post mile 53.7, about 0.7 mile north of Picnic Grounds Road. Figures 1-1 and 1-2 show the project vicinity and location.

The project is programmed in the 2012 State Highway Operation and Protection Program (SHOPP) Collision Severity Reduction Program (20.10.201.015) and is scheduled to begin construction in fiscal year 2015.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of this project is to improve safety to the traveling public and maintenance workers by minimizing rockfall from existing steep slopes.

1.2.2 Need

A study done by the Caltrans Engineering Service Center in fall 1997 identified six slopes in the project area that are producing a large amount of rockfall. The review consisted of three days in the field making general observations about each cut slope. No subsurface studies or stability analyses were performed.

The slopes are composed mostly of stream-deposited sediments, including sands, silts, clays or gravels, and/or loose sediment deposited by gravity and loose lake deposits, with some weathered and fractured granite rock in some spots. Rockfall catch areas exist along U.S. 395 at the base of some of these slopes. They consist of a combination of the 2 to 3 feet of paved shoulder and the 5 to 10 feet of unpaved soil next to the shoulder. The shoulder widths of the existing highway are not consistent throughout the project limits, so the catch (or, retention) areas are not consistent. This results in debris reaching the highway and creating potential hazards for motorists.

Table 1-1 indicates the relative hazard posed by each slope in the project area. The larger the Rockfall Hazard Rating value, the higher the probability of rockfall and the more potentially hazardous the slope.

Table 1-1 Rockfall Hazard Rating by Slope

Slope Number	Post Miles	Slope Area (square feet)	Maximum Height (feet)	Rockfall Hazard Rating	Comments
1	52.34 to 52.43	7,400	37	92	Rock 8 inches to 2 feet in size
2	52.50 to 52.54	7,400	36	87	Rock 6 inches to 1.5 feet in size
3	52.91 to 52.97	6,530	35	69	Rock 8 inches to 2 feet in size
4	53.03 to 53.23	42,300	22-85	190	Rock 8 inches to 2 feet in size
5	53.28 to 53.44	41,000	116	262	Rock 8 inches to 2 feet and greater in size
6	53.51 to 53.62	15,300	58	567	Least amount of site distance and containment area, rock 18 inches to greater than 4 feet in size

Source: Lee Vining Rockfall Geotechnical Design Report June 2012
Notes: 1. Areas and height measurements are approximate values of the existing condition.
2. The larger the Rockfall Hazard Rating value, the higher the probability of rockfall and the more potentially hazardous the slope.

District 9 Maintenance workers have indicated that vehicular collisions with rocks are common. However, the traffic accident data does not provide conclusive evidence on this (see Table 1-2). Given the reports by District 9 Maintenance workers of frequent collisions and the relatively few documented accidents, most collisions with rocks are minor and do not cause major damage; nevertheless, reducing the presence of rocks on the highway will improve safety for the traveling public and maintenance workers.

Table 1-2 2000-2010 Traffic Accidents

U.S. 395 Post miles 52.3 to 53.7				
Type and Number of Accidents		**Accident Rate/Million Vehicle Miles**		
Fatal	0		Actual	Statewide Average
Injury	6	Fatal	0	0.026
Property Damage Only	8	Fatal + Injury	0.33	0.41
Total	14	Total	0.76	0.94

Source: Lee Vining Project Report July 2012

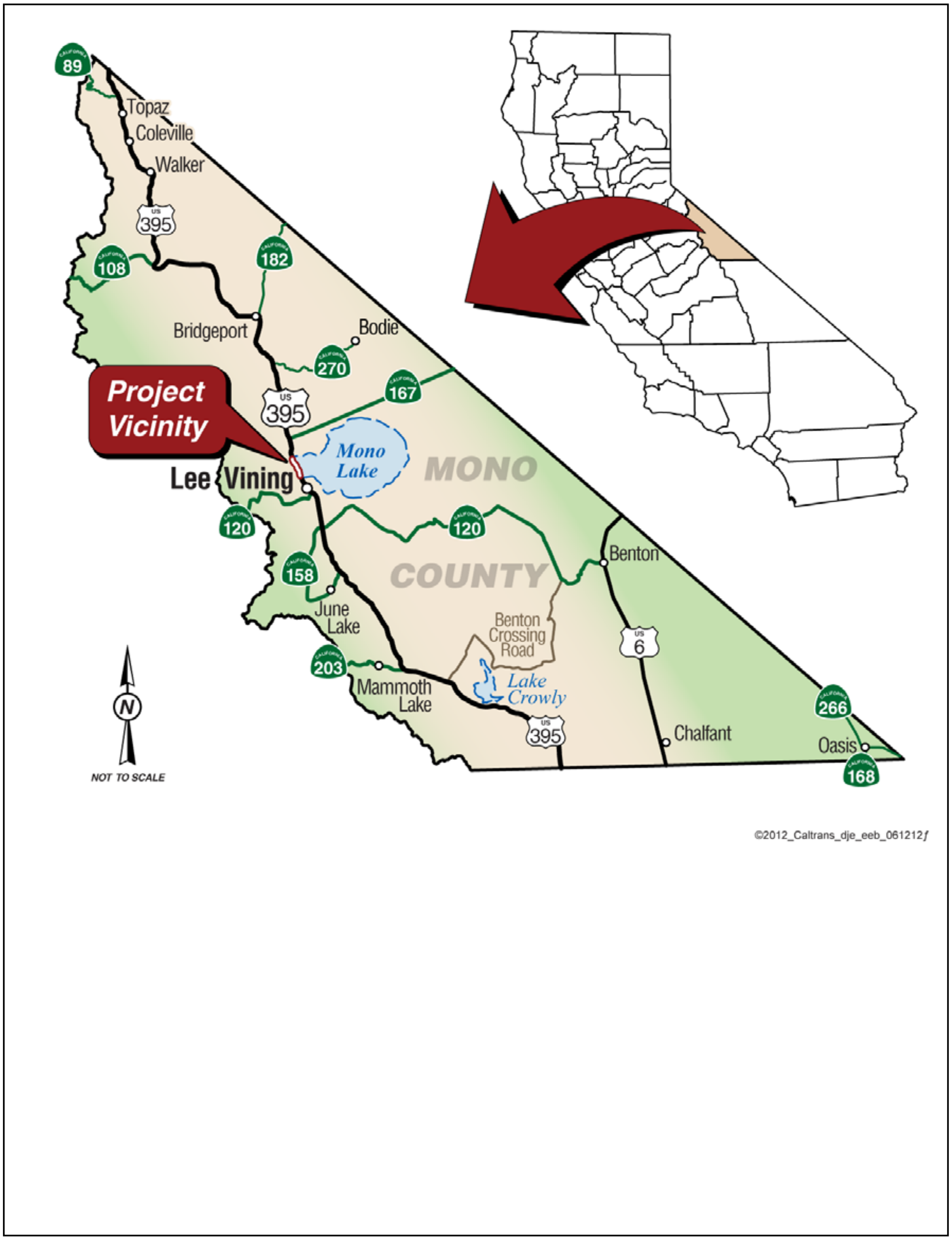


Figure 1-1 Project Vicinity Map

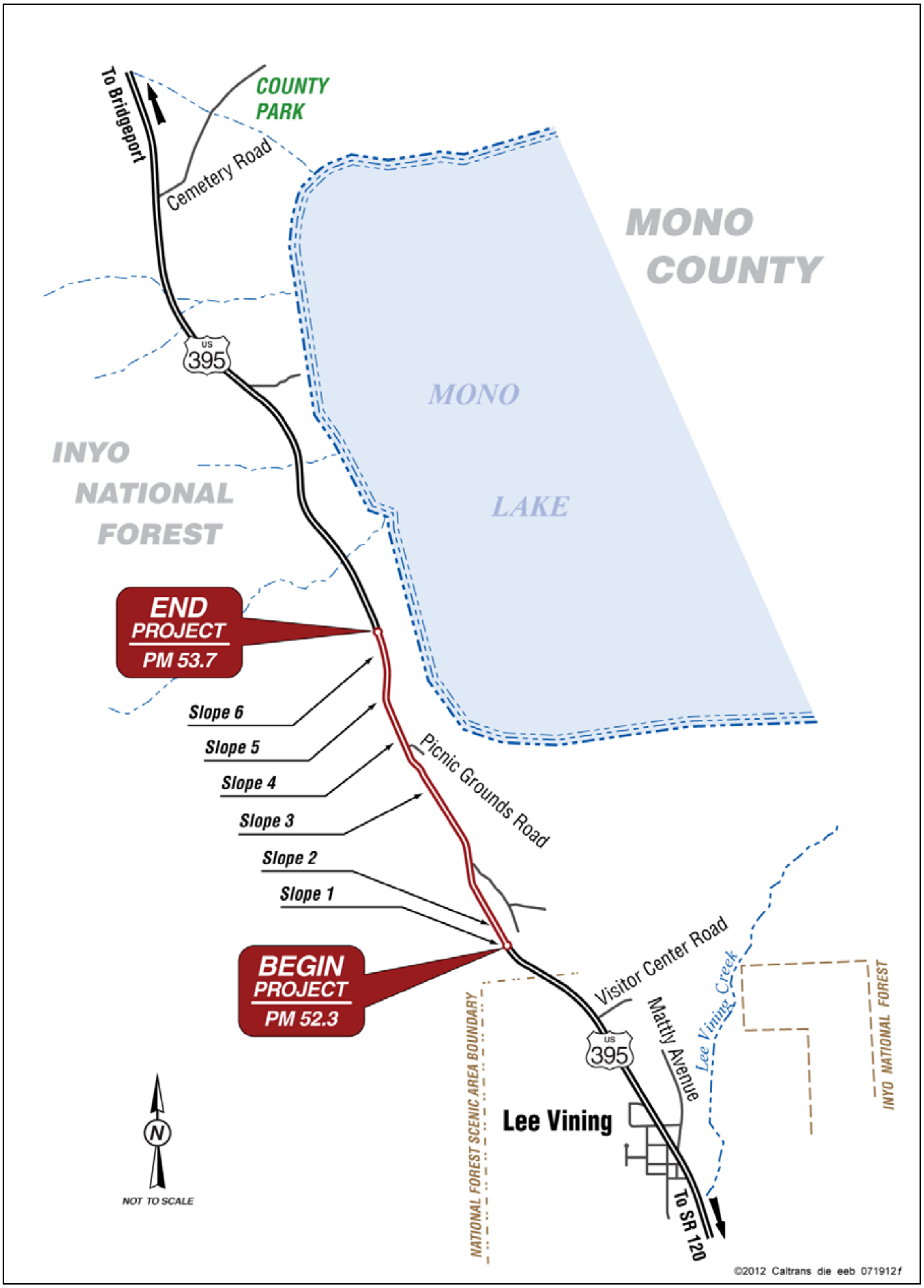


Figure 1-2 Project Location Map

The overall traffic accident rates along this stretch of road are below the statewide average for a similar type of road. But, because rockfall is the single largest contributor in officially reported accidents, and given the large amount of anecdotal information from District 9 Maintenance workers, Caltrans has determined that this project is a safety project.

1.3 Alternatives

Two alternatives were proposed for this project: a build alternative and a no-build alternative. The alternatives were developed by an interdisciplinary project development team consisting of Caltrans staff from the divisions of Design, Traffic Operations, Environmental Analysis, Maintenance, and Right-of-Way. The U.S. Forest Service, California State Parks and the Mono Lake Committee were also consulted during the process. The alternatives presented in the draft environmental document are described in section 1.3.1 and 1.3.2 below. The preferred alternative is described in section 1.3.3.

1.3.1 Build Alternative

Two design options were proposed for the build alternative. The impacts created by the design options were not distinct enough to warrant analysis as separate alternatives. Table 1-3 shows the differences of each option by slope. See *Appendix E Viable Rockfall Mitigation Solutions* for a detailed technical description of each type of solution.

Table 1-3 Design Options by Slope under the Build Alternative

Design Option	Slope 1	Slope 2	Slope 3	Slope 4	Slope 5	Slope 6
Design Option 1	Cut	Cut	Revegetate	Hybrid System and Drapery	Hybrid System	Anchored Mesh
Design Option 2	Cut	Cut	Revegetate	Anchored Mesh	Anchored Mesh	Anchored Mesh

Common Design Features of the Design Options

Proposed solutions for Slopes 1, 2, 3 and 6 are the same under both design options:

- Slopes 1 and 2 would be cut back to a less steep angle of 1.5:1 (horizontal to vertical ratio). A new berm (dike) would be added to the bottom of the slope to replace the existing dike (which would be removed) to prevent undermining the bottom of the slope and maintain the flow line. Existing topsoil and duff (organic material from the area) would be collected before grading operations and stockpiled for placement on the finished slope. The perimeter of the new slope would be rounded to reduce erosion and enhance the look of the slope. Native seed would be applied, and a rolled erosion-control product (such as a straw and coconut fiber erosion-control blanket) would be used on the finished slopes. The application method of the seed would be defined further in the construction plans. This erosion-control procedure would act as both a short-term storm water best management solution and a long-term storm water design solution. The seed application process would most likely contain additives and a native seed mix approved by Caltrans and U.S. Forest Service landscape architecture representatives.

- Slope 3 would receive a vegetated solution applied to the existing slope. Under this alternative, the existing slope would not be laid back to a lesser angle as proposed for Slopes 1 and 2. The top of the slope would be rounded, and the slope itself would be rock scaled (see Appendix E for description). Existing topsoil and duff would be collected before any grading or rock scaling operations and stockpiled for placement on the finished slope. Native seed and a rolled erosion-control product (such as a straw and coconut fiber erosion control blanket) would be applied to the finished slopes. The seed treatment would most likely contain additives and a native seed mix approved by Caltrans and U.S. Forest Service landscape architecture representatives. A new dike would replace the existing deficient dike to prevent undermining of the slope and to maintain the flow line.

- Slope 6 would receive an anchored cable mesh system with double-twisted wire mesh (see Figures 1-3 and 1-4). Native seed and a rolled erosion-control product (such as a straw and coconut fiber erosion-control blanket) would then be applied to the slope to promote revegetation and act as a storm water best management practice. The seed treatment would most likely contain additives and a native seed mix approved by Caltrans and U.S. Forest Service landscape architecture representatives.

The Lee Vining Revegetation (Test Plot) Project is a planned project scheduled for construction before the Lee Vining Rockfall Project during the 2014 fiscal year. It would use experimental techniques to revegetate three smaller eroding cut slopes between Slopes 2 and 3 on the west side of the highway. Using experimental erosion control and revegetation strategies, the project would stabilize the slope surface through minor slope rounding and revegetation efforts. Should revegetation efforts take root and do so before design work is finished, those results would be applied to the Lee Vining Rockfall Project.

Figure 1-3 Example of Anchored Cable Mesh

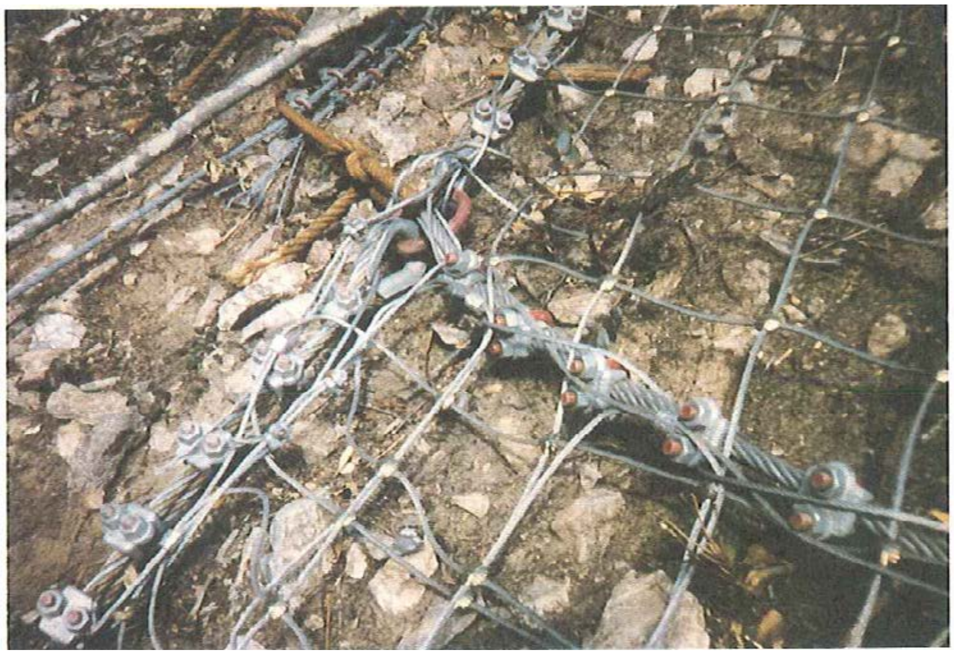


Figure 1-4 Example of Cable Mesh over Double-Twisted Wire Mesh

Unique Features of the Design Options

Design Option 1

Design Option 1 would cost $3,184,000. It would require 5.4 acres of right-of-way from the U.S. Forest Service and require 10,400 cubic yards of material to be disposed of by the contractor. Option 1 would have moderately adverse visual impacts at Slopes 4 and 5 and a moderately beneficial visual impact on Slopes 1, 2, 3 and 6.

For Slope 4, the southern half of the slope would receive a hybrid system composed of double-twisted wire mesh; the northern half would receive double-twisted wire mesh drapery. Erosion control such as native seed and/or fiber blanket may be applied to the surface to promote revegetation and act as a storm water best management practice. The seed treatment would most likely contain a native seed mix approved by Caltrans and U.S. Forest Service landscape architecture representatives.

For Slope 5, the slope would receive a hybrid system composed of cable mesh with double-twisted wire mesh. As an option, double-twisted wire mesh could be placed over the cable mesh instead of beneath it to provide a uniform look with other double-twisted wire mesh drapery installed on Slope 4. Erosion control such as native seed and/or fiber blanket may be applied to the surface to promote revegetation and act as a storm water best management practice. The seed treatment would most likely contain a native seed mix approved by Caltrans and U.S. Forest Service landscape architecture representatives.

Design Option 2

Design Option 2 would cost $5,316,000. It would require 6 acres of right-of-way from the U.S. Forest Service and require 11,100 cubic yards of material to be disposed of by the contractor. Option 2 would have a moderately beneficial visual impact at each of the six project slopes.

Slopes 4 would receive an anchored double-twisted wire mesh system. Slope 5 would receive an anchored cable mesh system with double-twisted wire mesh. Native seed and a rolled erosion control product (such as a straw and coconut fiber erosion-control blanket) would then be applied to the slope to promote revegetation and act as a storm water best management practice. The seed treatment would most likely contain additives and a native seed mix approved by Caltrans and U.S. Forest Service landscape architecture representatives. Because of a deep narrow gulley on Slope 5, additional grading beyond rock scaling may be required to install the cable mesh system. The mesh must remain in contact with the ground to work properly.

1.3.2 No-Build Alternative

The no-build alternative would leave the slopes as they are. No improvements would be made. This alternative would not address the project purpose and need to improve safety for the traveling public and highway maintenance workers by minimizing rockfall from existing slopes.

1.3.3 Identification of a Preferred Alternative

After circulation of the draft environmental document and review of the public and agency comments received during the circulation period, modifications as requested were evaluated and incorporated into what is now the preferred alternative. This modified Build Alternative addresses the purpose and need of the project, to improve safety to the traveling public and maintenance workers by minimizing rockfall from existing steep slopes. The Preferred Alternative will cost $6,805,000 (in 2013 dollars). It will require 5 acres of right-of-way from the U.S. Forest Service and require 3,600 cubic yards of material to be disposed of by the contractor. This refined proposal for the treatment of the six slopes is as follows:

Slopes 1 & 2: Originally in both Design Options 1 and 2, these two slopes were proposed to be cut back to a less steep angle and revegetated using standard Caltrans erosion control methods to reduce rockfall. Since these two slopes pose a lesser risk of rockfall potential, as shown in the rockfall hazard rating assessment, a vegetated only solution to control rockfall and erosion is now proposed. This will significantly reduce the amount of ground disturbance and amount of exported soil from the site required. Successful revegetation results taken from the Lee Vining Revegetation (Test Plot) Project will be implemented on these two slopes. Slope rounding of the crown will be required to reduce the potential for erosion and facilitate revegetation strategies. Where applicable and/or feasible, existing topsoil/duff will be collected prior to any slope rounding or rock scaling operations and be placed back on the finished slope. Rock scaling will occur as needed and as applicable prior to implementation of revegetation strategies. A new dike may be required to maintain the toe of slope and flow line. With the vertical crowns removed (rounded), loose rocks removed (rock scaling), and revegetation established, the slope surface will be stabilized. This will reduce rockfall and soil erosion from these slopes while also addressing concerns expressed.

Slope 3: This slope is proposed to receive revegetation strategies as was proposed in Design Option 1 and 2, but using the strategy recommended for Slopes 1 & 2 above (using the Lee Vining Test Plots Project). The existing slope will not be laid back to a lesser angle but will require rounding of the top of slope and light rock scaling. Where applicable and/or feasible, existing topsoil/duff will be collected prior to any slope rounding or rock scaling operations and be placed back on the finished slope. Successful results taken from the Lee Vining Revegetation (Test Plot) Project will be implemented on this slope as well.

Slope 4, 5, 6: These slopes will all receive an anchored cable mesh application (Design Option 2) along with revegetation strategies from the Lee Vining Revegetation (Test Plot) Project to reduce rockfall and sediment erosion. Double Twisted Wire Mesh (DTWM) will be used for Slope 4 due to the smaller size rocks at this location. Because of the larger rocks found on Slopes 5 & 6 a combined use of Double Twisted Wire Mesh and cable mesh will be utilized. This combination should be the most effective at holding back both small and large rocks found on these slopes. The opening size for the Double Twisted Wire Mesh varies in width between 2.5-3.25 inches. Cable mesh openings vary in width between 6-12 inches. Mesh size along with anchor size/spacing will be as specified based on geotechnical input. A color treatment will be applied to the anchored mesh and associated hardware consistent with the guidelines found in the *Mono Basin National Forest Scenic Area Comprehensive Plan* to match the surrounding natural setting and minimize contrast with the existing terrain. Caltrans Landscape Architects will select three colors for the system elements, and a U.S. Forest Service Landscape Architect will approve the color to be used.

An agreement between the Mono Lake Committee and Caltrans has been signed that includes a Plant Establishment Program (see Appendix I). Per this agreement the measures listed below will be implemented to reduce erosion, to establish healthy soil, and to promote successful revegetation in and around the project areas requiring revegetation. The plan will include a description of the areas requiring revegetation and requirements for appropriate seed mixes and planting practices.

The plant establishment program will:

- Be carried out for at least five full growing seasons (April-October) following initial planting/seeding required to revegetate the slopes affected by the project.

- Be based on and incorporate information and recommendations from the most recent annual report prepared for the Lee Vining Revegetation (Test Plot) Project (the first annual report is scheduled for release by November 1, 2013).

- Not be finalized until after the first annual report for the Test Plot project has been issued.

- Include routine maintenance that may involve tasks such as: watering (if the season brings below average precipitation or if clearly needed), repair of localized sloughed areas, inspection, clearing, and dressing.

- Include criteria for determining interim and final success of plant establishment:

    - Vegetation density: Information from the Test Project will be used to determine the current baseline vegetation, a method for determining vegetation density at the project site (e.g., high resolution photography), and vegetation density success criteria.

    - Vegetation viability (survival).

    - Species diversity, soil health, and erosion control.

    - Success criteria may vary for different portions of each slope due to varying terrain (e.g., rocky versus vegetated). Up to three zones can be identified for each slope for success criteria.

- Identify defined action points and a requirement that Caltrans perform tests and assessments at each action point to determine whether revegetation has met the criteria for success established in the plant establishment program:

    - For Slopes 1, 2, and 3, action points will occur at a minimum at the end of years 2 and 4.

    - For Slopes 4, 5, and 6, action points will occur at a minimum at the end of years 2, 3, and 4.

- Include requirements for remedial actions. If revegetation and slope stability on any slope has not met the success criteria set forth in the plant establishment program (including interim success goals), the plant establishment program will require remedial action in addition to routine maintenance. Remedial actions will be identified and designed based on the results of the Test Project and could include but are not limited to: spraying extra hydroseed on localized areas of any slope, applying a topical fertilizer or high carbon mulch, and/or applying a surficial tackifier.

- Include a requirement that Caltrans prepare five annual reports, one following each of the first five full growing seasons (April-October) after the initial planting/seeding required to revegetate the slopes affected by the project. The annual reports shall include relevant data collected and shall describe the revegetation actions taken during the growing season, the progress of the revegetation efforts, routine maintenance activities, whether the revegetation efforts have met the success criteria set forth in the plant establishment program, and any remedial action taken.

- Include a requirement that Caltrans prepare a final report after the plant establishment program has been implemented for five full growing seasons (April-October) which shall include an analysis of revegetation success on each slope and recommendations for additional revegetation activities, if any. This final report shall include any additional recommendations made in the final report prepared for the Test Project.

- Any other recommendations or elements identified in the first annual report prepared for the Test Project.

1.3.4 Alternatives Considered but Eliminated from Further Discussion

U.S. 395 Offset to the East

This alternative would realign U.S. 395 east of its existing location to move the highway away from the slopes producing rockfall. It would also build a rockfall containment ditch to collect fallen debris and prevent the debris from getting on the highway. An offset of 50 feet from Slopes 4, 5 and 6 was used for the analysis. Additional benefits of this alternative include an increase in stopping sight distance, less potential for ice to form on the roadway, and additional snow storage space in winter. This alternative was rejected because of its significant environmental impacts and excessive costs:

- It would potentially affect foraging habitat used by the willow flycatcher, a California Endangered Species.

- It would require acquisition of Section 4(f) public park and recreational lands as defined by federal Department of Transportation law (49 U.S. Code 303).
- It would require placement of fill in the future footprint of the management high water level of Mono Lake as set by the Mono Lake Basin Water Right Decision 1631. The State Water Resources Control Board mandated the Los Angeles Department of Power and Water to raise the level of Mono Lake to a median elevation of 6,392 feet above sea level. The lake may occasionally rise to as high as 6,400 feet.
- The length of realignment would be over 1 mile, extending beyond the rockfall sites.
- Fill slopes would be up to 40 feet tall.
- Up to 200,000 cubic yards of imported material would be needed to build the fill slopes.
- The cost is estimated at $9 million for capital construction only (mitigation costs were not estimated).

Shotcrete Wall with Soil Nails or Tie-Backs

This type of wall is an effective rockfall and erosion-reduction strategy. A structural shell is built over the degraded cut slope enclosing the slope and preventing soil movement or erosion. With the use of soil nailing, the ground is reinforced and strengthened by installing closely spaced steel bars, known as “nails,” into a slope or excavation as construction of a retaining wall proceeds from the top down. This creates a reinforced section that is stable and able to retain the ground behind it. This alternative was proposed for Slope 6, but was rejected for the following reasons:

- It was excessively costly.
- There was potential for erosion at the structure boundaries.
- The walls were considered too aesthetically inappropriate compared to other viable options.

Graded or Benched Slope

Grading a slope to an angle where rocks are stable and not prone to movement is an effective rockfall and erosion-reduction strategy. Benching a slope can be effective, too, if a steeper slope is required because the cost of acquiring additional right-of-way could be prohibitive. Flattening (grading) or benching Slopes 4, 5, and 6 was rejected for the following reasons:

- This alternative was technically infeasible. Slopes could not sufficiently be angled so that rockfall could be mitigated without a massive amount of excavation.
- The disturbed area would be excessive.
- The cost would be excessive based on the excessive amount of material generated.

Rock Shed

Rock sheds function similarly to tunnels—traffic passes though a structure and rockfall is channeled over the structure. This alternative was rejected for the following reasons:

- There is not enough concentrated rockfall to warrant a rock shed.
- The cost is excessive at $140 million.

Viaduct

A viaduct functions similarly to a highway realignment in that the roadway is moved away from the rockfall. A viaduct is a structure that is either elevated off the ground or has a portion of the roadway structure cantilevered over the ground. A viaduct can be designed to allow rockfall to pass under the structure, or catchment ditches can be built in addition to a cantilevered viaduct. A viaduct around Slopes 4, 5 and 6 was rejected for the following reasons:

- The cost was excessive. A viaduct would cost more than $30 million.
- The concrete piers and box sections of a viaduct would be highly visible.
- It would potentially affect foraging habitat used by the willow flycatcher, a California Endangered Species.
- This alternative would require the acquisition of Section 4(f) public park and recreational lands as defined by federal Department of Transportation law (49 U.S. Code 303).

Flexible Rockfall Barriers

Flexible rockfall barriers are designed to catch and ensnare rocks within an energy-absorbing mesh to prevent rocks from reaching the roadway. If rockfall does occur, the rocks would have to be removed from the mesh quickly to reestablish the barrier's effectiveness. This barrier would likely be installed high up-slope, making removal of the rockfall difficult and costly. The flexible rockfall barrier would have to be taken apart to release the rock from the mesh. The rockfall debris would then fall to the road where maintenance workers or contractors would then remove it. Though technically feasible and effective at preventing rocks from reaching the road, this barrier method was rejected for the following reasons:

- It would increase maintenance workers' exposure to rockfall and traffic during rock removal and would likely require traffic control.
- It is a more complicated method of rockfall debris removal, compared to draped, hybrid, or current rock control methods.
- Because it is more costly and time-consuming, this barrier method may require a maintenance contract.
- Depending on the frequency and size of the rockfall event, the barrier system may need recurring replacement of various components or whole sections at a time.
- It was considered visually inappropriate compared to other viable options.

Rigid Barriers

Rigid barriers such as concrete walls, timber walls, k-rail, and earthen berms provide a protective barrier between the roadway and rockfall. The size, height and width of the barrier, plus the construction materials used, depend on the size of the potential rockfall, width of catchment area between the toe of slope and the barrier, and the barrier's proximity to the roadway. Over time, as rockfall occurs, debris would accumulate behind the wall and need to be removed. This usually requires an area large enough behind the barrier to accommodate removal equipment, such as front-end loaders. This allows maintenance workers to remove the debris as quickly as possible, reducing traffic impacts (lane closures) and exposure to rockfall. Without adequate access behind a barrier, debris would have to be scooped out from behind, increasing the time involved to remove the rock. This could create longer traffic impacts and increase maintenance workers' exposure to rockfall and traffic.

The rigid barrier alternative was rejected for the following reasons:

- Catchment areas at the project site vary in width from 2 feet to 10 feet, making removal methods difficult or nearly impossible.
- The close proximity to the traveled way could pose a traffic hazard.
- A barrier may be feasible at only some spots because of limited catchment area.
- Walls were considered visually inappropriate compared to other viable options.

1.4 Permits and Approvals Needed

The following permits, reviews, and approvals will be required for project construction:

Agency	Permit/Approval	Status
U.S. Forest Service	Review of project to determine compliance with the Mono Basin National Forest Scenic Area Comprehensive Management Plan	Occurred during review of the Initial Study/Environmental Assessment
Lahontan Regional Water Quality Control Board	National Pollution Discharge Elimination System (NPDES) Program- Construction General Permit (CGP) compliance for Storm Water discharges associated with construction activities disturbing soil greater than 1 acre (Order No. 2009-009-DWQ)	Existing statewide permit requires compliance. A Notice of Construction (NOC) will be transmitted to the Lahontan Regional Water Quality Control Board at least 30 days prior to start of construction.

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

This chapter explains the impacts that the project will have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures. Any indirect impacts are included in the general impacts analysis and discussions that follow.

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

- Land Use—The project complies with both the Mono Basin National Forest Scenic Area Comprehensive Management Plan (1989) and the Mono County General Plan (2009).

- Growth—The project is not expected to cause unplanned growth because the build alternative will provide no additional carrying capacity to U.S. 395 (Project Study Report, June 2007).

- Farmlands/Timberlands—No farmland or timberland lies within the project area (Field visit, January 19, 2012, and Mono County General Plan).

- Community Impacts—The project is not located in a community and will not require relocation of any homes or businesses (Field visit, January 19, 2012, and Project Study Report, June 2007). Caltrans relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S. Code 2000d, et seq.). All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have been considered in this project. Caltrans' commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in Appendix C of this document.

- Utilities/Emergency Services—No utilities will be relocated. The roadway will remain open for emergency vehicles during construction (Right of Way Data Sheet, May 23, 2013).

- Traffic and Transportation/Pedestrian and Bicycle Facilities—The project will have no long-term impact on traffic and transportation facilities (Traffic Index Calculation and Design Designation, September 20, 2011).

- Cultural Resources—The project will have no potential to affect historic properties (Cultural Clearance Memo, April 17, 2012).

- Hydrology and Floodplain—The project will not encroach on or affect any floodplains (Scoping relative to Location Hydraulic Study, January 29, 2007).

- Water Quality and Storm Water Runoff— The project will not cause or contribute to additional pollution or sedimentation into Mono Lake, and will cause no permanent impacts. Temporary impacts are discussed in the Construction Impacts section of this Chapter (Air, Noise and Water Quality Report updated June 2013).
- Geology/Soils/Seismic/Topography—The rock underlying the project area is globally stable. The project will improve the local stability of the cut slopes (Geotechnical Design Report, March 15, 2012).

- Paleontology—The project will not affect paleontological resources (Paleontological Identification Report March 26, 2007).

- Hazardous Waste or Materials—No hazardous materials exist within the project limits (Initial Site Assessment, June 11, 2012).

- Air Quality—According to 40 Code of Federal Regulations Section 93.126 Table 2, the project falls under the category of “hazard elimination program” and is exempt from the requirement that a conformity determination be made (Air, Noise and Water Quality Report updated June 2013).

- Noise and Vibration—There are no noise receptors in the vicinity of the project area, and the project will not increase the existing traffic capacity or alter the location of the existing road (Air, Noise and Water Quality Report updated June 2013).

- Natural Communities—No natural communities of special concern were found within the project footprint (Natural Environment Study, June 26, 2012).

- Wetlands and other Waters—The project will have no impact on any wetlands or waters of the U.S. (Natural Environment Study, June 26, 2012, and 404 Determination Letter, June 14, 2012).
- Plant Species—No protected plant species were found within the project footprint (Natural Environment Study, June 26, 2012).
- Animal Species—No protected animal species were found within the project footprint (Natural Environment Study, June 26, 2012).
- Threatened and Endangered Species—No threatened or endangered species were found within the project footprint (Natural Environment Study, June 26, 2012).
- Invasive Species—No invasive species were found within the project footprint (Field Surveys, June-July, 2011).

2.1 Human Environment

2.1.1 Visual/Aesthetics

Regulatory Setting

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

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

Affected Environment

A Visual Impact Assessment for the project was prepared June 2012, with an addendum prepared June 2013.

The regional landscape of the project area consists of the Mono Lake Basin, located near the base of the eastern Sierra Nevada. Mono Lake is a roughly 65-square-mile body of water surrounded on all sides by mountains and hills. Because of the unique high desert setting and natural beauty, Mono Lake and its surroundings are designated as a National Forest Scenic Area, the first of its kind in the United States.

Mono Lake is the saltiest inland lake in the Eastern Sierra and is a nesting area for many migratory birds, including the California gull, Wilson's phalarope, and eared grebe.

Plant communities of the project area consist of pinyon pine, upland sage scrub, riparian associations, and native grasses. Pinyon pine is found on the upper slopes, with scrub brush in the foreground and riparian areas in the middle distance along the lakeshore and in drainages. The colors and textures of the distant features are slightly muted by haze, blowing dust and water vapor from the lake surface due to the down slope winds common to this area.

The six existing eroded cut slopes that make up the project are situated along the western, uphill slopes along the southbound lanes of the highway. U.S. 395 is somewhat constrained through the project limits, with the shores of Mono Lake immediately to the east and the base slopes of the Warren Bench and Sierra Nevada range immediately to the west. U.S. 395 is somewhat elevated above Mono Lake, which allows generally sweeping vistas of the area from the roadway. U.S. 395 through this portion Mono County is classified as an officially designated State Scenic Highway.

Landscape Assessment Units

A framework for understanding and disclosing the potential visual effects of highway project alternatives is provided in Federal Highway Administration visual methodology (see Appendix G). The methodology recommends that the regional landscape be divided into sub-units for analysis.

Landscape Assessment Units are not based on jurisdictional boundaries such as city or county limits, but rather on distinct areas or zones that have certain common visual characteristics. The units divide the project into manageable segments that may share visual attributes, potential project effects, and if necessary, impact reduction strategies. The visual resources of the units can be assessed, compared, and assigned priorities for planning, setting, and design decisions.

The general landform and vegetative cover throughout the project limits are visually consistent, and no atypical visual features are present. Although this project is composed of six separate construction locations over a distance of 1.4 miles, the work locations are relatively close to one another. Most casual observers would perceive the project area as being somewhat the same or similar throughout its length. Therefore, this analysis looked at the project setting as one single landscape unit.

See Appendix G *Visual Analysis Methodology* for more details on the criteria used for the analysis.

Viewer Response

To understand and predict how viewers will respond to the appearance of a highway project, you must know something about the viewers who may see the project and the aspects of the visual environment to which they are likely to respond. Major viewer groups may be differentiated by physical factors that change their perception, such as views from the road and views of the road, the physical location of each viewer group, the number of people in each group, and the duration of the view. How these different viewers receive or perceive the visual environment is not the same. This variability is defined as viewer sensitivity and is strongly related to visual preference. The visual experience can be affected directly depending on viewer activity and awareness, and indirectly by means of values, opinions, and preconceptions.

Assumptions about viewer response take in the viewing proximity, duration of views, activity while viewing, and overall viewing context. Local values based on visual preferences, historical associations, and community aspirations and goals are also factors in predicting viewer sensitivity and response to change.

Based on the project’s proximity to high quality visual resources—as well the importance of the visual environment, highway and community aesthetics as identified in local, state and national planning documents—this analysis assumes an overall high level of viewer sensitivity throughout the project’s length and in the surrounding area. At any given viewpoint, this high level of viewer sensitivity can be affected by the previously mentioned factors (viewing distance, location and availability). The overall number of viewers and duration of views can also increase or decrease the degree of visual sensitivity assumed for a certain viewpoint.

For the visual analysis, eight observer viewpoints were picked to represent views throughout the project area. Then each viewpoint was rated for its viewer response. A numerical rating between 0 and 7 was assigned for the expected viewer sensitivity and response from each viewpoint, with 0 having the lowest value and 7 the highest. Table 2-1 shows the range of viewer response ratings, with descriptions of the ratings.

Table 2-1 Viewer Response Ratings

Viewer Response Numerical Rating	Viewer Response Narrative Rating
0	Low
1	Low
2	Moderate Low
3	Moderate
4	Moderate
5	Moderate High
6	High
7	High

Source: Lee Vining Rockfall Visual Impact Assessment June 2012

Viewer Sensitivity

U.S. 395 through Mono County has long been recognized for its scenic qualities. Planning policy emphasizes the protection of visual resources along U.S. 395 and underscores the concern and sensitivity to aesthetic issues along this route.

Public opinion and policy on the visual character of the regional landscape are important factors in assessing the baseline values given to the setting. The national and state designations and community-based goals listed below can serve as a guide for predicting the likely reaction the viewing public would have concerning changes that may result from the project.

In addition to the general aesthetic criteria, the following guidelines and policies were considered for this project.

Mono Basin National Forest Scenic Area

The Mono Basin National Forest Scenic Area was designated by Congress in 1984 to protect the natural, cultural and scenic resources of the Mono Basin. The scenic area encompasses 116,000 acres and includes the Mono Basin Visitor Center in Lee Vining. The Mono Basin National Forest Scenic Area was the first of its kind in the National Forest System. California State Parks and the U.S. Forest Service work cooperatively to manage public lands around Mono Lake.

State Scenic Highway Designation

U.S. 395 through the project limits is classified as an officially designated State Scenic Highway. The state scenic highway program designates routes based on high-quality views of the natural landscape along the route and on the local governing body’s implementation of a Corridor Protection Plan. The Corridor Protection Plan includes policies and ordinances addressing land use, design review, billboards, earthwork and landscaping, and utility structures. The State Scenic Highway designation recognizes the route’s visual quality, which indicates a higher level of interest in the aesthetic character of the highway corridor. The scenic highway program does not preclude development.

Mono Lake Tufa State Natural Reserve

Mono Lake Tufa State Natural Reserve consists of state-owned lakebed lands below the elevation of 6,417 feet above sea level. The reserve was established in 1982 to preserve the spectacular tufa formations and other natural features of Mono Lake. California State Parks and the U.S. Forest Service work cooperatively manage the public lands around Mono Lake.

Mono County General Plan Conservation/Open Space Element

The Visual Resources Issues/Opportunities/Constraints section of the Mono County General Plan Conservation/Open Space Element states:

> The Mono County General Plan also includes visual resource goals and policies such as:
>
> Goal – Protect and enhance the visual resources and landscapes of Mono County.
>
> Objective A - Maintain and enhance visual resources in the county.
>
> Policy 5 – Restore visually degraded areas where possible.
>
> Objective B - Maintain a countywide system of state and county designated scenic highways.
>
> Objective C - Ensure that development is visually compatible with the surrounding community, adjacent cultural resources, and/or natural environment.

Observer Viewpoints

As noted earlier, observer viewpoints were picked to best represent the typical visual character of the project, unique project components or affected resources, and affected viewer groups. Viewpoints include U.S. Forest Service Scenic Basin Sensitivity Level One visual resource views introduced by the U.S. Forest Service

Mono Basin Environmental Impact Study done for the Mono Basin National Scenic Area Comprehensive Management Plan.

Observer viewpoints consist of viewing locations both from the highway as well as from the surrounding area. Sixteen viewing locations were identified (see Table 2-2 and Figure 2-1). Of the 16 viewpoints, 8 were selected to best reveal the project features and any potential visual character change: observer viewpoints 1 through 8 were selected for photo-simulation locations and subject to further analysis.

Photo simulations from Observer Viewpoints 9 to 16 can be found in the separate Visual Impact Analysis. These viewpoints are either too far from the proposed project to be seen from such a long distance or the view is blocked by other landscape features.

Table 2-2 Observer Viewpoint Locations

Observer Viewpoint Number **Photo-simulation spot*	**Observer Viewpoint Location**
1*	Slope 1 - From U.S. 395 near Slope 1, looking northbound
2*	Slope 2 - From U.S. 395 near Slope 2, looking northbound
3*	Slope 3 - From near U.S. 395 near Slope 3, looking northbound
4*	Slope 4 - From U.S. 395 near Slope 4 at the Marina entrance
5*	Slope 5 - From U.S. 395 near Slope 5 at the turnout
6*	Slope 6 - From U.S. 395 near Slope 6, looking southbound
7*	From the U.S. Forest Service Visitor’s Center
8*	From the Old Marina
9	From U.S. 395 approximately 500 feet north of the project, looking south
10	From U.S. 395 at Lundy Lake Road
11	From U.S. 395 at Cemetery Road
12	From the South Tufa Area
13	From the rim of Panum Crater
14	From Navy Beach
15	From County Park
16	From near Black Point

Source: Lee Vining Rockfall Visual Impact Assessment June 2012

Figure 2-1 Observer Viewpoint Location Map

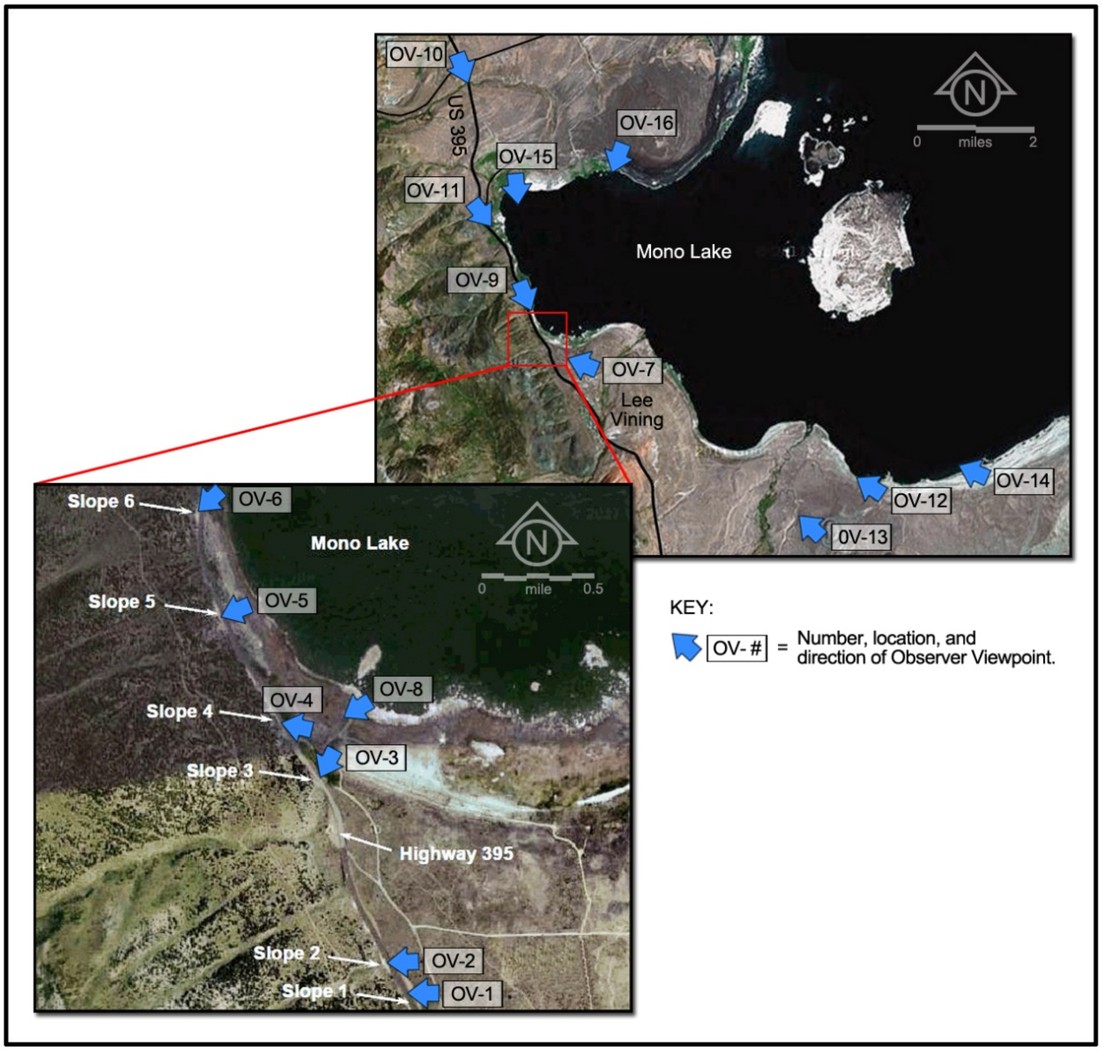


Photo-Simulations and Project Representations

Photo-simulations show the visual character from the observer viewpoints and provide an overview of the visual setting of the project area. In each case, the “existing” image shows how the view looked at the time of this study, and the “proposed” simulation shows how that location might appear with the project in place. The known dimensions of existing onsite elements were used as visual scale references to increase accuracy of the photo-simulations. For the purpose of this visual study, new vegetative growth in the photo-simulations shows plant growth at about 3 to 5 years after project construction.

Environmental Consequences

This section explains the numerical ratings assigned to the existing and proposed views as seen from each observer viewpoint. Photographs of the existing conditions along with photo-simulations of the project are included to give you an understanding of the visual changes proposed by the project.

The following viewpoint breakdowns analyze the project in terms of the numerical difference in physical change (Resource Change) combined with the expected sensitivities and responses of potential viewer groups (Viewer Response rating). The Visual Quality Evaluation rating is combined with the Viewer Response rating to indicate the potential visual impacts of the project. Table 2-3 summarizes the visual impacts for each design option from each Observer Viewpoint. More detailed tables can be found in the Lee Vining Rockfall Visual Impact Assessment, and addendum.

Table 2-3 Visual Impact Ratings as Seen from Each Observer Viewpoint

Observer Viewpoint (OV)	Project Option	Resource Change					Viewer Response	Visual Impact Rating*
		Vividness (V)	**Intactness (I)**	**Unity (U)**	**(=V+I+U/3)**	**Difference**		
1	Existing	3.5	3.0	3.0	3.2			
	Options 1and 2	3.5	4.2	4.2	4.0	+0.8 (low)	6.0 (high)	+3.4 (moderate-positive)
	Preferred Alternative	3.5	3.8	3.8	5.0	+0.5 (low)	6.0 (high)	+3.2 (moderate-positive)
2	Existing	3.5	3.0	3.0	3.2			
	Options 1and 2	3.5	4.2	4.2	4.0	+0.8 (low)	6.0 (high)	+3.4 (moderate-positive)
	Preferred Alternative	3.5	3.8	3.8	3.7	+0.5 (low)	6.0 (high)	+3.2 (moderate-positive)
3	Existing	3.5	3.0	3.0	3.2			
	Options 1and 2 (Preferred)	3.5	3.0	3.0	3.2	+0.8 (low)	6.0 (high)	+3.4 (moderate-positive)
4	Existing	5.0	2.5	2.5	3.3			
	Option 1	3.0	2.0	2.5	2.5	-0.8 (low)	6.2 (high)	-3.5 (moderate-negative)
	Option 2 (Preferred Alt.)	3.2	3.7	3.7	3.5	+0.2 (low)	6.2 (high)	+3.2 (moderate-positive)
5	Existing	3.0	2.3	2.3	2.5			
	Option 1	3.0	2.2	2.2	2.4	-0.1 (low)	6.1 (high)	-3.1 (moderate-negative)
	Option 2 (Preferred Alt.)	3.3	3.7	3.7	3.6	+1.1 (low)	6.1 (high)	+3.6 (moderate-positive)
6	Existing	3.1	2.8	2.8	2.9			
	Options 1 and 2 (Preferred Alt.)	3.4	3.7	3.7	3.6	+0.7 (low)	6.0 (high)	+3.4 (moderate-positive)
7	Existing	6.0	5.8	5.9	5.8			
	Option 1	6.0	6.0	6.1	6.0	+0.2 (low)	6.5 (high)	+3.3 (moderate-positive)
	Option 2 (Preferred)	6.0	6.2	6.2	6.1	+0.3 (low)	6.5 (high)	+3.4 (moderate-positive)
8	Existing	5.0	4.0	4.2	4.4			
	Option 1	5.0	4.2	4.4	4.5	+0.1 (low)	6.3 (high)	+3.2 (moderate-positive)
	Option 2 (Preferred Alt.)	5.0	4.6	4.9	4.8	+0.4 (low)	6.3 (high)	+3.4 (moderate-positive)

Visual Impact = *[(Absolute value of RC) + VR]/2, with plus or minus sign applied to the resulting numeral depending on whether the resource change (RC) was positive or negative.*

Source: Lee Vining Rockfall Visual Impact Assessment June 2012, Addendum June 2013

Vividness (V) is the visual power or memorability of the landscape components as they combine in striking and distinctive visual patterns.

Intactness (I) is the visual integrity of the landscape and its freedom from non-typical encroaching elements. If all of the various elements of a landscape seem to "belong" together, there will be a high level of intactness.

Unity (U) is the visual harmony of the landscape considered as a whole. Unity represents the degree to which potentially diverse visual elements maintain a coherent visual pattern.

Observer Viewpoint 1 – Slope 1 - From U.S. 395 looking northbound

Figure 2-2 Observer Viewpoint-1 Existing Condition

Observer Viewpoint 1 has relatively high baseline visual quality, but the eroded and scarred earth of Slope 1 appears unnatural and inconsistent with the undisturbed surrounding landform and land cover. As a result of this visual scarring, all three rating criteria (vividness, intactness, and unity) are reduced to a moderate level.

Viewer Response

Based on the project's proximity to high-quality visual resources—as well the importance of the visual environment, highway and community aesthetics as identified in local, state and national planning documents—this analysis assumes an overall high level of viewer sensitivity throughout the project's length and in the surrounding area. This high level of viewer sensitivity is supported at Observer Viewpoint 1 because of the close viewing proximity to the project along the highway and number of travelers along this route.

Figure 2-3 Observer Viewpoint-1 Proposed Condition–Options 1 and 2

For Slope 1, Design Option 1 and 2 proposed laying the slope back and replanting. With implementation of the project, the addition of native vegetation would blend with the surrounding area. Removal of eroded surfaces would reduce the contrast with the adjacent slopes and contribute to a more natural visual harmony, increasing both the visual intactness and unity ratings. Design Option 1 and 2 would lead to a moderate positive visual impact change (see Figure 2-3).

Figure 2-4 Observer Viewpoint-1 Proposed Condition–Preferred Alternative

For Slope 1, the Preferred Alternative will remove loose unstable rocks from the surface (rock-scaling), round the top of the existing slope, and apply revegetation stategies. With implementation of the project, the native vegetation on the slope will cause it to somewhat blend with the surrounding area. The removal of some of the eroded surfaces (slope rounding) will result in a minor reduction in contrast with the adjacent slopes and will contribute to a natural visual harmony, increasing both the visual intactness and unity ratings to some degree. This will lead to a moderate positive visual impact change (see Figure 2-4).

Observer Viewpoint 2 – Slope 2 - From U.S. 395 looking northbound

Figure 2-5 Observer Viewpoint-2 Existing Condition

Similar to Slope 1, Observer Viewpoint 2 is considered to be of relatively high baseline visual quality. The eroded and scarred earth of Slope 2, however, appears unnatural and contrasts with the surrounding native landform and land cover. As a result of this visual scarring, all three rating criteria are reduced to a moderate level.

Viewer Response

A high level of viewer sensitivity is expected at Observer Viewpoint 2 because of the road's scenic designations, close viewing proximity to the project along the highway and number of travelers along the route.

Figure 2-6 Observer Viewpoint-2 Proposed Condition–Options 1 and 2

For Slope 2, Design Option 1and 2 proposed to lay the slope back and apply revegetation. With Options 1 and 2, the planting of native vegetation would blend with the surrounding area. Removal of eroded surfaces would reduce the contrast with the adjacent slopes and contribute to a more natural visual harmony, increasing both the visual intactness and unity ratings. Design Option 1 or 2 would lead to a moderate positive visual impact change (see Figure 2-6).

Figure 2-7 Observer Viewpoint-2 Proposed Condition–Preferred Alternative

For Slope 2, the Preferred Alternative will round the top of the slope, conduct rock-scaling on the surface, and apply vegetation. The planting of native vegetation will cover some of the slope, and will blend somewhat with the surrounding area. The partial removal of eroded surfaces will help reduce the contrast with the adjacent slopes and will contribute to a minor increase in natural harmony, visual intactness and unity. This will lead to a moderate positive visual impact change (see Figure 2-7).

Observer Viewpoint 3 – Slope 3 - From near U.S. 395 looking northbound

Figure 2-8 Observer Viewpoint-3 Existing Condition

Observer Viewpoint 3 is considered to be generally of relatively high visual quality. The visual quality is moderated, however, because of the eroded and scarred earth of Slope 3. This visual scarring appears unnatural and inconsistent with the surrounding native landform and land cover, resulting in a lowering of all three rating criteria.

Viewer Response

A high level of viewer sensitivity is expected at Observer Viewpoint 3 because of the road's scenic designations, close viewing proximity to the project along the highway and number of travelers along the route.

Figure 2-9 Observer Viewpoint-3 Proposed Condition–Options 1 and 2 (Preferred Alternative)

At this viewpoint of Slope 3, both project options propose the same treatment: replanting. With implementation of the project, adding native vegetation will help the slope visually blend with the surrounding area. Removal of eroded surfaces will reduce the contrast with the adjacent slopes and contribute to a more natural visual harmony, increasing both the visual intactness and unity ratings. Design Option 1 or 2 will lead to a moderate positive visual impact change (see Figure 2-9).

Observer Viewpoint 4 – Slope 4 - From U.S. 395 at the Marina entrance

Figure 2-10 Observer Viewpoint-4 Existing Condition

As seen from Observer Viewpoint 4, the existing memorability or vividness of the view is somewhat high because of the remnant rock outcropping on Slope 4. The disturbance of the remainder of the existing slope appears unnatural and visually inconsistent with the surrounding native landform and vegetative cover. As a result, the intactness and unity ratings will be reduced to moderate.

Viewer Response

From Observer Viewpoint 4, viewer response is expected to be somewhat increased because of the road's scenic designations as well as the proximity of Slope 4 to the entrance to the Old Marina recreation area. Potential viewers will be oriented toward the slope while exiting the Marina.

Figure 2-11 Observer Viewpoint-4 Proposed Condition–Option 1

As seen from this viewpoint, Slope 4 Option 1 would place a hybrid system of wire mesh suspended at the top by metal attenuator posts. This method attempts to minimize the footprint of affected area (relative to Option 2) that is necessary to contain the rockfall. But, the posts, attenuator system and wire mesh drapery would add new visual elements into the view. The drapery and attenuator structures would be colored to minimize their contrast with the existing terrain. Most of the existing rock outcropping, loose rocks and a few remnant pine trees would be removed to accommodate the mesh drapery placement. Although some native plants would be expected to grow under the mesh drapery, the regularly moving slope surface would not support a significant amount of vegetation (see Figure 2-11).

At the northern end of Slope 4, the project would use anchored mesh, which would allow a greater amount of plant growth.

Because of the introduction of the new human-made elements and limited plant growth, Option 1 would result in a reduction of vividness and intactness as seen from this viewpoint. The visual unity would remain the same because the mesh, although unnatural, would provide a minor uniformity to the slope. Design Option 1 would lead to a moderate negative visual impact change.

Figure 2-12 Observer Viewpoint-4 Proposed Condition–Option 2 (Preferred Alternative)

As seen from this viewpoint, Slope 4 Option 2 (Preferred Alternative) will attach anchored mesh to the slope. This method will require a larger (0.25 acre) initial project footprint (relative to Option 1) for the double-twisted wire mesh attachment. The anchored mesh will add a new visual element into the view. The mesh will be colored to minimize its contrast with the existing terrain. With Option 2, a portion of the existing rock outcropping, loose rocks and a few remnant pine trees will be removed. The anchored mesh will provide the opportunity for a greater amount of slope replanting to occur, compared to Option 1. Over a period of 3 to 5 years, the slope vegetation would be expected to hide visibility of much of the human-made mesh system. Because of the removal of most of the distinct rock outcropping, the vividness rating will be reduced. Despite the larger project footprint of Option 2, the eventual replanting of the slope will increase both the visual unity and intactness ratings as seen from Observer Viewpoint 4. Design Option 2 will lead to a moderate positive visual impact change (see Figure 2-12).

Observer Viewpoint 5 – Slope 5 - From U.S. 395 at the northbound turnout

Figure 2-13 Observer Viewpoint-5 Existing Condition

Slope 5 is the tallest cut slope of the six project locations. The existing slope face is highly disturbed and very noticeable as seen from the highway and surrounding viewpoints. The eroded slope contrasts substantially with the existing adjacent pine-covered slope. As a result of the scale, extent of disturbance and visual contrast, the existing view of Slope 5 receives a reduced rating for all three visual criteria.

Viewer Response

From Observer Viewpoint 5, viewer response is expected to be somewhat increased because of the road's scenic designations as well as the proximity of Slope 5 to the paved northbound turnout on the highway and potentially increased viewer exposure.

Figure 2-14 Observer Viewpoint-5 Proposed Condition–Option 1

Slope 5 Option 1 would use a hybrid system of cable mesh suspended at the top of the slope by metal attenuator posts. This method would minimize the footprint of affected area (relative to Option 2) that is necessary to contain the rockfall. But, the posts, attenuator system and cable drapery would add new visual elements into the view. The drapery and attenuator structures would be colored to minimize their contrast with the existing terrain. Boulders, loose rocks and a few remnant pine trees and scrub would be removed to accommodate the cable mesh drapery. Although some

native plants would be expected to grow under the cable mesh drapery, the regularly moving slope surface would not support a great amount of vegetation.

Because of the new human-made elements and limited plant growth, Option 1 would result in a reduction of intactness and unity as seen from this viewpoint. Design Option 1 would lead to a moderate negative visual impact change (see Figure 2-14).

Figure 2-15 Observer Viewpoint-5 Proposed Condition–Option 2 (Preferred Alternative)

Slope 5 Option 2 (Preferred Alternative) will attach anchored mesh to the slope. This method will require a larger (0.5 acre) initial project footprint (relative to Option 1) for the cable mesh attachment. The anchored mesh will introduce a new visual element into the view. The mesh will be colored to minimize its contrast with the existing terrain. With Option 2, boulders, loose rocks and a few remnant pine trees and scrub on the slope and the perimeter will be removed. The anchored mesh will allow a greater amount of slope replanting to occur, compared to Option 1.

Over a period of 3 to 5 years, the slope plants would be expected to hide much of the human-made cable mesh system. The overall memorability of the slope will remain about the same, though noticeability will be based on the mesh rather than scarring and disturbance. Despite the larger project footprint of Option 2, the eventual replanting of the slope will increase the vividness, the visual unity and intactness ratings as seen from Observer Viewpoint 5. Design Option 2 will lead to a moderate positive visual impact change (see Figure 2-15).

Observer Viewpoint 6 – Slope 6 - From U.S. 395 looking southbound

Figure 2-16 Observer Viewpoint-6 Existing Condition

Observer Viewpoint 6 is considered to be of relatively high visual quality. The visual quality is moderated, however, because of the eroded and scarred earth of Slope 6. This visual scarring appears unnatural and inconsistent with the surrounding native landform and land cover, resulting in a lowering of all three rating criteria.

Viewer Response

A high level of viewer sensitivity is expected at Observer Viewpoint 6 because of the road's scenic designations, close viewing proximity to the project along the highway and number of travelers along the route.

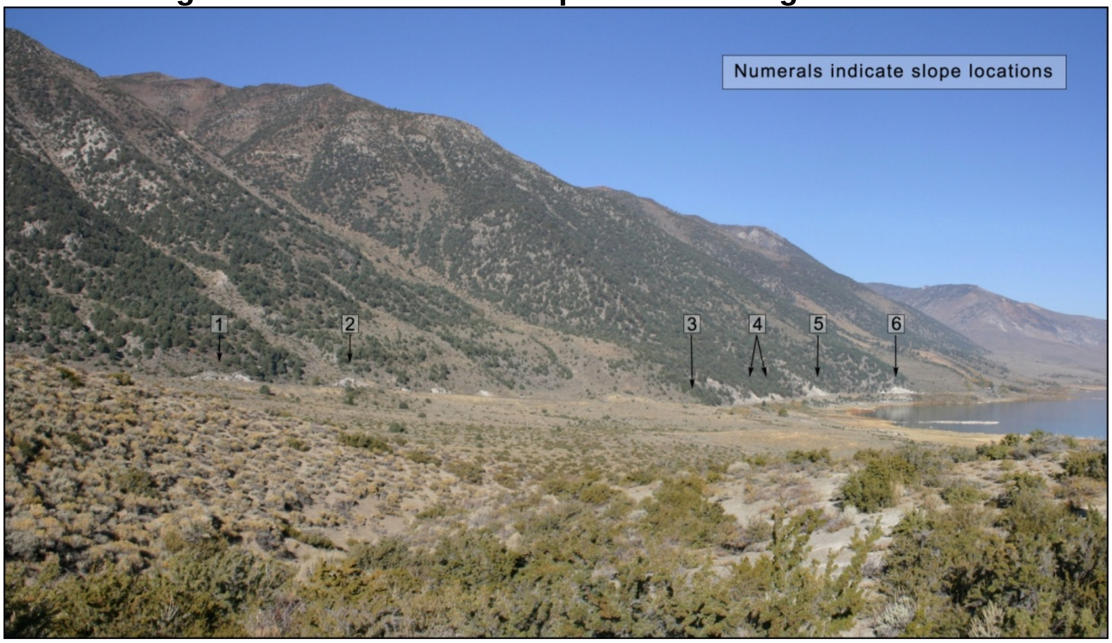
Figure 2-17 Observer Viewpoint-6 Proposed Condition–Options 1 and 2 (Preferred Alternative)

For Slope 6, both project options offer the same treatment: anchored mesh. The anchored mesh will add a new visual element into the view. A color treatment will be applied to the anchored mesh and associated hardware to minimize the contrast with the existing terrain. The project will remove much of the existing remnant trees, scrub, boulders and rock from the slope, but the anchored mesh will allow a greater amount of slope replanting to occur. Over a period of 3 to 5 years, the slope plants would be expected to hide much of the human-made anchored mesh system.

Because of the reduced visibility of slope disturbance and scarring due to replanting, the visual unity, intactness and vividness ratings will increase as seen from Observer Viewpoint 6. Design Option 1 or 2 will lead to a moderate positive visual impact change (see Figure 2-17).

Observer Viewpoint 7 - From the U.S. Forest Service Visitor's Center

Figure 2-18 Observer Viewpoint-7 Existing Condition

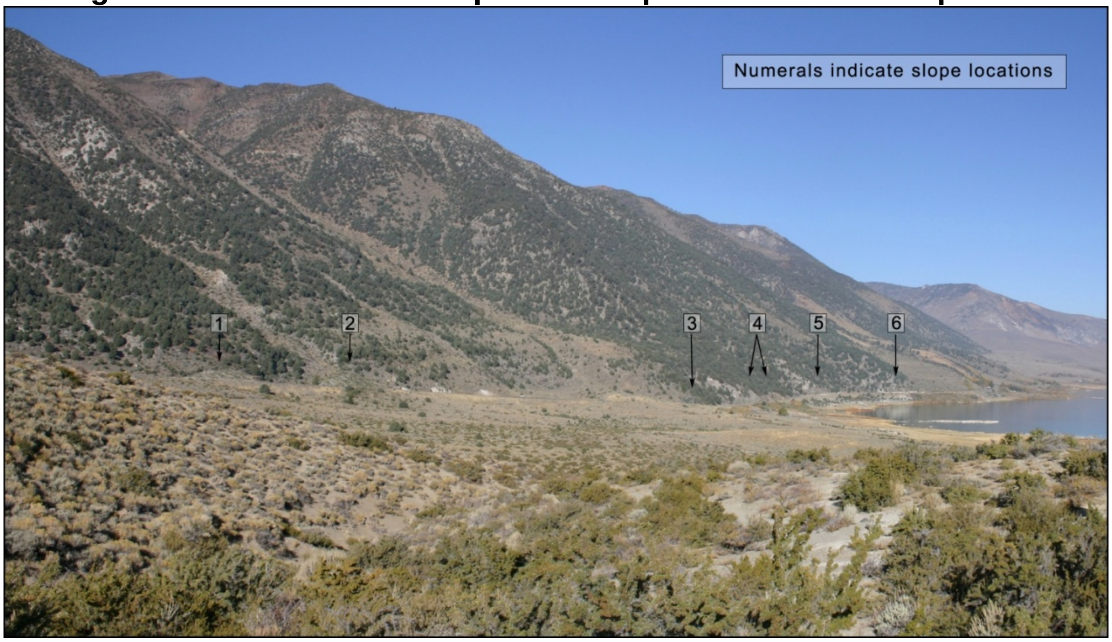


The sweeping vista provided from Observer Viewpoint 7 is considered of high quality. The panoramic views of Mono Lake, the surrounding hills and mountains, and natural open space combine for high visual quality ratings for vividness, intactness and unity. The existing disturbed project slopes along U.S. 395 can be seen in the distance, resulting in a minor negative effect on the view. Generally, however, the project occupies a very small part of the overall view, and the project slopes are visually subordinate to the larger scenic vista.

Viewer Response

A high level of sensitivity is expected at Observer Viewpoint 7 because of viewer expectations at the Visitor's Center vantage point, related interpretive opportunities, and potential longer duration of viewer exposure. Although moderated by viewing distance, the project will be visible from this location.

Figure 2-19 Observer Viewpoint-7 Proposed Condition–Option 1

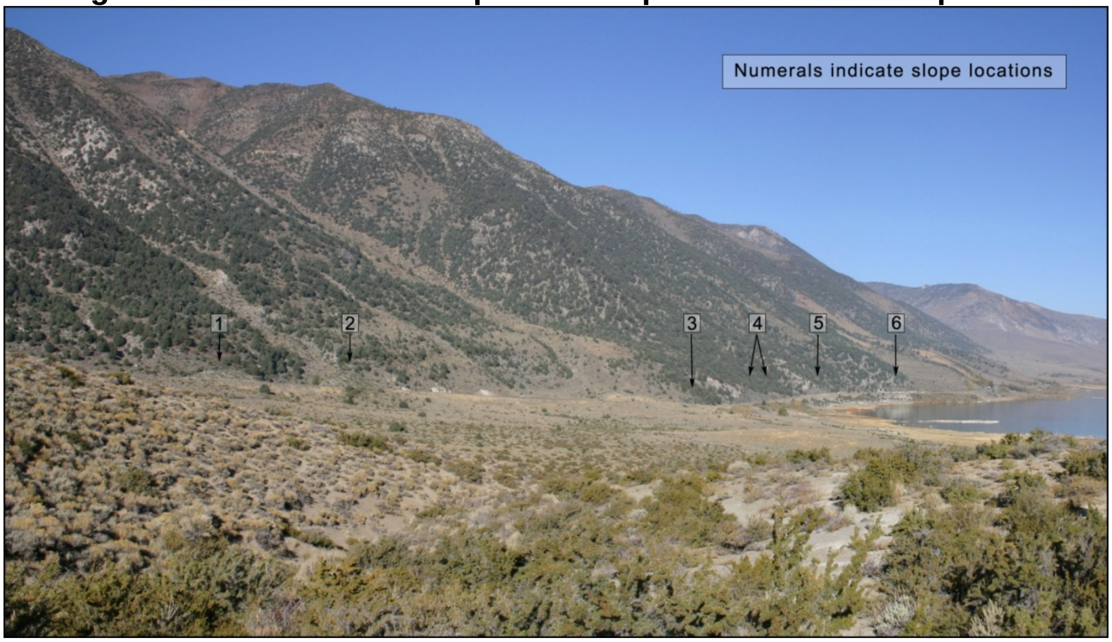


The view toward the project from this viewpoint includes all six project slope locations. Option 1 would apply cut and replanting strategies to Slopes 1 and 2, replanting to Slope 3, a hybrid and drapery system to Slope 4, a hybrid system to Slope 5, and anchored mesh to Slope 6.

As seen from this viewing distance, these strategies would reduce visibility of the slopes to some extent. Slopes 1, 2, 3 and 6 would substantially blend with the adjacent natural slopes due to the amount of proposed slope replanting. Slopes 4 and 5 would remain the most visible due to the relative lack of slope replanting, though as seen from this distance the drapery fabric would slightly reduce slope glare and noticeability.

As a result, Option 1 would have no effect on the memorability or visibility of the view, and the intactness and unity ratings would be slightly increased. Design Option 1 would lead to a moderate positive visual impact change (see Figure 2-19).

Figure 2-20 Observer Viewpoint-7 Proposed Condition–Option 2



Option 2 would apply cut and replanting strategies to Slopes 1, 2, replanting to Slope 3, and anchored mesh to Slopes 4, 5 and 6. For Slopes 4, 5 and 6, the anchored mesh would allow a greater amount of slope replanting to occur. Over a period of 3 to 5 years, the slope plants would hide much of the existing slopes. Slopes 1, 2, and 3 would be the least visible due to their smaller size. Slopes 4, 5 and 6 would be slightly visible, but would be mostly unnoticeable from this distance.

As a result, Option 2 would have no effect on the memorability or visibility of the view, and the intactness and unity ratings would be slightly increased. Design Option 2 would lead to a moderate-positive visual impact change (see Figure 2-20).

Figure 2-21 Observer Viewpoint-7 Proposed Condition–Preferred Alternative

The Preferred Alternative differs from Option 2 in that Slopes 1 and 2 will be scaled to remove loose rocks and then replanted. Slopes 1 and 2 will be even less visible from this observer viewpoint. The Preferred Alternative will lead to a moderate positive visual impact change (see Figure 2-21).

Observer Viewpoint 8 – From the Old Marina

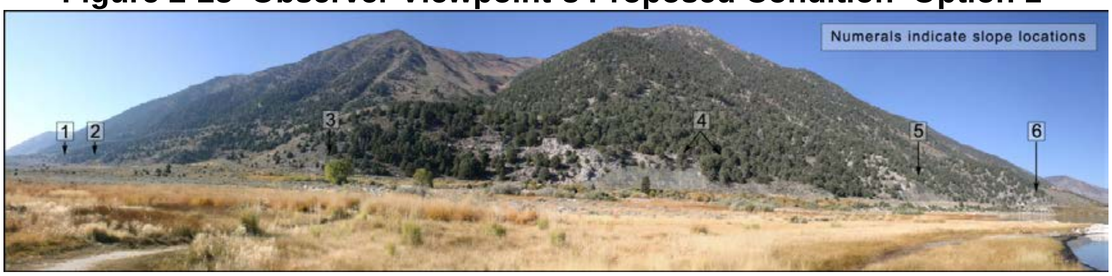
Figure 2-22 Observer Viewpoint-8 Existing Condition

The existing view from the Old Marina is considered of high quality. Although the area of greatest visual interest at this viewpoint is eastward to Mono Lake and beyond, the western view toward the adjacent mountains is also an important component of the visual context. From this viewpoint, the project slopes can be seen as part of the larger hillsides. This allows the visual contrast of the eroded and scarred earth to be more evident. The existing disturbed project slopes along U.S. 395 can be clearly seen in the mid-ground, resulting in a negative effect on the view. As a result, the otherwise high ratings for vividness, intactness and unity are moderately reduced.

Viewer Response

A high degree of viewer sensitivity is expected at Observer Viewpoint 8 because of the road's scenic designations and the moderately close viewing distance to Slopes 3, 4 and 5. In addition, the generally passive recreation activities at the Old Marina increase the opportunities for longer-duration views of the project as seen from this location.

Figure 2-23 Observer Viewpoint-8 Proposed Condition–Option 1

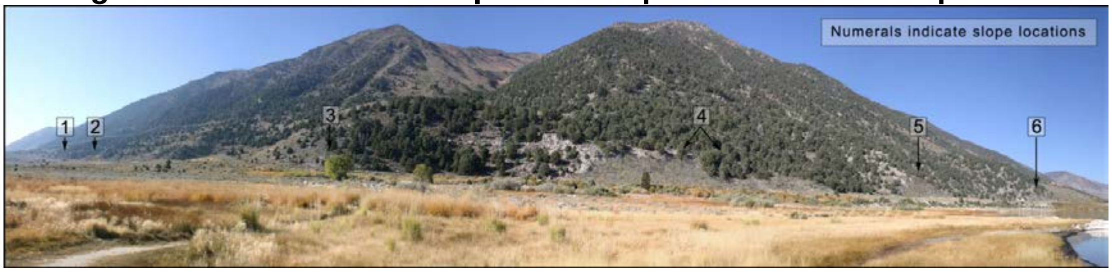


As seen from the Old Marina recreation area, views facing west would include all six project slope locations. Of these, Slopes 3, 4 and 5 would be the most visible. Option 1 would apply cut and replanting strategies to Slopes 1 and 2, replanting to Slope 3, a hybrid and drapery system to Slope 4, a hybrid system to Slope 5, and anchored mesh to Slope 6.

These strategies would reduce visibility of the slopes to some extent. Slopes 1, 2, 3 and 6 would substantially blend with the adjacent natural slopes due to the amount of proposed slope replanting. Slopes 4 and 5 would remain the most visible due to the relative lack of slope replanting and minor visibility of the hybrid attenuator posts, though the drapery fabric would slightly reduce slope glare and noticeability.

As a result, Option 1 would have no effect on the memorability or visibility of the view, and the intactness and unity ratings would be slightly increased. Design Option 1 would lead to a moderate positive visual impact change (see Figure 2-23).

Figure 2-24 Observer Viewpoint-8 Proposed Condition–Option 2



Option 2 would apply cut and replanting strategies to Slopes 1, 2 and 3, and anchored mesh to Slopes 4, 5 and 6. Option 2 would initially require larger areas of disturbance on Slopes 4, 5 and 6, compared to Option 1. But, on these slopes, the anchored mesh would allow for a greater amount of slope replanting to occur. Over a period of 3 to 5 years, the slope plants would hide much of the existing slopes. After replanting, these slopes would visually blend with the setting more than the hybrid/drapery systems proposed with Option 1. Slopes 1, 2 and 3 would be the least visible due to the amount of proposed slope replanting. Slopes 4, 5 and 6 would be somewhat visible, but their noticeability would be greatly reduced.

As a result, Option 2 would have no effect on the memorability or visibility of the view, but the intactness and unity ratings would improve. Design Option 2 would lead to a moderate positive visual impact change (see Figure 2-24).

Figure 2-25 Observer Viewpoint-8 Proposed Condition–Preferred Alterative

The Preferred Alternative differs from Option 2 in that Slopes 1 and 2 will be scaled to remove loose rocks and then replanted. Slopes 1 and 2 will be even less visible from this observer viewpoint. The Preferred Alternative will lead to a moderate positive visual impact change (see Figure 2-25).

Summary

The ratings show that successful replanting of the slopes will be the most effective way to visually blend the project with its natural setting. As seen from all viewpoints, slopes that included successful replanting will contrast less with the surrounding native landscape. The replanted slopes will appear generally consistent with the adjacent non-disturbed areas, draw less of the viewer's attention from close range, and be less noticeable when seen from a distance.

Implementation of Option 1 would result in moderately beneficial visual impacts at four of the six project slopes due to the ability to successfully replant the slopes and visually blend with the natural setting. But, Option 1 would cause moderately adverse visual impacts at Slopes 4 and 5.

The Preferred Alternative will have moderately beneficial visual impacts at each of the six project slopes due to the ability to successfully replant the slopes and visually blend with the natural setting.

Avoidance, Minimization, and/or Mitigation Measures

The following measures will reduce the project's potential visual impact as seen from U.S. 395, the adjacent National Forest and State Park, and the surrounding area. The intent of these measures will be to minimize the effect of the project caused mainly by the noticeability of the disturbed areas and new human-made elements:

- Preserve as much existing vegetation as possible. Use prescriptive clearing and grubbing and grading techniques, which save the most existing vegetation possible considering the function of the applicable rockfall prevention strategy.

- Preserve as much of the existing landform as possible. Where feasible, avoid creation of completely flat slope-planes. Instead, as product installation allows, create graded slopes with undulations or facets to mimic natural topography.

- A color treatment will be applied to the anchored mesh and associated hardware to match the surrounding natural setting. Caltrans Landscape Architects will select three colors for the system elements, and a U.S. Forest Service Landscape Architect will approve the color to be used.

- Where replanting strategies are applied, plant species selection will be based in part on the native land cover immediately adjacent to the slope planting area. As appropriate, include as large a plant species as possible, considering the function of the rockfall prevention strategy and the adjacent natural slopes.

- The Mono Lake Committee and Caltrans have signed an agreement that details how revegetation strategies will be implemented for this project (see Appendix I).

2.2 Construction Impacts

Construction activities for the project will cause temporary impacts for access/traffic circulation, air quality, water quality and biology. These impacts will not be substantial.

Traffic

During construction, the project will interfere with local traffic, causing minor delays. Local businesses and fire and safety service providers will therefore not experience substantial impacts. A detailed Traffic Management Plan will be required for the build alternative because of the need to maintain traffic flow through the project site. All work will need to be performed without detours to minimize land disturbance. The Traffic Management Plan will cover coordination of activities with locals, the establishment of a community outreach plan, and the potential temporary lane closures.

Air Quality

During construction, the project will generate temporary noise, dust, and air pollutants. Exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors.

Caltrans Standard Specifications pertaining to dust control and dust palliative requirement are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 14-9.02 “Air Pollution Control” and Section 14.9.03 “Dust Control,” require the contractor to comply with the Great Basin Unified Air Pollution Control District’s rules, ordinances, and regulations. With all the appropriate Caltrans measures in place, temporary construction-related impacts will be minimized.

Water Quality

During construction, water pollution controls will ensure that the project will not cause or contribute additional pollution or sedimentation to Mono lake or its tributaries. A Storm Water Pollution Prevention Plan (SWPPP) will outline the specific water pollution controls required for the project to maintain compliance with the Construction General Permit. The following measures will be used during construction:

Erosion Control

Standard best management practices will be used to prevent erosion and storm water impacts during construction. Permanent best management practices may include but are not limited to, planting, contour-grading and slope-rounding, and mechanical stabilization. A plant establishment program will be implemented to reduce erosion by establishing healthy soil and promoting successful revegetation. This will reduce soil erosion and improve water quality.

Materials used during construction (such as concrete curing compounds) may have chemicals that are potentially harmful to aquatic resources and water quality. Accidents or improper use of these materials could release contaminants into the environment. Additionally, oil and other petroleum products used to maintain and operate construction equipment could be accidentally released. To prevent the release of these compounds, mitigation measures and best management practices will be used to minimize any potential impacts. Implementation of best management practices and compliance with the substantive requirements of the Construction General Permit's (see the next subsection) will reduce short-term impacts to water resources.

On a Statewide level, to comply with the Construction General Permit, Caltrans developed the Statewide Storm Water Management Plan to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. This plan was approved by the State Water Resources Control Board. The Statewide Storm Water Management Plan assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including selection and implementation of best management practices. At the project level and in accordance with the Statewide Storm Water Management Plan and the Construction General Permit, a Storm Water Pollution Prevention Plan will address the project specific water pollution controls required to maintain compliance with the Construction General Permit.

Construction General Permit

The Construction General Permit regulates storm water discharges from construction sites that result in a disturbed soil area of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development.

A combined project risk level of 2 has been determined for the project due to a medium Site Sediment Risk Factor and a low Receiving Water Body Risk Factor as determined by a risk level analysis. The Construction General Permit separates projects into Risk Levels 1, 2 or 3. Risk levels are determined during the planning and design phase, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined.

As required by the Construction General Permit, the project will have a Storm Water Pollution Prevention Plan as discussed above under Erosion Control. A Storm Water Pollution Prevention Plan will comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges associated with Construction Activities. The project will not cause or contribute to additional pollution or sedimentation to Mono lake which is designated as an Outstanding National Resource Water (ONRW). (Water Quality Report, June 14, 2012, and Lahontan Water Board Communication, June 6, 2012).

Biology

Field surveys done for the Natural Environment Study determined there will be no direct impacts to threatened or endangered species. A preconstruction survey will be done to ensure that no threatened or endangered species have moved into the project area.

Disturbance impacts caused by heavy machinery, noise, vibration, movement, the presence of work personnel, congested traffic, and localized air quality impacts due to dust and equipment exhaust at Slopes 3, 4 and 6 could result in disturbance impacts to willow flycatchers, yellow warblers, or long-eared owls occupying patches of willow habitat nearby (referred to as willow stand 1-3 below).

The intensity and duration of construction-related disturbance across from Slope 3 (willow stand 1) will be less than that of Slopes 4 and 6 (willow stands 2 and 3, respectively) because treatments there will be restricted to rounding the top of the slope, some rock scaling, and vegetation treatments.

The greater amount of work involved at Slopes 4 and 6 result from slope grading activity, a greater amount of rock scaling required, and installation of anchored mesh, as well as revegetation treatments. This work is estimated to take two weeks to complete for each area. Therefore, willow stands 2 and 3 will experience project-related disturbance of greater intensity and duration than that expected for willow stand 1.

For willow stands 1–3, which are next to the proposed construction zones and may contain special-status species, four measures will be used to avoid and minimize potential impacts to species occupying the willow stands during construction:

- Restrict construction activities until after the breeding season when it is unlikely that breeding birds will be in the area. This measure will also allow nesting birds time to fledge young, thus complying with the Migratory Bird Treaty Act. A seasonal work restriction between March 1 and August 15, or preconstruction bird surveys of the project site, should be adequate to protect nesting birds.
- Perform preconstruction surveys before construction activities on a weekly basis. This will allow construction to start earlier than with measure 1; however, should special-status species be identified, construction disturbances within that area may be delayed until subsequent surveys indicated that the species were no longer present.
- Biological monitoring of the willow stands will provide for the detection of special-status species and determine if individuals are being negatively affected by construction-related disturbance. Construction may be stopped on a temporary basis until the species are no longer in the area.
- No construction personnel or equipment will be allowed to enter the willow habitat during the course of the project.

Invasive Species

Construction related activities will potentially promote the distribution of invasive plant species through ground disturbance. The following measures will be used to prevent the introduction or spread of invasive species.

- Revegetation strategies will include certified weed free products.
- Equipment will arrive at the construction site clean and is subject to inspection.
- Cleaning measures will be used during construction to prevent the spread of invasive species.

- Special provisions in the construction bid package prevent the introduction and/or spread of invasive and noxious weeds.

2.3 Climate Change (California Environmental Quality Act)

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

While climate change has been a concern for several decades, establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are mainly concerned with the emissions of greenhouse gases related to human activity that include carbon dioxide (CO_2), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

Typically, two terms are used when discussing the impacts of climate change. "Greenhouse gas mitigation" is a term for reducing greenhouse gas emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels) [1].

Transportation sources (passenger cars, light-duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas-emitting sources. Conversely, the main source of greenhouse gas emissions in the U.S. is electricity generation, followed by transportation. The dominant greenhouse gas emitted is carbon dioxide, mostly from fossil fuel combustion.

There are four main strategies for reducing greenhouse gas emissions from transportation sources: 1) improve system and operation efficiencies, 2) reduce growth of vehicle miles traveled, 3) transition to lower greenhouse gases fuels, and 4) improve vehicle technologies. To be most effective, all four should be pursued

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

collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce greenhouse gases emissions from transportation sources.

Regulatory Setting

State

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

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: This bill requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the U.S. Environmental Protection Agency Administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to implement its own greenhouse gas emission standards for motor vehicles beginning with model year 2009. California agencies will be working with federal agencies to conduct joint rulemaking to reduce greenhouse gas emissions for passenger cars model years 2017-2025.

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

Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006: AB 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that the California Air Resources Board create a plan, which includes market mechanisms, and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the State’s Climate Action Team.

Executive Order S-01-07: Then-Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this order, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by 2020.

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

Caltrans Director's Policy 30 (DP-30) Climate Change (approved June 22, 2012): This policy established a department policy to ensure coordinated efforts to incorporate climate change into departmental decisions and activities. This policy contributes to the department's stewardship goal to preserve and enhance California's resources and assets.

Federal

Although climate change and greenhouse gas reduction are concerns at the federal level, currently no regulation or legislation has been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the U.S. Environmental Protection Agency nor the Federal Highway Administration has come out with explicit guidance or methodology to conduct project-level greenhouse gas analysis.

As stated on the Federal Highway Administration's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process, from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies set forth by the Federal Highway Administration to lessen climate change impacts correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours traveled.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the

"National Clean Car Program" and Executive Order 13514-Federal Leadership in Environmental, Energy and Economic Performance.

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the interagency Climate Change Adaptation Task Force, which is engaged in developing a U.S. strategy for adaptation to climate change.

On April 2, 2007, in Massachusetts v. EPA, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. Environmental Protection Agency has the authority to regulate greenhouse gas. The court held that the U.S. Environmental Protection Agency Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the U.S. Environmental Protection Agency Administrator signed two distinct findings on greenhouse gas under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. Environmental Protection Agency's Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles, which was published on September 15, 2009 [2]. On May 7, 2010, the final Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards were published in the Federal Register.

[2] http://www.epa.gov/oms/climate/regulations.htm#1-1

The U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever greenhouse gas regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle greenhouse gas regulations. These steps were outlined by President Barack Obama in a memorandum on May 21, 2010.[3]

The final combined U.S. Environmental Protection Agency and National Highway Traffic Safety Administration standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On January 24, 2011, the U.S. Environmental Protection Agency along with the U.S. Department of Transportation and the State of California announced a single timeframe for proposing fuel economy and greenhouse gas standards for model years 2017-2025 cars and light-trucks. Proposing the new standards in the same timeframe (September 1, 2011) signals continued collaboration that could lead to an extension of the current National Clean Car Program.

Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of greenhouse gas.[4] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See California

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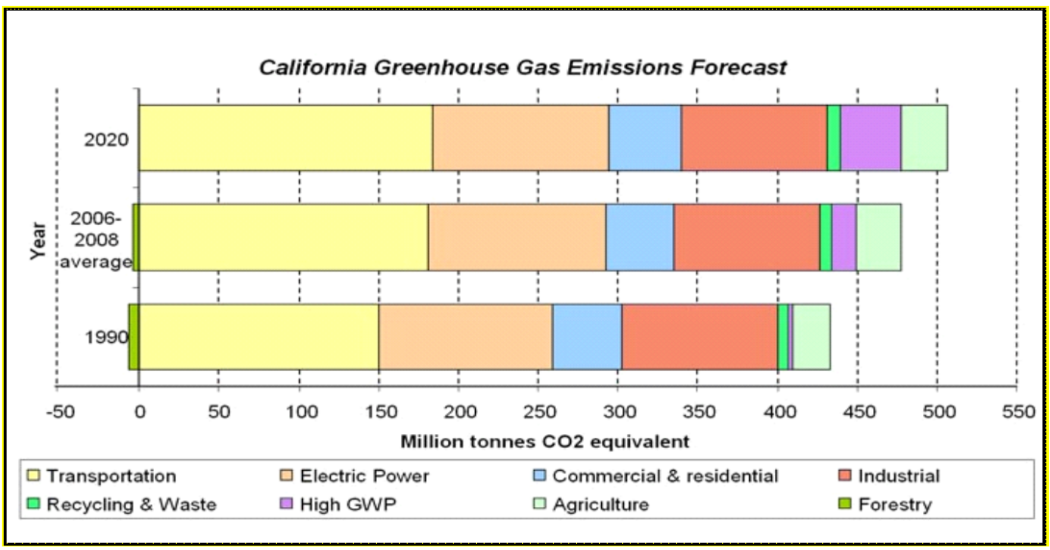
[3] http://epa.gov/otaq/climate/regulations.htm

[4] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the SCAQMD (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

Environmental Quality Act Guidelines Sections 15064(h)(1) and 15130. To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult if not impossible task.

The AB 32 Scoping Plan contains the main strategies California will use to reduce greenhouse gas. As part of its supporting documentation for the Draft Scoping Plan, the Air Resources Board released the greenhouse gas inventory for California (Forecast last updated: 28 October 2010). The forecast (see Figure 2-26) is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007, and 2008.

Figure 2-26 California Greenhouse Gas Forecast



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

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98 percent of California's greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human-made greenhouse gas emissions are from transportation, the department has created and is implementing the

Climate Action Program at Caltrans that was published in December 2006 (see Climate Action Program at Caltrans, December 2006).[5]

The project will have low to no potential for increasing greenhouse gas emissions. Construction emissions will be unavoidable, but there will likely be long-term greenhouse gas benefits by reducing the amount of rockfall removal that maintenance crews will have to perform.

Construction Emissions

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

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

California Environmental Quality Act Conclusion

While there will likely be a slight increase in greenhouse gas emissions during construction of the project, it is expected that the project will not result in any increase in operational greenhouse gas emissions. While it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a significance determination on the project's direct impact and its contribution on the cumulative scale to climate change, Caltrans is firmly committed to implementing measures to help reduce greenhouse gas emissions. These measures are outlined in the following section.

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[5] Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

Greenhouse Gas Reduction Strategies

AB 32 Compliance

Figure 2-27 Mobility Pyramid

Caltrans continues to be actively involved on the Governor's Climate Action Team as the Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in greenhouse gas emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together can be expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain carbon dioxide reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 2-27 Mobility Pyramid.

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies, including: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans is also working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority.

Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars and light- and heavy-duty trucks; the department is doing this by supporting ongoing research efforts at universities, by supporting legislative efforts to increase fuel economy, and by participating on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by the U.S. Environmental Protection Agency and Air Resources Board.

Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the University of California at Davis.

Table 2-4 summarizes the department and statewide efforts that Caltrans is implementing to reduce greenhouse gas emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

To the extent that it is applicable or feasible for the project and through coordination with the project development team, the contractor must adhere to Caltrans' Standard Specifications, and must comply with all local Air Pollution Control District's rules, ordinances, and regulations in regard to air quality restrictions in order to reduce greenhouse gas emissions and potential climate change impacts from the project.

Adaptation Strategies

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

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration, released its interagency report October 14, 2010 outlining recommendations to the president for how federal agency policies and programs can better prepare the U.S. to respond to the impacts of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the federal government implement actions to expand and strengthen the nation's capacity to better understand, prepare for, and respond to climate change.

Table 2-4 Climate Change/Carbon Dioxide Reduction Strategies						
Strategy	**Program**	**Partnership**		**Method/Process**	**Estimated CO_2 Savings (MMT)**	
		Lead	**Agency**		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

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

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

The California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop the California Climate Adaptation Strategy (December 2009) [6], which summarizes the best-known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

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

The Resources Agency was also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010[7] (the completion date was later revised to 2012) to advise how California should plan for future sea level rise. The report is to include:

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[6] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

[7] Pre-publication copies of the report, *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future*, were made available from the National Academies Press on June 22, 2012. For more information, please see http://www.nap.edu/catalog.php?record_id=13389.

- Relative sea level rise projections for California, Oregon and Washington, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates.
- Range of uncertainty in selected sea level rise projections.
- Synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems.
- Discussion of future research needs regarding sea level rise.

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

Interim guidance has been released by the Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise.

The proposed project is outside the coastal zone, and direct impacts to transportation facilities due to projected sea level rise are not expected.

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

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

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

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings and interagency coordination meetings. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

Because of its location within the Mono Basin National Forest Scenic Area and proximity to Mono Lake, the project has garnered further interest by community groups and organizations that have concerns or responsibilities to the area. In addition to the community at large, several key organizations provided input on the project: the U.S. Forest Service, California State Parks, and the Mono Lake Committee. The following explains these organizations' involvement:

- The U.S. Forest Service is charged with oversight and management of the Mono Basin National Forest Scenic Area. Since the project proposes right-of-way acquisition from the U.S. Forest Service, the Service was contacted early on about the project. On March 17, 2011 and January 19, 2012, Caltrans met with the U.S. Forest Service to provide an initial project overview and discuss the project. The January 19, 2012 meeting took place at the project site.

- California State Parks has jurisdiction over Mono Lake, including the Old Marina site, across from Slope 4. Though no work that directly affects State Parks-managed lands is being proposed, the project will affect visitors to those lands as they travel through the project area. So, to inform California State Parks about the project, California State Parks representatives were invited to a site visit, which they attended on December 13, 2011.

- The Mono Lake Committee is a non-profit citizens' group dedicated to protecting and restoring the Mono Basin. An initial informal site meeting with the group, along with California State Parks, occurred on December 13, 2011. An overview of the project and the project details for each slope were discussed. As a result of this initial meeting, the Mono Lake Committee drafted a letter to Caltrans dated

March 13, 2012 recognizing the need for the project and stating what the committee will like to see the project accomplish. The committee's letter expressed a desire to see a solution that promoted a more successful replanting of the slopes.

During circulation of the Initial Study with Proposed Negative Declaration/Environmental Assessment, the Mono Lake Committee submitted substantive comments on the document. The committee was concerned that the project did not incorporate a concrete, enforceable, and proven plan for full stabilization of the affected slopes through revegetation. Caltrans held a series of meetings with the committee between November 2012 and April 2013 to discuss the proposed planting plan and treatment of the six slopes. An agreement between Caltrans and the Mono Lake Committee was finalized on May 28, 2013, and provided that a plant establishment program will be implemented to reduce erosion, to establish healthy soil, and to promote successful revegetation in and around the project areas requiring revegetation.

- Caltrans met with the Mono County Local Transportation Commission. On August 13, 2007, an initial presentation was given to the commission. Since that time, Caltrans has kept the commission updated regularly on the project status.
- Caltrans presented the project twice to the Mono Basin Regional Planning Advisory Committee: on July 13, 2011 and on November 9, 2011.
- Caltrans contacted the Mono Lake Kutzadika'a Indian Community; the tribe confirmed they have no concerns with the project.

Public Participation

Caltrans held a public hearing in the Lee Vining Community Center on August 7, 2012. The purpose of the hearing was to gather comments on the draft environmental document which began circulation on July 27, 2012.

The public hearing was publicized through direct mail announcements sent to public agencies and other interested parties. A public notice for the hearing appeared in *The Sheet* and the *Mammoth Times* on July 20, 2012. The meeting was attended by four individuals. A court reporter was on site to record comments. One individual provided a comment via the court reporter (See Appendix H).

The initial public comment period was from July 27, 2012 to August 27, 2012. At the request of the U.S. Forest Service, the comment period was extended an additional 30 days through September 24, 2012. Comments were received from one Federal and three State agencies. Additionally, four comments from the public were provided by U.S. mail and 1,032 email comments were received (See Appendix H).

Chapter 4 List of Preparers

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

Brandon Badeker, Engineering Geologist. B.S., Geological Sciences, University of California at Santa Barbara; 12 years of experience in the geotechnical field. Contribution: Geotechnical Design Report.

Andrew Brandt, Transportation Engineer. 10 years of experience in floodplain evaluation and hydrology studies. Contribution: Floodplain Evaluation.

Angela Calloway, Associate Environmental Planner (Archaeology). B.S., Anthropology, Indiana State University; 9 years of experience in California and Great Basin archaeology. Contribution: Cultural Studies.

Robert Carr, Registered Landscape Architect 3473. B.S., Landscape Architecture, California Polytechnic State University San Luis Obispo; 24 years of experience in landscape architecture. Contribution: Visual Impact Assessment and Addendum.

Ronald Cummings, Wildlife Biologist, URS Corporation. B.S., Biology, Oregon State University, Corvallis, Oregon; 20 years of biology experience. Contribution: Natural Environment Study.

Rajeev Dwivedi, Associate Engineering Geologist. Ph.D., Environmental Engineering, Oklahoma State University, Stillwater; 19 years of environmental technical studies experience. Contribution: Noise Study Report, Air Quality Report and Water Quality Report.

David Ewing, Graphic Designer III. B.A., Graphic Design, Minor in Business Administration, California State University, Fresno; 18 years of graphic design, transportation graphics, and public participation experience. Contribution: Document graphics.

Cory Freeman, Transportation Engineer. B.S., Civil Engineering, Long Beach State University; 12 years of experience as a licensed Civil Engineer, 5 years of experience in transportation engineering. Contribution: Project Engineer.

Susan Greenwood, Associate Environmental Planner. B.S., Environmental Health Science, California State University, Fresno; 20 years of environmental health, hazardous waste, and hazardous material management experience. Contribution: Hazardous Waste Initial Site Assessment.

R. Steve Miller, District Landscape Architect. Bachelor of Landscape Architecture, University of Idaho; 35 years of experience in landscape architecture. Contribution: Visual Impact Assessment.

Ken J. Romero, Senior Transportation Engineer. B.S., Civil Engineering, California State University, Fresno; 7 years of environmental technical studies experience. Contribution: Oversight review of the Noise Study Reports, Air Quality Reports and Water Quality Reports.

Susan Schilder-Thomas, Senior Environmental Planner. B.A., Geography, California State University, Fresno; 14 years of environmental planning experience. Contribution: Environmental coordination and final document preparation.

Jane Sellers, Research Writer. B.A., Journalism, California State University, Fresno; more than 25 years of writing/editing experience, 12 years at Caltrans. Contribution: Edited Initial Study/Environmental Assessment.

Richard C. Stewart, Engineering Geologist, P.G. B.S., Geology, California State University, Fresno; 21 years of hazardous waste and water quality experience; 5 years of paleontology/geology experience. Contribution: Paleontological Identification Report.

John Thomas, Associate Environmental Planner. B.A., Geography, California State University, Fresno; 14 years of environmental planning experience. Contribution: Environmental coordination and draft document preparation.

Juergen Vespermann, Senior Environmental Planner. Engineering Degree, Fachhochschule Muenster, Germany; 23 years of transportation planning/environmental planning. Contribution: Senior Review.

Cedrik Zemitis, Senior Transportation Planner. M.A. History, California State University, Sacramento; B.A. Exercise Physiology, University of California at Davis; 19 years of finance, budgeting and management experience. Contribution: Project Manager.

Appendix A California Environmental Quality Act Checklist

The following checklist identifies physical, biological, social, and economic factors that might be affected by the project. The California Environmental Quality Act impact levels include “potentially significant impact,” “less than significant impact with mitigation,” “less than significant impact,” and “no impact.”

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

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☒	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☒	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

IV. BIOLOGICAL RESOURCES: Would the project:

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

V. CULTURAL RESOURCES: Would the project:

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

VI. GEOLOGY AND SOILS: Would the project:

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Expose people or structures to 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?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.			
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
XV. 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
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)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Appendix B Resources Evaluated Relative to the Requirements of Section 4(f)

This section of the document discusses parks, recreational facilities, wildlife refuges and historic properties found within or adjacent to the project area that do not trigger Section 4(f) protection either because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, 4) the project does not permanently use the property and does not hinder the preservation of the property, or 5) the proximity impacts do not result in constructive use.

One public park—Mono Lake Tufa State Natural Reserve—is near the project study area. It sits outside the project limits and will not be affected by the proposed build alternative. No construction activities will take place in the park, and it will remain open during construction.

The project will not cause a constructive use of the Mono Lake Tufa Natural State Reserve because the proximity impacts will not substantially impair the protected activities, features, or attributes of the park.

Appendix C Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY   EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711
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March 16, 2012

NON-DISCRIMINATION
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Mario Solis, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353, TTY 711, fax (916) 324-1869, or via email: *mario_solis@dot.ca.gov*.

MALCOLM DOUGHERTY
Acting Director

"Caltrans improves mobility across California"

Appendix D Minimization and/or Mitigation Summary

The following table summarizes the minimization and/or mitigation measures required to do the project.

Area	Issue	Minimization and Mitigation
Visual Resources	Alteration of scenic landscape and a short-term decrease in the visual quality of the area	Preserve as much existing vegetation as possible. Preserve as much existing landform as possible. Limit the amount of slope rounding. A color treatment will be applied to the anchored mesh and associated hardware to match the surrounding natural setting. Implement a plant establishment program. Follow details from the agreement signed between the Mono Lake Committee and Caltrans regarding how revegetation strategies will be implemented for this project (Appendix I).
Traffic and Transportation/Pedestrian and Bicycle Facilities	Temporary traffic delays and roadway closures from construction activities	Use limited short-term road closures.
Water Quality and Storm water Runoff	Any impacts related to construction	Apply erosion control and utilize best management practices. Implement a plant establishment program. Implement a Storm Water Pollution Prevention Plan during construction and a Storm Water Management Plan after construction.

Area	Issue	Minimization and Mitigation
Threatened and Endangered Species	Construction activities across the highway from historical foraging habitat of willow flycatcher	Conduct preconstruction surveys. Biological monitors will be used if any willow flycatchers are discovered.
Invasive Species	Distribution of invasive plant species through ground disturbance	Implement a plant establishment plan for erosion control to prevent the spread of invasive plant species. Use certified weed free products . Project specifications will require procedures that will prevent the spread of invasive species to the project site.

Appendix E Viable Rockfall Mitigation Solutions

There are many solutions and methods from which to choose to mitigate rockfall hazards, some more appropriate than others due to the nature of the rockfall problem. There are four general rockfall solution strategies that Caltrans promotes: 1) Relocation, 2) Stabilization, 3) Protection, and 4) Management. Any one or a combination of the four may be applicable to a given rockfall problem. The following is a brief discussion of the various rockfall solutions that are appropriate for the Lee Vining Rockfall Project.

1 **Rock scaling activities on slope**

Rock Scaling *(Stabilization)****:*** Scaling is an often-used rockfall mitigation method to remove intermittent and marginally loose rock from the slope and is considered a form of stabilization. It is often used as a first step in rockfall mitigation and often combined with other methods (those discussed below). Scaling can be done by hand, with workers physically removing rocks from the slope, or by mechanical methods with the use of a long reach excavator. Scaling alone and in and of itself is usually considered a short-term stabilization treatment. To be considered a long-term stabilization method, recurring scaling activities would need to be implemented. Because scaling activities would likely require lane closures and impacts to traffic, the viability of scaling as a long-term stabilization method would need to be evaluated carefully due to the impacts to the traveling public, risk to personnel, and recurring costs.

Cut (Stabilization): Generally, slopes with loose material and rock that are steeper than 1.5:1 (horizontal: vertical) are more difficult to revegetate and more prone to producing rockfall. Ideally, when site conditions and right-of-way allow, cutting back or “laying back the slope” to a less steep angle than the current slope would help stabilize the surface and prevent or reduce the amount of rockfall. Therefore, cutting a slope back is considered a form of stabilization. Laying back a slope to a naturally stable slope is not always feasible due to any one or a combination of the following: very tall slopes, right-of-way issues, environmental impacts, or the logistics of disposing of the potentially large volumes of material produced in laying back the slope. An important benefit gained from cutting back a slope to a more naturally stable slope is the increased probability of revegetating the slope. Revegetation strategies can be more successfully used to minimize future erosion potential and aid in providing long-term slope stability. The inclination to which a slope is flattened is based on many factors, including but not limited to material composition and stratification, height, proximity to the roadway, potential to revegetate, and aspect. If a slope cannot be cut back to a naturally stable slope inclination but can be cut back to a flatter slope, additional protection methods maybe used to mitigate rockfall. For example, a catchment ditch located below the cut slope and between the roads could be built for rockfall storage, where space allows.

2 **Installed drapery example**

Wire/Cable Mesh Drapery (Protection): Draped mesh is considered a form of protection and, depending on the rock size, consists of wire mesh or cable netting that is anchored only at the top of the installation and draped over the face of the slope. The bottom edge of the drapery is unattached to the slope and usually ends 3-5 feet above the ground, allowing material to deposit at the toe of slope without loading the drapery and anchors above. This also allows maintenance crews to remove the debris without hitting the drapery. Drapery by design allows controlled movement of rock to continue beneath the drapery. As rockfall occurs, the drapery lessens the kinetic energy and prevents any launching of rock away from the slope. Rockfall is deposited at the toe of slope in a controlled manner for later removal by maintenance crews. A drapery solution requires a minimum amount of catchment area for deposition of rockfall material and requires removal by maintenance crews on a recurring basis to prevent the bottom of the drapery from getting buried; the frequency of removal depends on the rate of erosion that is actively occurring. Any debris or snow that buries the bottom of the drapery could impose substantial tension loads on the system and anchors that they were not designed for. This could lead to failure of the whole system. This is especially important in snow country and may require additional care and monitoring by maintenance crews during winter.

The more contact the drapery can make with the slope, the less visible it will be and the more effective it will be at controlling the rockfall. Closer contact also increases the ability to prevent erosion and allow a greater chance that vegetation will grow. However, since drapery allows for the movement of the slope surface, a revegetative treatment like erosion control blankets generally are not applied to the slope beneath the drapery, though seeding could be an option. Light rock scaling is recommended before most draped mesh installations, but major grading or slope smoothing is not necessary. Draped mesh can be strategically placed to allow some of the larger existing vegetation such as trees to remain. Generally draped mesh is sized according to the size of rock on the slope and can be effective at mitigating rockfall yields below 10 cubic yards of debris. Double twisted wire mesh is generally specified for rocks of up to 2 feet in size. Cable mesh is usually used where rocks are 4 feet in size or larger.

Vegetation that grows below the drapery would need to be monitored to prevent it from lifting the drapery up and away from the slope.

To reduce its visibility, draped mesh can be PVC-dipped or powder-coated to match the color/tone of the surrounding environment. Because of the minimum number of anchors required with a drapery solution, draped mesh can be installed more quickly and with less cost than an anchored mesh solution.

3 **Hybrid system example**

Hybrid Wire/Cable Mesh Draped System/
(Protection):
A hybrid wire/cable mesh system, also called a hybrid system, is composed of drapery raised above the slope and suspended vertically between steel posts (attenuators). By raising the drapery above the slope it guides up-slope rockfall under the drapery, which reduces the kinetic energy of the rockfall and allows the rock to be funneled below the drapery and deposited at the toe of slope in a controlled manner. A major advantage of the hybrid system is the minimized area of disturbance to the slope as compared to a draped or anchored solution. Because the hybrid system can "catch" rock from above, the system can be installed down lower on the slope, which creates less environmental disturbance and potentially less right-of-way acquisition. Like the drapery solution, rockfall debris would be deposited at the toe of slope and require continual removal by maintenance crews. The hybrid wire/cable mesh draped system is designed for the potential rockfall that could occur on the slope. Rock size, trajectory of rockfall, slope inclination, slope orientation, proximity to the highway, snow loading, nature of erosive soils, quantity and quality of existing vegetation, and local topography are all factors that would be considered in the final design.

4 **Anchored Mesh example**

Anchored Mesh *(Stabilization):* Unlike the draped mesh solution which is only anchored from above and draped loosely over the slope which allows material to continuously erode off the slope, anchored mesh is secured to the face of the slope along its perimeter and its interior. This anchoring around the perimeter and interior holds the rock in place on the slope, reducing erosion of the slope and loss of material. Anchored mesh uses similar wire or cable mesh as drapery, and in most cases a combination of the two. The efficacy of this system is predicated on the slope being graded or contoured to a more uniform plane, free of numerous and abrupt topographic irregularities.

Basically, the more contact the anchored mesh makes with the surface, the more effective it will be at retaining the slope and increasing the chances of revegetation. The anchored mesh is more effective at preventing erosion than draped mesh systems, but may require more grading/contouring of the existing natural topography, which would create a larger impact to the environment temporarily until the slope revegetates. Since the strength and integrity of an anchored system depends heavily on its interior anchors, openings for established vegetation are not recommended. Any openings made within the anchored mesh could cause localized stresses to form on the mesh and potentially cause nearby anchors to fail. Debris that has accumulated behind the mesh could then affect adjacent anchors, causing failure of the anchored mesh system. As a consequence of this, a larger amount of established vegetation, such as existing trees, would need to be removed from within the area to receive anchored mesh compared to a draped mesh solution.

Since the slope is more stabilized with the anchored mesh system, a number of revegetative treatments can be applied to the slope that may further help in stabilizing the surface. Because rock and debris are contained on the slope and not deposited on the shoulder of the road, some immediate advantages of an anchored system, aside from an increase in safety of the traveling public, are the following: 1) substantially reduced or eliminated maintenance costs associated with rockfall removal/cleanup, 2) increased safety to maintenance crews as there is no need for them to stop and remove rockfall debris alongside the road, and 3) debris is not deposited along the shoulder requiring removal. Anchored mesh systems cost more initially and take longer to install compared to draped mesh solutions.

Though there is no need to continuously remove debris with an anchored mesh system compared to drapery, the anchored mesh does need to be occasionally monitored visually for “pillowing” of debris. Pillowing of debris occurs when rockfall debris piles up behind the mesh and around an interior anchor. Should a large pillow of debris occur, the anchored mesh may need to be partially disassembled so the debris can be removed. If left unchecked and the pillow of debris becomes large enough, it could overload the anchor, causing failure which in turn would allow the debris to affect and overload subsequent anchors below, possibly compromising the entire system. Like drapery, anchored mesh can be PVC- or powder-coated to blend with the general color of the surrounding environment.

Appendix F 404 Determination

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
VENTURA FIELD OFFICE
2151 ALESSANDRO DRIVE, SUITE 110
VENTURA, CALIFORNIA 93001

June 4, 2012

REPLY TO
ATTENTION OF
Office of the Chief
Regulatory Division

Mr. Miguel Perez
California Department of Transportation
District 9
500 South Main Street
Bishop, California 93514

SUBJECT: Determination regarding requirement for Department of the Army Permit

Dear Mr. Perez:

I am responding to your request (File No. SPL-2012-00363-AOA) dated May 22, 2012, for clarification on whether a Department of the Army Permit is required for stabilizing side-slopes immediately west of Highway 395 from Milepost 52.3 to 53.7 (-119.14211, 37.99039) located near Lee Vining, Mono County, California.

The Corps' evaluation process for determining whether or not a Department of the Army permit is needed involves two tests. The first test determines whether or not the proposed project is located within or contains a water of the United States (i.e., it is within the Corps' geographic jurisdiction). The second test determines whether or not the proposed project includes an activity potentially regulated under Section 10 of the River and Harbor Act or Section 404 of the Clean Water Act. If both tests are met, and the activities in question are located within the Corps' geographic jurisdiction, then a permit would be required. As part of our evaluation process, we have made the determination below.

Geographic jurisdiction:

Based on the information dated March 20, 2012, we have determined that the proposed Lee Vining Rockfall Prevention Highway Safety Project is located at least 250 feet from the nearest waters of the United States (Mono Lake) pursuant to 33 C.F.R. §325.9.

Activity:

Based on the information you have provided, we have determined the proposed work, were it to occur in waters of the U.S. (see above, "*Geographic jurisdiction*"), would involve a discharge of dredged or fill material and therefore, would be regulated under Section 404 of the Clean Water Act if the activity is performed in the manner described in the information submitted on May 22, 2012.

-2-

Requirement for a Department of the Army Permit:

Based on the discussion above, we have determined your proposed project **is not** subject to our jurisdiction under Section 404 of the Clean Water Act and a Section 404 permit **would not** be required from our office if the activity is performed in the manner described. Please note, until a jurisdictional determination is approved by the Corps for the project area, we cannot rule out that waters of the U.S. occur on-site. Notwithstanding our determination above, your proposed project may be regulated under other Federal, State, and local laws.

If you have any questions, please contact me at 805-585-2148 or via e-mail at Aaron.O.Allen@usace.army.mil. Please be advised that you can now comment on your experience with Regulatory Division by accessing the Corps web-based customer survey form at: http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

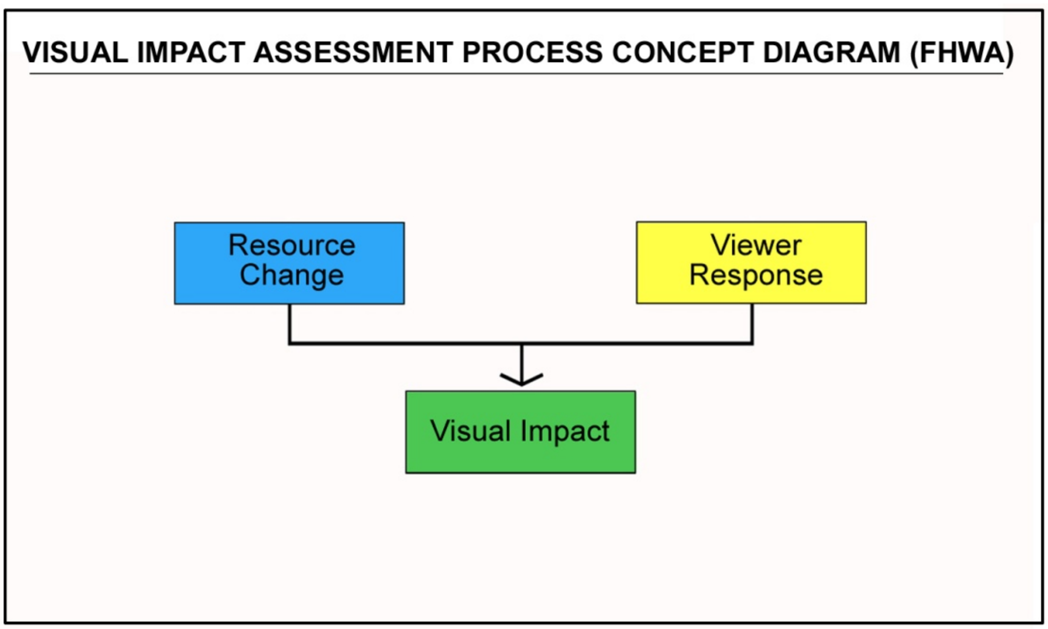
Aaron O. Allen

Aaron O. Allen, Ph.D.
Chief, North Coast Branch
Regulatory Division

Appendix G Visual Analysis Methodology

The following information is from the June 2012 Lee Vining Rockfall Visual Impact Assessment.

To assess the visual resources potentially affected by a project, Caltrans uses an analysis model developed by the Federal Highway Administration in conjunction with the American Society of Landscape Architects. The major components of this process include establishing the visual environment of the project, assessing the visual resources of the project area, and identifying viewer response to those resources. Those components define the existing or baseline conditions. Resource change introduced by the project and the associated viewer response is then assessed, providing a basis for determination of potential visual impacts. Visual impact is a function of assessing the extent of physical change (resource change) and comparing that with the degree of viewer sensitivity (viewer response). A generalized visual impact assessment process is shown in the figure below.



Visual Resource Change

Physical changes caused by the project manifest themselves in terms mainly of form, line, color and texture as well as the associated relational aspects of scale, dominance, diversity and continuity. These physical attributes are visually experienced as an integrated whole, defining the perceived visual character of the landscape. How these attributes relate to one another and their setting is assessed in part by analyzing what is defined in the Federal Highway Administration methodology guidance as the view's *vividness, intactness and unity*. These three visual rating criteria are described as follows:

- Vividness is the visual power or memorability of the landscape components as they combine in striking and distinctive visual patterns.

- Intactness is the visual integrity of the landscape and its freedom from non-typical encroaching elements. If all of the various elements of a landscape seem to "belong" together, there will be a high level of intactness.

- Unity is the visual harmony of the landscape considered as a whole. Unity represents the degree to which potentially diverse visual elements maintain a coherent visual pattern.

To assess the degree of resource change caused by the project, the Federal Highway Administration methodology recommends a numerical rating process that compares the visual quality in terms of vividness, intactness and unity (described above), of both the existing and proposed conditions for each project alternative and option under consideration. Resource change evaluations were done from each of the eight representative Observer Viewpoints. A numerical rating from 1 to 7 was assigned for the visual quality of existing conditions from each viewpoint, with 1 having the lowest value and 7 the highest. Photo simulations were then prepared showing the likely appearance of each view after project construction. After a combination of field reviews and photo simulation study, numerical ratings were then assigned to each of the "proposed" views. The numerical difference, if any, between the existing and proposed conditions quantifies the degree of resource change that may occur as a result of the project. The following table shows the range of visual resource change ratings and the corresponding descriptions.

Visual Resource Change Ratings and Descriptions											
	Negative Visual Resource Change						Positive Visual Resource Change				
Visual Resource Change (RC) Rating	-5.0	-4.0	-3.0	-2.0	-1.0	0	1.0	2.0	3.0	4.0	5.0
Equivalent Narrative Rating	High	Moderately High	Moderate	Moderately Low	Low	No Change	Low	Moderately Low	Moderate	Moderately High	High

The resource change evaluation determines which specific criteria contribute most to the existing quality of each view and if change would occur to that criteria as a result of the project. If a numerical change in visual criteria was identified, this change was analyzed for its potential effect on the existing visual quality.

Ultimately, the degree of resource change (as determined by the resource change evaluation) must be combined with the anticipated viewer response to understand and determine potential levels of visual impact.

Viewer Response

To understand and predict viewer response to the appearance of a highway project, we must know something about the viewers who may see the project and the aspects of the visual environment to which they are likely to respond. We can differentiate major viewer groups by physical factors that change perception. For highway projects, we begin with the basic distinction of the views from the road, the views of the road, the physical location of each viewer group, the number of people in each group, and the duration of their view. Receptivity of different viewer groups to the visual environment is not the same. This variable receptivity is defined as *viewer sensitivity* and is strongly related to visual preference. It affects visual experience directly by means of viewer activity and awareness; it affects visual experience indirectly as sensitivity modifies experience by means of values, opinions, and preconceptions.

Viewer response assumptions include consideration of viewing proximity, duration of views, activity while viewing, and overall viewing context. Local values based on visual preferences, historical associations, and community aspirations and goals are also important factors of predicting viewer sensitivity and response to change.

Based on the project's proximity to high-quality visual resources—as well the importance of the visual environment, highway and community aesthetics as identified in local, state and national planning documents—this analysis assumes an overall high level of viewer sensitivity throughout the project's length and in the surrounding area. At any given viewpoint, this generally high level of viewer sensitivity is affected by the previously mentioned factors (such as viewing distance, location and availability). The overall number of viewers and duration of views can also increase or decrease the high degree of visual sensitivity generally assumed for a certain viewpoint.

Viewer response ratings were done for each of the eight representative Observer Viewpoints. A numerical rating from 0 to 7 was assigned for the expected viewer sensitivity and response from each viewpoint, with 0 having the lowest value and 7 the highest. The table below shows the range of viewer response ratings and the corresponding descriptions.

Viewer Response Ratings and Corresponding Narrative Descriptions

Viewer Response (VR) Numerical Rating	0	1	2	3	4	5	6	7
Viewer Response Narrative Rating	Low	Low	Moderate Low	Moderate	Moderate	Moderate-High	High	High

Appendix H Response to Comments

This appendix contains the comments received during the public circulation period (July 27, 2012 to September 24, 2012) of the draft environmental document, plus the Caltrans responses to those comments. The responses follow each comment presented. The comments received (with dates) are listed below in the order that they appear in this appendix – Federal Agencies, State Agencies, Local Committees, and individuals.

- U.S. Forest Service, September 24, 2012
- Governor's Office of Planning and Research, State Clearinghouse and Planning Unit, August 28, 2012
- State of California Department of Parks and Recreation, September 21, 2012
- State of California Water Boards, Lahontan Regional Water Quality Control Board, September 21, 2012
- Mono Lake Committee, September 24, 2012
- Mono Lake Committee Members – email from 1,027 members, September 17, 2012 – September 24, 2012
- Ted Dougherty, September 19, 2012
- Tom L. Hedges, September 19, 2012
- Rae Paddock, September 20, 2012
- Public Hearing Transcript, held August 7, 2012

Comment from the U.S. Forest Service

USDA United States Department of Agriculture Forest Service Inyo National Forest

Mono Lake Ranger District
P.O. Box 429
Lee Vining, CA 93541
(760) 647-3044
(760) 647-3045 TDD

File Code: 2730
Date: September 24, 2012

Scott Smith
Senior Environmental Planner
California Department of Transportation
855 M Street, Suite 200
Fresno, CA 93721

Dear Mr. Smith

Thank you for extending the comment period on the Initial Study with Proposed Negative Declaration/Environmental Assessment for the Lee Vining Rockfall Safety Project. As was stated in the August 1, 2012 letter, limited staffing and a busy summer field season necessitated requesting this extension. I also appreciate the extra effort Caltrans has put into early coordination with the Forest Service, as well the public outreach it has conducted on this proposed project, including making presentations at the Mono Basin Regional Planning Advisory Committee meetings.

This proposed project takes place with the Congressionally-designated *Mono Basin National Forest Scenic Area*, and proposes to reduce rockfall at six slopes along U.S. 395 north of Lee Vining in Mono County. The primary purpose of the project is to improve safety for the traveling public and maintenance personnel by reducing rockfall from these six steep slopes that have a documented history of rockfall.

Slopes 1 and 2 would be laid back to 1.5:1 and revegetated. Slope 3 would be rock scaled and revegetated. Slope 6 would receive an anchored-cable mesh system and revegetated. Two different options are proposed for slopes 4 and 5: Design Option 1 is a hybrid system of double twisted wire mesh drapery and revegetation; and Design Option 2 is an anchored hybrid mesh and revegetation.

Inyo National Forest resource specialists including a wildlife biologist, botanist, heritage specialist, and landscape architect reviewed this document. No concerns were identified related to wildlife or heritage resources.

Because this project is taking place within a Congressionally-designated scenic area, the visual impacts of this project are of the upmost concern. Following are comments related to visual impacts.

The project area is located entirely in the *Developed Recreation Zone,* as identified in the *Mono Basin National Forest Scenic Area Comprehensive Management Plan.* The applicable management prescription for the Developed Recreation Zone is to manage the vegetative setting in and adjacent to the zone to meet the VQO of retention within the Foreground Zone Forest However, Standards and Guidelines related to Visual Quality Objective (VQOs) for U.S. 395 require the maintenance of foregrounds and middle grounds to Retention and/or Partial Retention

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as inventoried, but not less than Partial Retention. Since the project area is located within the Highway 395 corridor, the visual quality objectives for the project area are retention/partial retention.

The existing slopes meet the Partial Retention standard of "Human activity may be evident but must remain subordinate to the characteristic landscape". The slopes have existing vegetation that ranges from 25 to 75 % coverage.

During construction the slopes will be excavated to the proposed 1.5:1 slopes and the anchored mesh will be installed using either design Option 1 or 2 (not including slope 3). With no revegetation the slopes meet the Modification standard of "may be visually apparent to the casual observer and may also dominate the landscape".

The Visual Impact Assessment Report (2012) and the Proposed Negative Declaration/Environmental Assessment for the Lee Vining Rockfall Safety Project (2012) states it will take 3 to 5 years to reach the illustrated standard of 100% completion. The visual simulations presented for final reclamation of slopes 1 – 6 are idealized simulations using Photoshop or a similar software product. The use of either Design Option 1 or 2 for slopes 1- 3, 6 and Design Option 2 for slopes 4 and 5, would meet the visual quality objective of Retention with reclamation at 100% completion: "Human activities are not evident to the casual user".

1 The use of Design Option 1 for slopes 4 and 5 would <u>not</u> meet the requirements of Partial Retention as illustrated in the Caltrans reports: "Human activity may be evident but must remain subordinate to the characteristic landscape". Consequently, the Inyo National Forest requests that Caltrans implements Option 2.

2 The challenge for this project is that it will most likely take much longer than 3 – 5 years for 100% vegetation coverage. The final vegetation coverage used by Caltrans should be no less than the existing resource conditions on slopes 1 – 6 at the end of a period of 5 years. This should be enough vegetation to cover the mesh or exposed rock and lower the amount of contrast between the constructed and natural surfaces to meet the minimum levels of visual subordinance as described in the Partial Retention standard.

3 As far as botanical concerns, the Sierra Nevada Forest Plan Amendment (2004) requires that a weed risk assessment be done for projects occurring on Forest land. The species list included 13 species of non-native plants, some of which are at least moderately invasive (CalIPC ratings), but no actual risk assessment was included. Since the project will disturb ground, there is a moderate to high risk that at least some of these species will spread into the disturbed area. The revegetation should limit some of this spread, but a monitoring plan with removal of infestations into the project area should be implemented. Also, any equipment used to implement the project should be cleaned before beginning work to avoid introducing new species of invasive plants into the area.

4 Since this project requires additional allocation of National Forest System lands, the Forest will prepare a *Letter of Consent*. Because of the concerns with visuals that are related to revegetation, we will ask that a stipulation be included in the easement that requires a more specific revegetation plan be submitted for review by a forest botanist that includes a specific

seed mix and performance standards for the regrowth of vegetation on these slopes. As stated above, the vegetation cover proposed in the performance standards should be based on cover values of existing vegetation. The Forest Service will also ask for a stipulation that a weed monitoring plan for the project area, with removal of weed infestations, be implemented.

Also related to visuals, the Forest Service would like a Forest Service landscape architect to approve the color selection for cabling, cable mesh fabric, and cross connectors that will be used on this project. Additionally, all of the design standards identified in the Proposed Negative Declaration/Environmental Assessment should be written into the contract specifications.

Thank you for the opportunity to comment. Any questions or concerns can be directed to Sheila Irons of my staff at (760) 924-5534 or sirons@fs.fed.us.

Sincerely,

(FOR)

JON C. REGELBRUGGE
District Ranger
Mammoth and Mono Lake Ranger Districts

Response to Comment from the U.S. Forest Service

1. The Build Alternative with modified version of Design Option 2 has been selected as the preferred alternative for Slopes 3, 4, 5, and 6. Slopes 1 and 2 will be scaled to remove loose rocks and the cornice rounded as needed to reduce rockfall and erosion. Revegetation of the six slopes was always a project feature, but details of the revegetation plan including success criteria were not clearly defined in the July 2012 document. In this document, details of the revegetation plan have been included in Section 1.3.3. Additionally, an agreement between the Mono Lake Committee and Caltrans has been signed that includes a Plant Establishment (PE) Program (see Appendix I). The purpose of the PE Program is to reduce erosion, to establish healthy soil, and to promote successful revegetation in and around the project areas requiring revegetation. The PE Program will include a description of the areas requiring revegetation and requirements for appropriate seed mixes and planting practices.

2. See response to #1 above. In addition, the signed agreement includes requirements for remedial actions. If revegetation and slope stability on any slope has not met the success criteria set forth in the plant establishment program (including interim success goals), the plant establishment program will require remedial action in addition to routine maintenance. Remedial actions will be identified and designed based on the results of the Test Plots Project and could include but are not limited to: spraying extra hydroseed on localized areas of any slope, applying a topical fertilizer or high carbon mulch, and/or applying a surficial tackifier.

3. Information about invasive species was included in Appendix D of the July 2012 document. Text has been added to Section 2.2 of this document to clarify Caltrans' standard measures for controlling the spread of invasive species during and after construction.

4. Caltrans will continue to work with the U.S. Forest Service to ensure that revegetation and anchored mesh coloring meet the needs of the project and the scenic area. Caltrans Landscape Architects will select three colors for the system elements, and a U.S. Forest Service Landscape Architect will approve the color to be used.

Letter from the State Clearinghouse and Planning Unit

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

August 28, 2012

John Thomas
California Department of Transportation, District 6
855 M. Street, Suite 200
Fresno, CA 93721

Subject: Lee Vining Rockfall Safety Project
SCH#: 2012072055

Dear John Thomas:

The State Clearinghouse submitted the above named Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on August 27, 2012, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Acknowledgement of Letter from the State Clearinghouse and Planning Unit

The State Clearinghouse letter acknowledges that Caltrans has completed the review requirements for draft environmental documents pursuant to the California Environmental Quality Act.

Comment from the Native American Heritage Commission

STATE OF CALIFORNIA — Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

8/27/12

RECEIVED
AUG 13 2012
STATE CLEARING HOUSE

August 6, 2012

Mr. John Thomas
California Department of Transportation – District 6
855 "M" Street, Suite 200
Fresno, CA 93721

Re: SCH#2012072055 NEPA/CEQA Notice of Intent (NOI); Negative Declaration and NEPA Environmental Assessment (EA)) for the **"Lee Vining Rockfall Safety Project;"** located in the Community of Lee Vining; Mono County, California.

Dear Mr. Thomas:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604).

This letter includes state and federal statutes relating to Native American historic properties or resources of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9. This project is also subject to California Government Code Section 65352.3 *et seq.*

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including …objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC recommends that the lead agency request that the NAHC do a Sacred Lands File search as part of the careful planning for the proposed project. This area is known to the NAHC to be very culturally sensitive.

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties, including archaeological studies. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a).

2

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

3

Response to Comment from the Native American Heritage Commission

Thank you for your comment. A record search was conducted for the project area which determined that archaeological sites were located upslope of the project. A site visit consultation with the Mono Lake Kutzadika'a Indian Community was done during the environmental study phase.

Comment from the California Department of Parks and Recreation

State of California • Natural Resources Agency — Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION — Janelle R. Beland, *Acting Director*

Sierra District
P.O. Box 266
Tahoma, CA 96142
530/525-7232

September 21, 2012

Mr. Scott Smith, Branch Chief
Central Sierra Environmental Analysis
California Department of Transportation
855 M Street, Suite 200
Fresno, CA 93721
scott_smith@dot.ca.gov

Subject: Lee Vining Rockfall Safety Project Negative Declaration SCH# 2012072055

Dear Mr. Smith,

Thank you for the opportunity to comment on the California Department of Transportation (Caltrans) Lee Vining Rockfall Safety Project Negative Declaration. The Mono Lake Tufa State Reserve (MLTSR) is a California Department of Parks and Recreation (CA State Parks) unit and consists of Mono Lake and state-owned portions of Mono Lake bed at or below 6,417 feet ASL elevation. MLTSR's primary management purpose is to protect the tufa and associated sand structures and provide for their interpretation. Working cooperatively, CA State Parks and the U.S. Forest Service manage the public lands around Mono Lake. This project affects the visual aesthetics as visitors travel Highway 395 to Mono Lake and Slope 4 of the project is just west (across the highway) from the improved Old Marina Site on CA State Parks land.

General Comments

1 CA State Parks would like to see the following:

1. Weed free fill and erosion control accessories used.
2. All vehicles and heavy equipment cleaned and washed of dirt, plant parts, etc. to prevent the spread of weeds.
3. The use local native plant species seeds or plant plugs whenever feasible in any revegetation associated with the project. Suggest initiating a seed collection contract with a seed supplier in advance of the project construction to be able to collect adequate amounts of seed.

Specific Comments

Page 5—Common Design Features

2 Please provide a description of the method that Slopes 1 and 2 will be cut back to a less steep angle.

Page 2
CA State Parks Comments

3 Page 6—Lee Vining Revegetation Project
CA State Parks commends Caltrans for the pilot project to experiment with erosion control and revegetation strategies on three smaller eroding cut slopes. If the experimental erosion control and revegetation strategies are successful, how will Caltrans ensure these strategies are applied to the Lee Vining Rockfall Project?

4 Page 21-40—Photo-Simulations and Project Representations
CA State Parks favors Design Option 2 as it appears to have less of a visual impact from the Negative Declaration text and simulated photos.

5 The simulated photos of the proposed conditions show treated slopes fully (100%) with vegetation. For Slopes 4 and 5, the photo simulations of vegetation represent the expected vegetation "over a period of 3 to 5 years." These photo simulations of the proposed condition leads the reader to believe that will be the final product of the project.

6 A revegetation plan is needed to ensure that the slopes in this project are vegetated to what is represented in the Negative Declaration. The revegetation plan needs to include 1) goals, objectives, and revegetation project timeframe; 2) native plant species list that can be used for revegetation; 3) the desired native plant performance/success criteria by location for the revegetation by year(s); 4) measurable monitoring that captures the revegetation progress and compares it to the performance criteria, and 4) proposed remediation activities if the native revegetation does not meet the performance criteria within a reasonable timeframe. This plan would also include the removal of non-native invasive weed species. The revegetation plan should be available for public comment.

7 Page 41 Avoidance, Minimization, and/or Mitigation Measures
CA State Parks supports Caltrans proposed list of bulleted points to preserve as much existing native vegetation and existing landforms as possible and to minimize the color contrast of the wire and mesh to the surrounding natural settings.

If you have any questions or would like clarification regarding anything included in this comment letter, please contact me.

Sincerely,

Tamara Sasaki

Tamara Sasaki
Sr. Environmental Scientist

cc: Marilyn Linkem
Brian Barton
Thomas Gunther

Response to Comment from the California Department of Parks and Recreation

1. General Comments – Caltrans includes these measures in the Plans, Specifications and Estimate for the project. Information on invasive species was included in Appendix D of the July 2012 document. Text has been added to Section 2.2 to clarify Caltrans' standard measures for controlling the spread of invasive species during and after construction.

Specific Comments –

2. Since the public review and comment period of the July 2012 document, a slight revision in the scope of work for Slopes 1 and 2 has occurred. Slopes 1 and 2 will not be laid back as proposed. It is now proposed to perform a vegetative solution similar to that proposed for Slope 3. The crown at the top of slope will be rounded, and the slope will be rock scaled. Successful revegetation techniques applied on the adjacent Lee Vining Revegetation (Test Plot) Project will be implemented on Slopes 1 and 2.

3. If the experimental erosion control and revegetation strategies are successful, Caltrans has committed to use these methods in this project. See Section 1.3.3 for additional information.

4. The Build Alternative with Design Option 2 has been selected as the preferred alternative for Slopes 3, 4, 5, and 6. Slopes 1 and 2 will be scaled to remove loose rocks and the cornice rounded as needed to reduce rockfall and erosion; they will then be revegetated per Section 1.3.3.

5. Revegetation of the six slopes was always a project feature, but details of the revegetation plan including success criteria were not clearly defined in the July 2012 document. Details of the revegetation plan have been included in Section 1.3.3. Additionally, an agreement signed between the Mono Lake Committee and Caltrans includes a plant establishment program ("PE Program") (see Appendix I). The purpose of the PE Program is to reduce erosion, establish healthy soil, and promote successful revegetation in and around the project areas requiring revegetation. The PE Program will include a description of the areas requiring revegetation and requirements for appropriate seed mixes and planting practices. The PE Program and the mitigation measures previously identified for visual impacts will reduce the potential impacts to visual resources and water quality to less than significant.

6. See #5 above.

7. Thank you for your comment.

Comment from the Lahontan Regional Water Quality Control Board

California Water Boards

Edmund G. Brown Jr.
Governor

Matthew Rodriquez
Secretary for Environmental Protection

Lahontan Regional Water Quality Control Board

September 21, 2012

Scott Smith, Branch Chief
Central Sierra Environmental Analysis
California Department of Transportation
855 M Street, Suite 200
Fresno, CA 93721
(Via email to: scott_smith@dot.ca.gov)

COMMENTS ON INITIAL STUDY WITH PROPOSED NEGATIVE DECLARATION/ENVIRONMENTAL ASSESSMENT, DATED JULY 2012, LEE VINING ROCK FALL SAFETY PROJECT, MONO COUNTY

California Regional Water Quality Control Board, Lahontan Region (Water Board) staff has reviewed the above-cited document and has the following comments.

PROJECT DESCRIPTION

Based on the Initial Study, we understand the California Department of Transportation (Caltrans) proposes to treat six slopes adjacent to Highway 395 to reduce rock fall onto the roadway. A variety of treatments are proposed, which include cutting back slopes to reduce slope angle, scaling slopes to remove loose rocks and boulders, installing anchored-cable mesh and/or wire mesh drapery, and applying hydroseed and erosion control blankets alone or in combination with the wire mesh treatments. In addition, a "test" revegetation project is proposed for three smaller cut slopes and, if successful, Caltrans would incorporate the techniques into the Rock Fall Safety Project. Two relatively similar design options are proposed (besides a no-build option) that would require removing and disposing of between 10,440 and 11,100 cubic yards of material from grading and scaling operations to be disposed of by Caltrans' contractor.

COMMENTS

1 The document (p. *iii*) indicates there will be no effect on soils, hydrology and water quality from the proposed project. We disagree with this preliminary determination without the inclusion of additional mitigation measures to prevent and control increased rates of erosion due to construction over the short term, and due to some of the proposed design features over the long term, which may do little to prevent soil erosion by wind, water and ice. While controlling rock fall is important, treatments such as anchored cable-mesh and wire mesh draperies will not prevent continued erosion of fine
2 soil particles destabilized by cut-slope highway construction or contribute to improving water quality in the long term. We have fewer, but significant, concerns with some of the other treatments proposed as discussed in comments that follow.

Don Jardine, chair | Patty Z. Kouyoumdjian, executive officer

2501 Lake Tahoe Blvd., So. Lake Tahoe, CA 96150 | www.waterboards.ca.gov/lahontan

Harry Boyajian - 2 -

Permits and Approvals

3 Section 1.4, pg. 12 indicates the permits and approvals needed to conduct the project. The design options, other than the no-build option, will disturb greater than one acre of soil. Therefore, the project will require coverage under, and must fully comply with, the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities – Order No. 2009-009-DWQ (CGP). This requirement is not included in the section and should be cited as the applicable requirement (newly, as of September 19, 2012) for any Caltrans construction occurring after June 30, 2013. Post-construction requirements are included.

Water Quality and Storm Water Runoff

Chapter 2, page 14 of the document states that no adverse impacts to water quality and storm water runoff effects from the project were identified based on the Caltrans Water Quality Project Report and communication from Water Board staff. We disagree with this conclusion for the following reasons and request that water quality and storm water runoff effects be re-evaluated as part of the project environmental document.

4 1. The project description indicates that between 10,440 and 11,100 cubic yards of earthen material will be removed from the project area. The document does not describe where or how the material will be disposed of or reused. This should be included in the project description and analyzed for the potential effects on water quality.

5 2. At the request of Caltrans, Water Board staff provided a determination of the receiving water risk level for purposes of obtaining coverage under the CGP. The determination was provided in an email from Bud Amorfini of the Water Board to Miguel Perez of Caltrans (enclosed). Per the criteria in the CGP, sediment is considered to present a low risk to the receiving water, Mono Lake, which is currently unimpaired by sediment. However, the receiving water risk must be combined with the calculated sediment risk to determine the overall risk level requirements of the CGP. Water Board staff did not make any determination as to the construction sediment risk and no information was provided from Caltrans at that time regarding risks of sedimentation from construction. Therefore, Water Board staff did not make any determination as to the overall risk level that the project may be subject to in the CGP.

3. The risk level for constructing the project only applies to the period construction is active. Construction sediment risk can be minimized by the timing of work during the dry season. This is independent of whether the post-construction stabilization and runoff conditions will be effective in avoiding excess erosion and sedimentation on a seasonal basis. Therefore, it is not appropriate to assume that the construction risk level is indicative of the long-term effects of the completed project.

Harry Boyajian - 3 -

6

4. Mono Lake is a federally protected Outstanding National Resource Water (ONRW) under state designations. The federal code (40 CFR, part 131.12(a) states "(3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected." Therefore, the project must not cause or contribute to additional pollution or sedimentation to Mono Lake, or its tributaries to be in compliance with the CGP and the Caltrans Permit. Additionally, that former Caltrans Permit (Order 99-06-DWQ) and the current statewide Caltrans Permit (Order No. 2012-pending-DWQ) both include the following requirements:

"3) *Highway Maintenance Activities*

a) The Department [Caltrans] shall develop and implement runoff management programs and systems for existing roads, highways, and bridges to reduce runoff pollutant concentrations and volumes entering surface waters. The Department shall:

i) Identify priority and watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures). Priority shall be given to sites in sensitive watersheds or where there is an existing or potential threat to water quality;
ii) Establish schedules for implementing appropriate controls; and
iii) Identify road segments with slopes that are prone to erosion and sediment
discharge and stabilize these slopes to control the discharge of pollutants to the MEP. An inventory of vulnerable road segments shall be maintained in the District Work Plans. Stabilization activities shall be reported in the Annual Report. . . ."

Based on the documentation, the Project appears to be conducted primarily to protect safety without full consideration of meeting the above-cited requirements with regard to water quality in this ONRW watershed (which should be considered "sensitive"). A fuller discussion of how the project will achieve these requirements to reduce existing pollutant concentrations and volumes entering receiving waters is needed, particularly for the treatments proposed on Slopes 4 and 5. We would like to know how these slopes, and/or the runoff from them, will be treated or detained to control the discharge fine soil particles to the Maximum Extent Practicable standard both during and following construction. Indicate the nature of down-gradient pollutant controls for runoff volumes that will be included to reduce pollutants, principally fine soil materials, in Project runoff to insignificant levels.

Harry Boyajian - 4 -

8 5. Past experience on other Caltrans revegetation projects has shown hydroseeding to be unsuccessful on cut slopes where the organic and topsoil layers have been removed. There may be very little productive topsoil on these cut slopes to be salvaged for reuse in establishing vegetation. Much work has been done over the years to demonstrate that soil structure and nutrient levels must be enhanced to successfully establish and sustain revegetation of cut slopes such as Slopes 1- 4. These treatments are not "experimental" as stated on page 6 of the document, but have been demonstrated to outperform the options proposed in the project description. We understand that the steepness of the slopes and the presence of rock outcroppings (e.g., Slopes 4 and 5) may limit opportunities for rehabilitating soils to support plant growth, but suggest that Caltrans should incorporate robust soil amendment techniques into the project wherever feasible to ensure self-sustaining vegetation is established as quickly as feasible. Typical hydroseeding or hydromulching alone is unlikely to meet with long-term success, as is applying these products over wire mesh or draperies (as suggested in the descriptions in Chapter 1), where they will most likely be dislodged and discharged in storm water.

9 6. The success of the proposed design options has been spotty at best based on our experience on previous projects of this nature. Therefore, it is important that follow-up monitoring be conducted and corrective actions be implemented as needed until the slopes are stabilized. We suggest that Caltrans implement a separate follow-on contract as mitigation to ensure that the appropriate monitoring and maintenance is completed.

Thank you for the opportunity to provide comments on this project. If you have any questions or comments regarding this matter, please contact Bud Amorfini at (530) 542-5463 or me at (530) 542-5430.

Alan Miller

Alan E. Miller, P.E.
Chief, North Basin Regulatory Unit

Enclosure: Email dated 6/6/2012 from Bud Amorfini to Miguel Perez

Cc: Lisa Cutting, Mono Lake Committee
(via email lisa@monolake.org)

BA/adw/T: Lee Vining Rock Fall Project
File Under: New Caltrans File – Lee Vining Rock fall Project, Mono County

File: Caltrans Dist. 4 General

Bud Amorfini - Re: Item 1 of 2 - Caltrans D-09_Lee Vining Rockfall Project_Request for Written Review

From: Bud Amorfini
To: Perez, Miguel A
Date: 6/6/2012 1:23 PM
Subject: Re: Item 1 of 2 - Caltrans D-09_Lee Vining Rockfall Project_Request for Written Review
CC: Wesling, Brian

Miguel,

You requested that the Lahontan Water Board review the receiving water risk level for the above-cited project. Based on the information you provided and review of the criteria in the state-wide construction general permit (CGP - Order No. 2009-009-DWQ), the receiving water risk level is low based on the fact that Mono Lake is not impaired for sediment and does not include all the beneficial uses of SPAWN, COLD, and MIGRATORY. The receiving water risk level of low should be used in combination with your calculated sediment risk level to determine your overall risk level for the project. The project should be conducted in compliance with the requirements set for the overall risk level established in the CGP - either risk level 1 or 2, depending on the sediment risk levels calculated for the project.

If you have any further questions, please contact me.

Bud Amorfini,
Engineering Geologist
Lahontan Regional Board (6)
Phone - 530/542-5463
Fax - 530/544-2271
Email - bamorfini@waterboards.ca.gov
>>> Miguel A Perez <miguel_a_perez@dot.ca.gov> 5/30/2012 6:57 PM >>>

Hello Bud-
Attached is a letter and supporting documents requesting a written review from Lahonton SRQWB of Caltran's Lee Vining Rockfall Project. I will be sending you the same documents by mail.

This is a 2 part package (due to file size) of which this is the first email.

FIVE Items are attached as follows:
- Written Review Request Letter
- Addendum A
- Addendum B
- Typical Cross Section

Area Map (Plan Cover Page)

(See attached file: Lahonton Written Review Req Let.pdf)(See attached file: Addendum A_Caltrans Lee Vining.pdf)(See attached file: Addendum B_Caltrans Lee Vining.pdf)(See attached file: X-Sections_Caltrans lee Vining.pdf)(See attached file: Area Map_Caltrans Lee Vining.pdf)

Response to Comment from the Lahontan Regional Water Quality Control Board

1. Based on the comments received during circulation of the Draft Environmental Document, Caltrans has chosen a preferred alternative for the project; see section 1.3.3 *Identification of a Preferred Alternative* of this document for a more through description of the work proposed. In short all project slopes will receive a revegetation strategy to address both short and long term slope stability and rockfall issues. Additional mechanical stabilization will be applied along with the revegetation strategies to Slopes 4-6. Cutting back Slope 1 and 2 is not part of the preferred alternative description. This will significantly reduce the amount of material which will need to be removed from the site.

   Some activities to reduce erosion and rockfall potential will include rounding the top of slopes and contour grading where appropriate. These activities will generate approximately 3600 cubic yards of material. This material will be hauled offsite to a commercial disposal facility and/or to a Caltrans approved (SMARA) material site by the contractor and disposed of as specified in the Caltrans Standard Specifications and the project Storm Water Pollution Prevention Plan.

   The project's revegetation strategy relies on the Lee Vining Test Plots Project described below in response #8.

   The revegetation strategies along with mechanical stabilization (Slopes 4-6) will address both short term and long term storm water quality. To address comments and concerns with regard to post construction long term slope stabilization, storm water quality, and revegetation success of the project, a separate five year post-construction plant establishment program will be implemented as outlined below in response #8.

2. This project will conform to the Construction General Permit and will require a Storm Water Pollution Prevention Plan. This plan will outline appropriate construction site best management practices appropriate for this risk level 2 project to prevent or minimize the potential for any short-term (construction related) impacts to water quality. Application of the revegetation strategies, mechanical stabilization, and the plant establishment program will address long term storm water issues. The project will improve current storm water

quality within the project area by stabilizing the slopes and reducing sediment erosion.

3. This project will comply with the Construction General Permit as amended by the recently approved National Pollution Discharge Elimination System (NPDES) permit and will require a Storm Water Pollution Prevention Plan. This information has been added to Section 1.4 under the Permits and Approvals needed for construction of this project.

4. As mentioned in response # 1, some activities to reduce erosion and rockfall potential will include rounding the top of slopes and contour grading where appropriate. These activities will generate approximately 3,600 cubic yards of material compared to the 11,100 cubic yards that would have been part of design option 2 as previously proposed (7,500 cubic yards less). This material will be hauled offsite by the construction contractor to a commercial disposal facility and/or to a Caltrans approved (SMARA) material site and disposed of as specified in the Caltrans Standard Specifications and the project Storm Water Pollution Prevention Plan.

5. ***Response to item no. 2 and 3****:* The project's short-term construction activities were evaluated as all Caltrans projects are for potential impacts to storm water quality. The project has been assigned a combined risk level of 2. The Construction General Permit sets the requirements and scope of stormwater pollution prevention efforts based upon a project's risk level. A project's overall assigned risk level is based on the combined effects determined from the *Project Sediment Risk* and the *Project Receiving Water Risk Factor*. The *Project Sediment Risk* was determined to be a medium risk level due to the long steep slopes and moderate erosive potential of the soils. The *Project Receiving Water Risk Factor* is based on whether the project drains to a sediment-sensitive water body which is listed on the 303d list and has a EPA approved Total Maximum Daily Load implementation plan, or if a water body has all three beneficial uses of COLD, SPAWN, and MIGRATORY. If a water body has either of the above then it is considered at risk and elevates the overall risk level assigned. Since Mono Lake is not considered a sediment impaired water body and does not meet all three beneficial uses, it was assigned a low *Project Receiving Water Risk Factor.*

Because it is considered a Project Combined Risk of level 2 the Construction General Permit will require that inspection, maintenance repair and sampling activities be ensured by a Qualified Stormwater Pollution Prevention Practitioner (QSP). In addition, inspections and observations during storm events will be required as will a Rain Event Action Plan (REAP) 48 hours prior to likely precipitation.

Caltrans contacted Mr. Amorfini of Lahontan to confirm Mono Lake's *Receiving Water Risk Factor* of low based on a listing status on the 303d list as not impaired for sediment and that it has no beneficial uses with regard to COLD, SPAWN, and MIGRATORY. Mr. Amorfini confirmed this in his email dated June 6, 2012.

Short-term impacts, due to construction activities, to water quality will be addressed with appropriate best management practices identified in the Storm Water Pollution Prevention Plan and the soil stabilization methods proposed by the project.

During the next phase of project development, which will involve putting together detailed plans and specifications, the Storm Water Data Report (SWDR) will be revised to incorporate this new data. It is not anticipated that the *Project Sediment Risk* or the *Project Receiving Water Risk Factors* will change to the point where this project receives a Risk Level determination greater than 2.

6. ***Response to paragraph no. 4:*** The stabilization methods this project proposes will meet the water quality requirements of the Construction General Permit and those associated with the Outstanding National Resource Water (ONRW) status. The project will not cause or contribute to additional pollution or sedimentation to Mono Lake or its tributaries and will be in compliance with the Construction General Permit, and the current Caltrans permit. Appropriate best management practices as outlined in the Storm Water Pollution Prevention Plan along with the revegetation strategies, mechanical stabilization, and a post construction plant establishment program will address both short term and long term related storm water quality issues. With slope stabilization strategies the project proposes, sediment eroding from the slopes will be reduced and improve storm water quality. It is anticipated that temporary sediment control best management practices will be sufficient in

meeting the Numeric Action Level (NAL) requirements of the Construction General Permit and Active Treatment Systems will not be required.

Since this is a risk level 2 project a rain event action plan along with additional storm water quality monitoring as required by the Construction General Permit and outlined in the Storm Water Pollution Prevention Plan will be part of the construction best management practices. During the next phase of the project, Plans, Specifications, and Estimates, (PSE or final design) the Storm Water Data Report will be updated and discuss in more detail the project specific best management practices to be utilized.

7. ***Response to paragraph no. 5:*** This project proposes a revegetation strategy that will likely include many components for successful revegetation. One of those components will likely be the application of soil amendments to the slopes, as applicable and depending on what is discovered during the Lee Vining Test Plots Project. Amendments will likely be needed to encourage revegetation on the existing eroding project slopes. Where slopes are being rounded or contour graded, existing topsoil and duff will be collected and reapplied to the new disturbed soil area.

   Caltrans is currently implementing a minor project, The Lee Vining Test Plots Project (project no. 09-35700_). The Lee Vining Test Plots Project is a Caltrans project created to determine successful revegetation strategies for the specific slope and soil conditions found on the Lee Vining Rockfall project. Among other things, The Test Plots Project will investigate current soil conditions and determine what if any soil amendments will be required. The Test Plots Project will provide Caltrans with detailed test plot and monitoring reports every November until 2015; the first report is due to Caltrans by November 1, 2013. This information will be used to further refine the revegetation strategy for the Lee Vining Rockfall project. Revegetating the slopes will add additional stabilization to the slopes preventing sediment runoff and improve long term water quality.

8. ***Response to paragraph no. 6:*** In an effort to ensure successful revegetation of the slopes, Caltrans will implement a five year post construction plant establishment project, which will commence at Construction Contract Acceptance, completion of the project construction activities, of the Lee Vining Rockfall Project. The plant establishment program is outlined below:

Plant establishment will require the following:

- o Annual reporting on revegetation success;
- o Identification of defined action points. Action points are predetermined times when testing and success assessments are used to trigger (or not) a larger response than what would be considered routine maintenance;
- o Routine maintenance will involve tasks such as: watering (if the season brings below average precipitation) repair of localized sloughed areas, inspection, clearing & dressing;
- o For Slopes 1, 2 and 3 action points would occur at the end of years 2 and 4;
- o For Slopes 4, 5, and 6 action points would occur at the end of years 2, 3 and 4;
- o Action points could trigger a larger, more involved response if interim success goals are not being met. Remedial action could include: spraying extra hydroseed on localized areas (on slopes 4-6), applying a topical fertilizer or high carbon mulch, applying a surficial tackifier, or other activities the contractor may wish to do to assist in achieving success by the next assessment period;
- o A final report at the end of year 5 that would include an analysis of revegetation success on each slope and recommendations for additional revegetation activities, if any;

The "Lee Vining Test Plots" project will provide data for the development of appropriate success criteria for plant establishment, which are expected to include the following:

- o Vegetation density: Information from the "Lee Vining Test Plots" project will be used to determine the current baseline vegetation. For plant establishment, high resolution photography or other technologies will be used to determine vegetation density;
- o Vegetation viability (survival);

- o Species diversity, soil health, and erosion control;
- o Up to 3 zones can be identified for each slope for success criteria, because some areas of the slopes may need different success criteria, for example due to the rocky nature of some areas of the slopes.

Comment from the Mono Lake Committee

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September 24, 2012

Via E-Mail and U.S. Mail

Scott Smith
CALTRANS
855 M Street, Suite 200
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scott_smith@dot.ca.gov

Re: Lee Vining Rockfall Project Initial Study/Environmental Assessment

Dear Mr. Smith:

On behalf of the Mono Lake Committee ("Committee"), we submit these comments on the "Initial Study with Proposed Negative Declaration/Environmental Assessment" ("IS/EA") for the proposed Lee Vining Rockfall Safety Project (Project No. 090020002) ("Project"). The Project proposes significant modifications to six slopes along U.S. 395, all within the Mono Basin National Forest Scenic Area and visible from the Mono Lake Tufa State Natural Reserve. These modifications include substantial rock-scaling and slope-cutting and the installation of either draped or anchored wire mesh on several slopes.

1

While the Committee recognizes the public safety issues that prompted this proposed Project, it remains concerned that the Project's impacts will be more significant than acknowledged in the IS/EA. In particular, the Committee is concerned that neither the IS/EA nor the Project itself incorporates a concrete, enforceable, and proven plan for full stabilization of the affected slopes through revegetation. Without such a plan, the resulting slopes will be more unstable than they are today and will be susceptible to stormwater runoff problems, erosion, and invasive species. Any additional erosion and runoff will, in turn, create unsightly scars on the landscape and adverse water quality impacts at Mono Lake, one of only two "Outstanding National Resource Waters" in the

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state. Unfortunately, the IS/EA provides virtually no information about Caltrans' revegetation plan and no performance standards or enforceable measures to ensure its success. Indeed, it appears that the agency is relying on hydroseeding alone to accomplish native plant restoration. As described below and in the Committee's separate letter, which is enclosed here as Attachment 1, this approach will not work in this location.

The IS/EA's failure to include an adequate revegetation plan, either as part of the described project or as a mitigation measure, renders that document inadequate under both the California Environmental Quality Act ("CEQA")[1] and the National Environmental Policy Act ("NEPA").[2] Successful revegetation is essential for minimizing the Project's aesthetic and water quality impacts. In the absence of an enforceable and proven plan for revegetation, there remains more than a fair argument that the Project will have significant environmental affects not analyzed or acknowledged in the IS/EA. Moreover, the mitigation measures that are included in the IS/EA are vague, deferred and unenforceable. Additionally, given the soils and climate at the Project site, there is no support for the IS/EA's conclusion that a revegetation program can be successful with Build Option 1, yet the IS/EA concludes that this option would have no significant environmental impacts.

For all of these reasons, it is our opinion that the IS/EA as currently drafted does not comply with the requirements of CEQA and NEPA. Nor does the proposed Project comply with the mandate of 23 U.S.C. § 138 and 49 U.S.C. § 303 (referred to generally as "Section 4(f)"), which prohibits the use of public parks and recreation areas for transportation projects unless there are no feasible and prudent alternatives and the project "includes all possible planning to minimize harm to the [park or recreation area] resulting from the use." 49 U.S.C. § 303; *see also* 23 C.F.R. § 774.3(a).

2 Nonetheless, the Committee believes the Project and the IS/EA can be brought into compliance with these laws if Caltrans is willing to make a few basic—but essential—changes. *First*, Caltrans must adopt concrete and enforceable mitigation measures to address the significant visual, erosion, and water quality impacts associated

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[1] *See* Pub. Res. Code § 21000 et seq. (hereinafter "CEQA") and 14 Cal. Code Regs. § 15000 et seq. (hereinafter "Guidelines").

[2] *See* 42 U.S.C. § 4321 et seq. and 40 C.F.R. § 1500 et seq.

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with the Project. These measures must include a revegetation plan with (1) a proven track record in this unique environment and (2) specific performance criteria so that all parties can be assured of a positive end result. These measures must be included in a mitigated negative declaration/mitigated FONSI or an EIR/EIS.[3] *Second*, Caltrans must abandon "Option 1," the draped mesh option. As described below and in the attached letter from the Committee, this option is incompatible with successful revegetation, and its impacts will thus be significant and adverse.

Not only will these modifications bring the Project and the IS/EA into compliance with the law, they will also provide a lasting, cost-effective solution to erosion along this portion of U.S. 395. Successful revegetation will reduce the need for ongoing Caltrans maintenance and the likelihood that these rockfall areas will continue to erode in the future, requiring yet another round of treatments. The Committee looks forward to working with Caltrans toward these shared goals.

I. Without Concrete and Enforceable Mitigation, the Project Will Have Significant Visual and Water Quality Impacts.

3 It is well settled that CEQA establishes a "low threshold" for initial preparation of an EIR, especially in the face of conflicting assertions concerning the possible effects of a proposed project. *Pocket Protectors v. City of Sacramento*, 124 Cal. App. 4th 903, 928 (2005). CEQA provides that a lead agency may issue a negative declaration and avoid preparing an EIR *only* if "[t]here is no substantial evidence, in light of the whole record before the lead agency, that the Project may have a significant effect on the environment." CEQA § 21080(c)(1). An initial study must provide the factual and analytic basis for an agency's determination that no significant impact will result from the project. Guidelines § 15063(d)(3).

An agency must prepare an EIR whenever it is presented with a "fair argument" that a project may have a significant effect on the environment, even if there is also substantial evidence to indicate that the impact is not significant. *No Oil, Inc. v. City of Los Angeles*, 13 Cal. 3d 68, 75 (1974); Guidelines § 15064(f)(1). Where there are conflicting opinions regarding the significance of an impact, the agency must treat the impact as significant and prepare an EIR. Guidelines § 15064(f)(1); *Stanislaus Audubon Soc'y v. County of Stanislaus*, 33 Cal. App. 4th 144, 150-51 (1995).

[3] An EIR/EIS is required if, despite mitigation, a project will have significant environmental effects. CEQA § 21080(d).

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Similarly, NEPA requires federal agencies to prepare an Environmental Impact Statement for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). While an environmental assessment is an appropriate tool to determine, as an initial step, whether the Project might have any significant environmental effects (*see National Parks and Conservation Ass'n v. Babbitt*, 241 F.3d 722, 730 (9th Cir. 2001); 40 C.F.R. § 1501.3), a far more detailed EIS is required if there are "substantial questions" as to whether the project "*may* have a significant effect upon the human environment." *Foundation for North American Wild Sheep v. USDA*, 681 F.2d 1172, 1178 (9th Cir. 1982); 40 C.F.R. § 1501.4.

4 Here, there is a fair argument that the proposed Project will have potentially significant environmental impacts. The Project proposes substantial modifications to six slopes along Highway 395. These slopes are all located within the Mono Basin National Forest Scenic Area and are adjacent to and visible from Mono Lake Tufa State Natural Reserve. The proposed modifications of slopes 1, 2, and 3 include cutting, rounding, and scaling sections of the hills along the road to create a more "laid back" slope. Slopes 4, 5, and 6 require more substantial work including scaling, cutting, and cable mesh covering (either draped or anchored).

As described in more detail in the attached letter from the Committee, these substantial modifications to the hills adjacent to U.S. 395—which are currently in a natural, if somewhat eroded, state—will have significant visual and water quality impacts. *See* Attachment 1 ("MLC Letter"). Removing all vegetation from the slope areas will mar the landscape and degrade views from every vantage point assessed in the IS/EA. The Mono Basin has been recognized state-wide and nationally as an area of great natural beauty. *See* MLC Letter. Indeed, visitors come from all over the world to view, photograph, and experience the area for this very reason. Thus, denuding several large and highly visible areas along U.S. 395 will dramatically impact public views, resulting in significant visual/aesthetic impacts.

5 The before-and-after simulations in the IS/EA both understate this impact and provide some indication of how severe the aesthetic impacts will be. First, the "after" simulations show the slopes with 3-5 years of successful vegetation. *See* IS/EA at 21. As discussed below and in the Committee's letter, there is no evidence in the record to suggest that the as-yet-undefined revegetation plan will be successful. If it is not, the new cut area will be much larger and less contoured than the existing areas of erosion, as can be seen in the before-and-after simulations. *See* IS/EA at 25-35. This transformation from mostly vegetated, natural slopes to unvegetated cut slopes would be an obvious, significant aesthetic impact.

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6 Even if revegetation is ultimately successful, the Project will still result in a significant, adverse impact. For the first several years following construction, revegetation will not disguise much—if any—of the Project. In later years, as the simulations in the IS/EA show, vegetation will be insufficient to fully mask the proposed cuts, especially on slopes 4, 5, and 6, where the mesh and flat slope face will continue to be apparent. *See* IS/EA Figures 2-9, 2-10, 2-12, 2-13, 2-14. These simulations also demonstrate that the impacts of Option 1 will be much greater than Option 2. Even under the IS/EA's optimistic scenario—3-5 years out with successful revegetation—the mesh and unnatural slope cut at Slopes 4 and 5 are readily apparent with Option 1. *See* IS/EA Figures 2-9, 2-12.

7 The slope cutting, shaping, etc. will also increase the potential for erosion and, with it, the potential for sedimentation and other contaminants to enter Mono Lake. *See* MLC Letter; Letter from Alan E. Miller, P.E., Lahontan Regional Water Quality Control Board, Re: Comments on Initial Study with Proposed Negative Declaration/Environmental Assessment, Dated July 2012, Lee Vining Rock Fall Safety Project, Mono County (Sept. 21, 2012). Given that Mono Lake has been designated an Outstanding National Resource Water ("ONRW"), *any* degradation of the Lake must be considered a significant impact. *See* 40 C.F.R. § 131.12(a)(3) (prohibiting any degradation of ONRWs). The IS/EA does not acknowledge this potentially significant impact.

8 The only "design features" included in the Project to address these impacts are hydroseeding (using a native seed mix) and applying "a rolled erosion-control product" to the finished slope. *See* IS/EA at 6; *see also* IS/EA at 77 (summary of "minimizations and/or mitigation measures"). However, there is no evidence in the record suggesting that such a plan will be successful at revegetating the slopes and thus minimizing the visual and water quality impacts associated with the slope-cutting.

Indeed, previous efforts by Caltrans to use similar measures in the region, such as the efforts at Rush Creek, had mixed success and no follow-up remedial action. Instead of restoring graded and cut areas to their natural setting, the failed revegetation attempts have left significant areas of ground scarred and unsightly, vulnerable to invasion by non-native species, and with serious stormwater run-off issues.

9 In sum, in the absence of a successful revegetation plan, the Project will have significant environmental impacts. Because no such plan has been incorporated in the Project or included as a mandatory mitigation measure, Caltrans cannot approve the Project based on a negative declaration. *See San Bernardino Valley Audubon Soc. v.*

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Metro. Water Dist., 71 Cal. App. 4th 382, 389 (1999) (Agency must prepare EIR when "there is a fair argument that the proposed mitigation measures are inadequate.").

10

II. To Reduce the Project's Significant Impacts, Caltrans Must Adopt Concrete, Enforceable Mitigation Measures.

CEQA requires an agency to adopt all feasible measures that will reduce a project's significant environmental impacts. CEQA § 21002; *see also City of Marina v. Board of Trustees of the California State University* (2006) 39 Cal. 4th 341. Mitigation measures must be "fully enforceable through permit conditions, agreements, or other legally binding instruments." CEQA § 21081.6(b); Guidelines § 15126.4(a)(2). Uncertain, vague, and speculative mitigation measures are inadequate because they lack a commitment to enforcement. *See, e.g., Anderson First Coalition v. City of Anderson*, 130 Cal. App. 4th 1173, 1188-89 (2005) (holding traffic mitigation fee measure inadequate under CEQA due to vagueness in program for implementing required improvements). To ensure that mitigation measures are enforced following Project approval, CEQA also requires the preparation of a mitigation monitoring or reporting plan. *See* CEQA § 21081.6; Guidelines §§ 15091(d) & 15097. Such plans generally set forth each required mitigation measure, the party responsible for implementing it, and the timeline for doing so, making it clear to all parties involved (including contractors, private developers, etc.) what measures are required to be completed when. *See generally* OPR, Tracking CEQA Mitigation Measures Under AB 3180, available at: http://ceres.ca.gov/ceqa/more/tas/CEQA_Mitigation/CEQA_Mit.html.

11 Although the IS/EA appears to conclude that the Project will not have any significant environmental impacts,[4] it nonetheless includes several "minimizations and/or mitigation measures required to do the project." IS/EA at 77 (Appendix D, summarizing same). These measures, however, are not concrete, mandatory and enforceable, and thus are not adequate under CEQA. For example, to reduce the Project's potential visual impacts, the IS/EA requires the agency to preserve as much of the existing vegetation and landform "as possible." There is no information in the IS/EA about the feasibility of this measure. Thus, it may be that none of the existing vegetation and landform can be preserved. Likewise, the IS/EA provides that, "[w]here feasible," the agency is to "avoid the creation of completely flat slope planes." IS/EA at 41. Again, because there is no

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[4] As discussed above and in the attached Committee letter, we believe the Project as currently described in the IS/EA will have potentially significant environmental impacts, including visual/aesthetic impacts and water quality impacts. Thus, mitigation measures and a mitigation monitoring and reporting program are required.

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information about whether it will be feasible to "create graded slopes with undulations or facets to mimic natural topography," there is no evidence to support a conclusion that this measure will mitigate the Project's aesthetic impacts to a level of insignificance.

The IS/EA also improperly defers the development of mitigation measures while relying on them to reduce the Project's impacts to a level of insignificance. *See* IS/EA at 43-44. Such deferral is improper under CEQA. *See Gentry v. City of Murrieta*, 36 Cal. App. 4th 1359, 1396 (1995) (Agency relying on a Mitigated Negative Declaration cannot "improperly defer[] the formulation of mitigation."). For example, the IS/EA notes that a "Storm Water Pollution Prevention Plan is expected for this project," but none has been prepared to date.[5] As a result, the public and responsible agencies cannot determine whether the measures that will be included in this plan (if any) will be successful at preventing water quality impacts.

12 Likewise, the IS/EA cites to Caltrans' Statewide Storm Water Management Plan as a source for "procedures and responsibilities for protecting water quality." IS/EA at 43. However, this plan is general in nature, providing nothing more than a list of potential BMPs that could be used for a wide variety of projects. *See* Caltrans SWMP, available at <http://www.dot.ca.gov/hq/env/stormwater/>. Moreover, it is designed to reduce storm water pollution to the "maximum extent practical." *See id.* at ES-2, 2-1, 3-1. Nothing in the plan ensures that the measures listed will reduce water quality impacts of this particular Project to a level of insignificance, as required under CEQA. *See Gentry*, 36 Cal. App. 4th at 1396; *Anderson First Coalition*, 130 Cal. App. 4th at 1188-89 (finding that agency must commit to specific, enforceable mitigation that effectively reduces a project's impacts to a less than significant level). As noted above, because Mono Lake is an Outstanding National Resource Water, any degradation must be considered a significant impact.

Instead of these vague, unenforceable, and deferred measures, Caltrans must adopt concrete, mandatory measures that have proven to be successful at mitigating impacts like those associated with the Project. After consulting with landscape architects

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[5] It is also unclear from the IS/EA how many acres of soil will be disturbed by the Project. Since some smaller projects are eligible for an "erosivity waiver," it is imperative that the IS/EA be revised to include this information. *See San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus*, 27 Cal. App. 4th 713, 730 (1994) ("An accurate project description is necessary for an intelligent evaluation of the potential environmental effects of a proposed activity.").

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and native plant experts in the area, the Committee submits that such a plan must include the following features:

13

- Performance criteria. As described in more detail in the Committee's letter, any successful revegetation plan must include concrete goals to measure success, including specified remedial measures to be implemented if necessary. Such performance criteria are also required under CEQA whenever the development of specific mitigation measures is deferred. *See* Guidelines § 15126.4(a)(1)(B); *Communities for a Better Environment v. City of Richmond*, 184 Cal. App. 4th 70, 93(2010); *San Joaquin Raptor Rescue Ctr. v. County of Merced*, 149 Cal. App. 4th 645, 670 (2007); *Endangered Habitats League v. County of Orange*, 131 Cal. App. 4th 777, 794 (2005) (rejecting measure that required noise generating equipment to be placed "as far away as practicable"). Given the goals of revegetation, which include stabilizing the slopes and having the slopes blend in to the surrounding environment, success should be measured against existing, natural conditions on slopes nearby. Thus, in developing concrete performance criteria, Caltrans must first analyze some aspects of the surrounding, unaffected slopes (e.g., soil composition, density of native grasses and shrubs, diversity of native plants, plant survival and growth rate). Once this "baseline" is established, Caltrans can require that the Project's revegetation program result in plant communities equal to surrounding areas in health, size, density, diversity, survival rates, etc.

- Expertise. Native revegetation in the Project area can be a difficult task. As described in the Committee's letter, hydroseeding alone is unlikely to succeed because of the type, steepness, and quality of soil on these rocky slopes. Thus, to have a chance at success, any revegetation plan must be implemented under the guidance of a landscape architect or native plant specialist familiar with the area. Such an expert will be able to assist Caltrans and any contractor hired in developing and satisfying the performance criteria required by CEQA.

- Implementation. The Committee understands that Caltrans intends to contract with a private firm to perform the work associated with the Project. To ensure that the revegation plan is successful, Caltrans

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must seek out contractors qualified to carry out a successful revegetation plan and prepare a mitigation monitoring and reporting program to guide their work.

14

III. A Successful, Enforceable Revegetation Plan Is Required to Comply with Section 4(f).

Federal law contains a powerful mandate to preserve the nation's parks and recreation areas: Pursuant to the Department of Transportation Act of 1966, the Federal Highway Authority ("FHWA") and other Department of Transportation agencies are prohibited from using "publicly owned . . . park[s], recreation area[s], or wildlife and waterfowl refuge[s] of national, State, or local significance" for transportation projects unless there is no prudent and feasible alternative. 49 U.S.C. § 303(c). If these parks and recreation areas cannot be avoided, the transportation project must include "all possible planning to minimize harm" to them resulting from the project. *Id.*

The IS/EA apparently concludes that Section 4(f) does not apply to the Project for two reasons: (1) the only public land in the vicinity protected by Section 4(f) is the Mono Lake Tufa State Natural Reserve; and (2) the Project would not result in a "constructive use of the Mono Lake Tufa State Reserve because the proximity impacts would not substantially impair the protected activities, features, or attributes of the park." IS/EA at 73.

This analysis is not supported by the record. *First*, the proposed Project will be carried out on federal land within the Mono Basin National Forest Scenic Area and even requires the acquisition of additional rights-of-way from the U.S. Forest Service. As the Forest Service informed Caltrans in 2003 comments on a proposed expansion of U.S. 395 in this same area, such land is within a "recreation area"—the Mono Basin National Forest Scenic Area—and thus is protected by Section 4(f). *See* MLC Letter & Attached Letter from USFS Re Section 4(f).

Second, the Project's aesthetic impacts on the neighboring Mono Lake Tufa State Reserve constitute a "constructive use" of that parkland.[6] A "constructive use" of 4(f) lands occurs when:

[6] The IS/EA acknowledges that the Reserve is protected by Section 4(f). *See* IS/EA at 73.

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> [A] transportation project does not incorporate land from a section 4(f) resource, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the resource are substantially diminished.

23 C.F.R. §771.135(p)(2). Examples of constructive uses include noise increases, substantial aesthetic impairment, restriction of access, vibration impacts, and ecological intrusions, among others. *See* 23 C.F.R. § 771.135(p)(4).

The application of section 4(f) to constructive use has been recognized by courts in a wide variety of circumstances. *See, e.g.*, *Brooks v. Volpe*, 460 F.2d 1193, 1194 (9th Cir. 1972) (finding that a highway encircling a campground was subject to section 4(f) despite the fact that there was no actual use of protected lands); *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 202 (D.C. Cir. 1991) (holding noise from airport expansion would impact nearby park); *Citizen Advocates for Responsible Expansion, Inc. v. Dole*, 770 F.2d 423, 439 (5th Cir. 1985) (holding highway project would cause aesthetic and visual intrusion on protected park and historic buildings); *Monroe County Conservation Council v. Adams*, 566 F.2d 419, 424 (2d Cir. 1977) (holding highway would restrict access to park because nearby residents would have to cross four lanes of heavy traffic).

Here, without a successful revegetation plan, the Project will have substantial, adverse aesthetic impacts, when viewed from the Reserve. While the IS/EA does not contain photo simulations of the proposed Project without successful revegetation, one can infer from the photos and simulations that are contained in the IS/EA that the result would be a significant degradation of views from the Reserve (including Old Marina), an area with "[a] high degree of viewer sensitivity." *See* IS/EA at 39. For this reason, as well, Section 4(f) applies to the Project.

While the Committee understands that there is no feasible alternative location for this Project, the FHWA still cannot approve financing for the Project unless "all possible planning" has been included to minimize the harm to the protected park and recreation area. "*All possible planning* means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project." 23 C.F.R. § 774.17 (emphasis added). As noted above, the IS/EA does not include a feasible and enforceable revegetation plan, the most important element of a plan to minimize the Project's aesthetic impacts. Moreover, Caltrans continues to propose two alternative design options for the Project, even though

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Option 1 appears to have vastly greater aesthetic impacts. Thus, to comply with Section 4(f), the IS/EA must be revised to eliminate Option 1 and to include a mandatory, enforceable, and proven revegetation plan.

IV. Conclusion

15 As currently drafted, the IS/EA does not adequately identify the Project's potentially significant impacts and thus does not satisfy the requirements of CEQA, NEPA, or Section 4(f). To correct these inadequacies, Caltrans must prepare a mitigated negative declaration/mitigated FONSI or an EIR/EIS for the Project and adopt a concrete, enforceable, and successful revegetation plan to reduce the Project's impacts. In either case, the revised environmental review document must be recirculated for public review and comment.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Winter King

Attachment:
Letter from Mono Lake Committee, w/attachments

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Attachment 1

Mono Lake Committee

comments on the

Lee Vining Rockfall Safety Project

Caltrans Project No. 090002002

Draft Initial Study / Environmental Assessment

*Historical view of Highway 395 looking north in the Project area. Early roadcuts, the predecessors to Project slopes 5 and 6, are visible. Photo dates prior to 1932 when highway was paved. (*Mono Lake Basin *by David Carle and Don Banta, copyright 2008, p53).*

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Mono Lake Committee, PO Box 29, Lee Vining, California 93541

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September 24, 2012

Scott Smith
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Dear Mr. Smith,

The Mono Lake Committee (MLC) is writing to provide comments on the California Department of Transportation (Caltrans) Initial Study with Proposed Negative Declaration/ Environmental Assessment (IS/EA) for the Lee Vining Rockfall Safety Project (the Project), (09-MNO-395-PM 52.3/53.7 Project No. 0900020002).

The Mono Lake Committee is a non-profit citizen's group dedicated to protecting and restoring the Mono Basin ecosystem, educating the public about Mono Lake and the impacts on the environment of excessive water use, and promoting cooperative solutions that protect Mono Lake and meet real water needs without transferring environmental problems to other areas. Supported by 16,000 members, MLC has been active in the Mono Basin since 1978.

In preparing comments, the Mono Lake Committee has relied on a number of expert sources. Over thirty years of work at Mono Lake have created a strong in-house MLC base of expertise on the ecology, management, and public value of the lake and its surrounding lands. MLC has also consulted with technical experts in the areas of soil science, botany, and engineering. These experts are cited throughout our comments. The large body of published scientific literature on Mono Lake and surrounding lands is also a valuable source of information.

Community involvement has been productive
Thank you for the outreach efforts conducted by you and your team for the Project including the November 9, 2011 presentation to the Mono Basin Regional Planning Advisory Committee (RPAC), and several subsequent field tours with MLC, Inyo National Forest, and California State Parks. We especially appreciate your efforts to reach out to the Lee Vining community in advance of the formal public comment period and believe the dialog has made for a better environmental document. Project staff have demonstrated a proactive and forward-thinking approach to conducting outreach, responding to requests for information, and solving problems. MLC looks forward to continuing to work closely with Caltrans staff to strengthen this productive and mutually beneficial working relationship.

MLC would also like to commend Caltrans for taking the initiative to pursue the separate but related Lee Vining Revegetation Project (LVRP) in fiscal year 2013. The LVRP has the potential to dramatically increase Caltrans' understanding of existing soil and native plant conditions in the Mono Basin, most importantly in the area of the Rockfall Project. The LVRP holds the promise of providing important quantifiable data that can be used to maximize effectiveness of the final design of the Project.

Comment Summary

Mono Lake is an outstanding natural resource of state, national, and international significance. The lake, its unique ecosystem, its migratory birds, its scenic views, and its surrounding wetlands and streams all have received protection and recognition through a variety of designations. These include the creation of a National Forest Scenic Area by the US Congress, the creation of a State Natural Reserve by the California Legislature, and the protection of Mono's Public Trust resources by the California Supreme Court and State Water Resources Control Board.

Because the proposed highway Project is within the Scenic Area, is highly visible to a key State Park site at Old Marina, and is immediately adjacent to Mono Lake itself, a highway project in this area must be designed to meet very high standards.

The Lee Vining Rockfall Safety Project holds real potential to provide a long-term solution to stabilize eroding roadcuts next to Mono Lake, solving a decades-old issue by transitioning these roadcuts to the stable condition of adjacent undisturbed slopes. Some of these roadcuts have been in need of stabilization treatment for over 80 years.

However a Negative Declaration is not appropriate given 1) the multiple special designations that overlay to the Project area, which call for the highest level of impact minimization and mitigation in Project design and construction; and 2) the significant impacts that will result from the design plans presented in the IS/EA.

MLC urges Caltrans to fully realize this project's potential by preparing a revised environmental document based on Design Option 2 that includes clear mitigation measures to address significant visual and water quality impacts and to assure long-term stability and successful revegetation of all six slopes. The implementation of stabilization techniques that enable revegetation by using quantitative success criteria offers great potential to stabilize these slopes once and for all.

MLC again commends Caltrans for the efforts made to date to explore the many challenging issues associated with this project with the public. MLC stands ready to engage with development of the mitigation measures and performance criteria needed for the Project.

The Project is located in an extremely sensitive area and must comply with existing laws and special designations

Special designations require special Project design

Mono Lake is a world-renowned terminal lake, migratory bird refuge, and natural scenic area protected by several state and national designations. These designations require special attention to visual and ecologic requirements, and demand a high level of careful consideration in Project planning, design, and contracting. These special designations benefit both the natural lands of the area and the local tourism-based economy, and they often necessitate taking extra steps to minimize project impacts, a requirement that applies equally whether the project proponent is Caltrans, the US Forest Service, State Parks, Southern California Edison, Praxis (Digital 395), a commercial business, or a private property owner.

The section of Highway 395 affected by the Project, located north of Lee Vining from post-mile 52.3 to 53.7, is designated as a California State Scenic Highway. The Project is located within the boundaries of the Mono Basin National Forest Scenic Area, immediately adjacent to the Mono Lake Tufa State Natural Reserve, and adjacent to Mono Lake itself which is designated as an Outstanding National Resource Water by the State Water Resources Control Board.

In addition, Mono Lake is a popular tourist destination in the Eastern Sierra. Over 250,000 visitors travel to see Mono Lake each year, providing a substantial contribution to the rural tourism-based economy of Lee Vining, June Lake, and Mono County. Mono Lake's unique qualities, protected by these special designations, contribute to its popularity as a tourist destination and corresponding benefits to the local economy.

The Project has the potential to improve safety for the traveling public and contribute to making the visitor experience even more positive by fully stabilizing the existing cut slopes with a strong re-vegetation component.

California State Scenic Highway
The Project proposes to treat postmile 52.3 to 53.7 of Highway 395, a section that was officially designated as a State Scenic Highway on June 5, 2000. State law requires special consideration of a number of factors including visual and aesthetic values, for any project located within the designation of a State Scenic Highway.

Specifically, the State Scenic Highway legislation directs Caltrans to work "with appropriate agencies to ensure the protection of scenic corridors to the maximum extent feasible." Caltrans is required to identify "impacts to scenic corridors (i.e., degradation and obstruction of scenic views) as an integral part of its project planning, project development and maintenance operations."

In addition, Mono County is currently investigating formal National Scenic Byway designation for the Highway 395 corridor. The potential designation of Highway 395 as a National Scenic Byway would add no new regulations to the roadway. But Highway 395's eligibility for the designation highlights the unique scenic and historic values of the highway. Where choices need to be made in the Project design, the proposed Byway designation is a reason to seek to enhance rather than detract from the current scenic quality and unobtrusive character of Highway 395.

Although not yet designated, the Federal Highway Administration requires that "all nationally recognized scenic byways should, however, be maintained with particularly high standards, not only for travelers' safety and comfort, but also for preserving the highest levels of visual integrity and attractiveness."

> ***Recommendation/Conclusion:*** *Caltrans has acknowledged both the existing Scenic Highway designation and the proposed Scenic Byway application. These designations provide further justification for establishing firm and enforceable mitigation measures to assure the Project does not leave lasting significant visual impacts.*

Mono Basin National Forest Scenic Area
At the federal level, the Project is located within the Mono Basin National Forest Scenic Area (Scenic Area). The Scenic Area was created in 1984 by an act of the United States Congress and signed into law

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by President Ronald Regan, specifically to protect the unique attributes of the area surrounding Mono Lake under the stewardship of the US Forest Service.

A stated goal of the Scenic Area Comprehensive Management Plan (CMP) is to "manage the Scenic Area to maintain and enhance the visual resource" (CMP p. 46). This charge requires the Inyo National Forest to determine if the Project complies with the management direction in the CMP and specifically to "maintain foregrounds and middlegrounds of the scenic corridors of the following travel routes to retention and/or partial retention of Visual Quality Objectives as inventoried but not less than partial retention" (CMP p. 46).

The Scenic Area Visitor Center is located on the east side of Hwy 395 just north of Lee Vining, and all cut slopes are highly visible from the Visitor Center, the trail to the Old Marina parking lot, Picnic Grounds Road, and other Scenic Area visitation sites.

The 1989 and 2001 Memoranda of Understanding between the Forest Service and Caltrans and the subsequent Reference Guide emphasize early and comprehensive coordination between agencies to assure timely and effective project completion. MLC is aware that Caltrans is already in communication with the Inyo National Forest and encourages Caltrans to continue to reach out early and often to ensure compliance with all Scenic Area requirements.

Mono Lake Tufa State Natural Reserve

At the state level, Mono Lake is protected by the Mono Lake Tufa State Natural Reserve (Reserve) which designates lands and waters at or below 6417 feet above mean sea level as part of the Reserve. The California Legislature created not just a State Park but a State Reserve—the highest level of protection possible in the State Park system—at Mono Lake, for tufa and ecological protection and, significantly, for "recreational and other purposes." PRC 5046(a).

In addition, the project area is located adjacent to and directly within the view shed of the Reserve, most notably at the popular visitor site, Old Marina. Old Marina is located on the west side of Hwy 395 between cut slopes 3 and 4, and all cut slopes are highly visible from the Old Marina parking lot, boardwalk, and lakeshore visitation sites.

Relevant California case law emphasizes that the presence of a park or recreation area such as the Reserve next to a highway project requires that highway project to comply with visual requirements to minimize and prevent harming the visual character of the visitor experience.

Outstanding National Resource Water

In 1994, Mono Lake was designated as an Outstanding National Resource Water (ONRW) by the State Water Resources Control Board (SWRCB). This high-level recognition makes Mono Lake one of only two ONRWs in the State of California, along with Lake Tahoe. The ONRW designation provides the highest level of Clean Water Act protection possible, meaning that all human activities may under no circumstances degrade Mono Lake's water quality from the established baseline.

> "The SWRCB finds that Mono Lake constitutes an Outstanding National Resource Water having exceptional ecological significance. As such, the water quality which existed in November 1975 when the federal anti-degradation regulation was enacted must be maintained and protected" (SWRCB D. 1631 p154).

In the future, Mono Lake is mandated to rise to a long-term average of 6392 feet above sea level, above the minimum SWRCB ordered elevation of 6391 feet above sea level. Mono Lake's level is expected to fluctuate with natural variability as high as 6400 feet above sea level. This means Mono Lake will be

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closer to Highway 395 in the future and thus more vulnerable to impacts from sediment erosion. Potential water quality impacts from erosion would not necessarily be occurring daily, but would be expected to be intermittent and at times quite significant following large storm, freeze-thaw, or slope slump events. The Project, if not mitigated to achieve full slope stabilization, would likely increase background and single-event discharge to the lake.

In addition, the California Supreme Court has been clear about the applicability of the Public Trust to the waters of the Mono Basin. As the court explained:

> [T]he public trust is more than an affirmation of state power to use public property for public purposes. It is an affirmation of the duty of the state to protect the people's common heritage of streams, lakes, marshlands and tidelands.... *National Audubon Society (1983)*, 33 Cal.3d 419, 442.

One of the most important purposes of the Public Trust is protection of trust lands "in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area." *National Audubon Society*, 33 Cal.3d at 434-35 (quoting *Marks v Whitney,* 6 Cal. 3d 251, 199, 491 P2d 374, 98 Cal. Rptr. 790 (1971))

To that end, the Court charged the State Water Resources Control Board with "an affirmative duty to take the Public Trust into account in the planning and allocation of water resources and to protect public trust uses whenever feasible." *National Audubon Society* 33 Cal.3d at 446.

> ***Recommendation/Conclusion:*** *As required under Mono Lake's ONRW designation and the Public Trust, the Project must mitigate any and all potential water quality degradation impacts.*

Internationally recognized bird and wildlife refuge
Mono Lake is also an important migratory bird refuge with formal recognition at the state, national, and international level. Mono Lake is a Western Hemisphere Shorebird Reserve Network (WHSRN) Site of International Significance, a member of the International Living Lakes Network, and has been designated a globally significant IBA by both the American Bird Conservancy and the National Audubon Society. The nesting and migratory birds that depend on Mono Lake require a healthy ecosystem free from water quality impacts as protected by Mono Lake's ONRW status.

Mono County General Plan protects regional tourism economy
Mono Lake is a popular tourist destination in the Eastern Sierra. Over 250,000 visitors travel to see Mono Lake each year, providing a substantial contribution to the rural tourism-based economies of Lee Vining, June Lake, and Mono County. People come to Mono Lake to hike, watch birds, swim, cross-country ski, picnic, enjoy quiet solitude, and take pictures. All of these recreation activities, especially photography, depend on the natural scenic continuity of the environment without intrusive human elements.

Mono Lake's unique qualities, protected by the aforementioned special designations, contribute to its popularity as a tourist destination and corresponding benefits to the local economy. The Mono County General Plan contains measures to protect in keeping with the "Wild by Nature" character of Mono County and the Mono Basin.

Section III of the Mono County General Plan (Regional Transportation Plan) specifically identifies ways in which Caltrans should plan, coordinate and implement transportation projects in Mono County. The plan urges Caltrans to work with state and federal agencies to design and implement projects that meet transportation needs while protecting the natural environment through environmental mitigation measures, if necessary. "These agencies should then work together to ensure that identified measures are implemented." (Mono County Circulation Element/Regional Transportation Plan p. 51)

The Community Needs section of the Regional Transportation Plan identifies issues and needs specific to the Mono Basin. It includes the following relevant point: "The community is concerned about balancing community goals, such as pedestrian safety and comfort, roadway aesthetics, and community economics with the need to move traffic safely and efficiently along Highway 395." (Mono County Circulation Element/Regional Transportation Plan p. 44)

The Project has the potential to improve safety for the traveling public and contribute to making a visitor experience even more positive by fully stabilizing the existing cut slopes with a strong re-vegetation component. The Mono County General Plan and Regional Transportation Plan provide clear guidance for inter-agency coordination during all phases of transportation projects – planning, design, construction, and mitigation measures. This guidance helps to ensure that Mono County's unique landscape and natural assets are protected and that any impacts are minimized to the greatest extent possible.

> ***Recommendation/Conclusion:*** *To protect the local tourism-based economy, the Mono County General Plan and identified Community Needs support Project modification to include clear, firm mitigation plans to assure slope stability and long-term revegetation success, thus avoiding significant visual and water quality impacts and the associated impacts on the local economy.*

All designations must be considered
The IS/EA notes the existence of the Scenic Area, the Reserve, State Scenic highway, and Mono County General Plan, but fails to explain how these designations and management plans have been considered in the development and planning of the Project.

The proposed Rockfall Project lies within the protected boundaries of the Mono Basin National Forest Scenic Area, next to the Mono Lake Tufa State Natural Reserve, and along a California State Scenic Highway.

> ***Recommendation/Conclusion:*** *The Project must be in compliance with all special designations, especially with regard to mitigating visual, erosion, and water quality impacts. Such compliance should be determined by the relevant public management agency.*

The Project must comply with Federal Transportation Law (4F)

Federal law contains a mandate requiring special planning and action to preserve the nation's parks and recreation areas such as Mono Lake and adjacent lands. In Appendix B, the IS/EA concludes that Section 4(f) of the Federal Department of Transportation Law does not apply to the Project because: (1) the only public land in the vicinity protected by Section 4(f) is the Mono Lake Tufa State Natural Reserve; and (2) the Project would not result in a "constructive use of the Mono Lake Tufa State Reserve because the proximity impacts would not substantially impair the protected activities, features, or attributes of the park." (IS/EA p73).

The IS/EA omits National Forest Scenic Area consideration
The IS/EA (page 73) neglects to discuss the fact that the Project lies within the boundaries of the Mono Basin National Forest Scenic Area. The Project also requires use and expansion of right of ways to federal lands in the Scenic Area as noted elsewhere in the IS/EA. These make the project subject to Section 4(f) requirements.

Additionally, the IS/EA neglects to recognize that the Forest Service has previously analyzed the Scenic Area, and the Project area in particular, and determined that 4(f) provisions apply (see attached USFS letter dated December 1, 2003).

> ***Recommendation/Conclusion:*** *The 4(f) discussion should be modified to recognize that the Project takes place within the Mono Basin National Forest Scenic Area and that the Forest Service has previously determined that 4(f) requirement apply.*

The State Reserve will experience constructive use and park and refuge 4(F) qualifications also apply

The Mono Lake Tufa State Reserve consists of the "state-owned portions of the Mono Lake bed lying at or below the elevation of 6,417 feet above sea level." The California Legislature created not just a State Park but a State Reserve—the highest level of protection possible in the State Park system—at Mono Lake, for tufa and ecological protection and, significantly, for "recreational and other purposes." PRC 5046(a).

A constructive use, as defined by FHWA in its "Section 4(f) Policy Paper" of June 7, 1989 is one in which "the capability to perform any of the site's vital functions is substantially impaired by the proximity impacts from a transportation project." Thus the Reserve will experience constructive use, triggering 4(f) provisions.

The proposed Project is located adjacent to the Reserve at a high-use visitor area, Old Marina. The visual and ecological impacts of the Project on the State Reserve—a site at which "resource manipulation shall be restricted to the minimum required to negate the deleterious influence of man" (PRC 5019.65)—are substantial due to the close proximity of the Project to the Reserve.

Additionally, while Caltrans selected recreation as its sole test criteria for 4f qualification, Scenic Area and State Reserve lands also qualify as parks and as wildlife refuges. The purpose of a State Reserve, to give just one example, is "to preserve its native ecological associations, unique faunal or floral characteristics, geological features, and scenic qualities in a condition of undisturbed integrity." PRC 5019.65

In fact, there is little question that Mono Lake and surrounding lands meet almost every criteria advanced for qualification as a 4(f) project: Qualifying lands are "publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site)" (49USC303) .

> ***Recommendation/Conclusion:*** *Section 4(f) requirements necessitate the Project to undertake "all possible planning to minimize harm" are consistent with the planning needed to achieve compatibility with the Scenic Area, State Park, and other special designations. The Project should be revised to minimize constructive use by including an enforceable mitigation program including a concrete revegetation plan designed to achieve successful slope revegetation.*

The Project proposes to fix the significant impacts of previous highway projects

Early 20th century development of Highway 395 and subsequent expansion created the slopes the Project seeks to address

The Project documents do not provide an examination of the origin of the slopes that are proposed for treatment. However, site observations, historical photos, and past project documents confirm that the slopes this Project seeks to address are the result of past construction and expansion of Highway 395.

Because of the very limited space available between the steep mountain slopes and Mono Lake (particularly when the lake was at pre-diversion levels), development of Highway 395 prior to 1940 necessitated modest slope cutting, establishing the predecessors to the modern slopes 4, 5, and 6. These cuts are illustrated below.

While this earlier slope-cutting was completed before CEQA and modern environmental requirements went into effect, it is the initial source of the eroding slopes 4, 5, and 6. The project to construct Highway 395 to its current dimensions adjacent to slopes 4, 5, and 6 was completed without measures to prevent ongoing erosion causing rockfall.

*Photo 1: An early auto traveler heads north along the narrow west shore of Mono Lake outside the Project area. Tall trees in the distance mark the location of Tioga Lodge. Photo dates prior to 1932 when highway was paved. (*Mono Lake Basin *by David Carle and Don Banta, copyright 2008, p52).*

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*Photo 2: Historical view of Highway 395 looking north with predecessor slopes 5 and 6 visible. Highway width increased in subsequent years, requiring expanded, steeper roadcuts. Photo dates prior to 1932 when highway was paved. (*Mono Lake Basin *by David Carle and Don Banta, copyright 2008, p53).*

By 1940, highway alignment next to the lake and on Lee Vining hill was largely the same as the present day. Historic aerial photos show that all six slopes addressed in the Project had been created by this point in time.

In 1983, a Caltrans project was proposed and ultimately constructed to add a passing lane to Highway 395 between Lee Vining and Old Marina (see attachment 1). The California State Park Ranger at the time advised that the project should seek to protect historic ice age tufa located between slopes 2 and 3 (personal communication – David Carle). In response, Caltrans modified the 1983 project by moving it slightly eastward so that less cutting was required of the western slope.

Nonetheless, slopes 1, 2, and 3 of the present-day Project were cut to make room for the additional passing lane at that time. That project asserted that there were no significant impacts on the environment and was approved as a Negative Declaration.

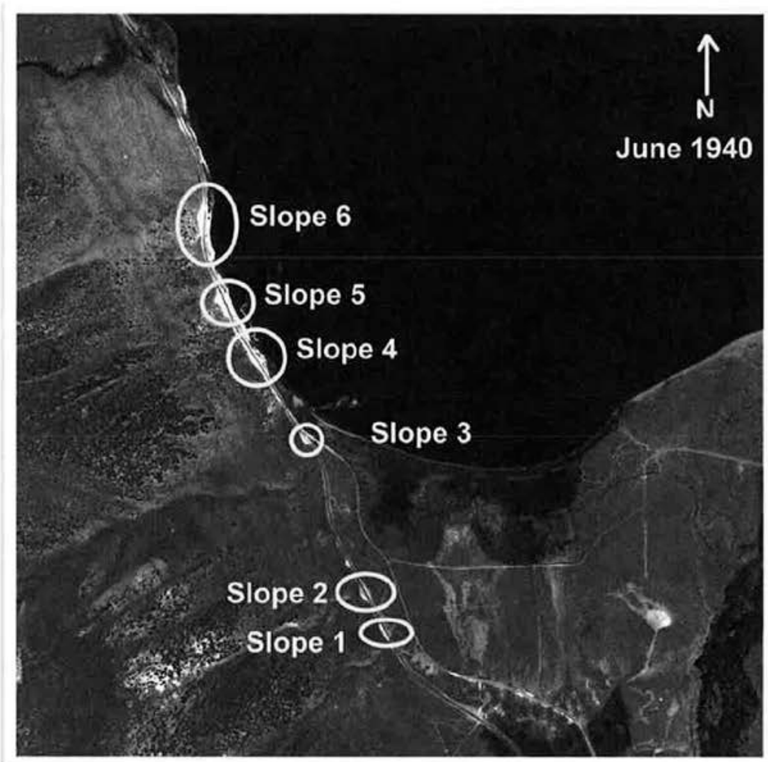
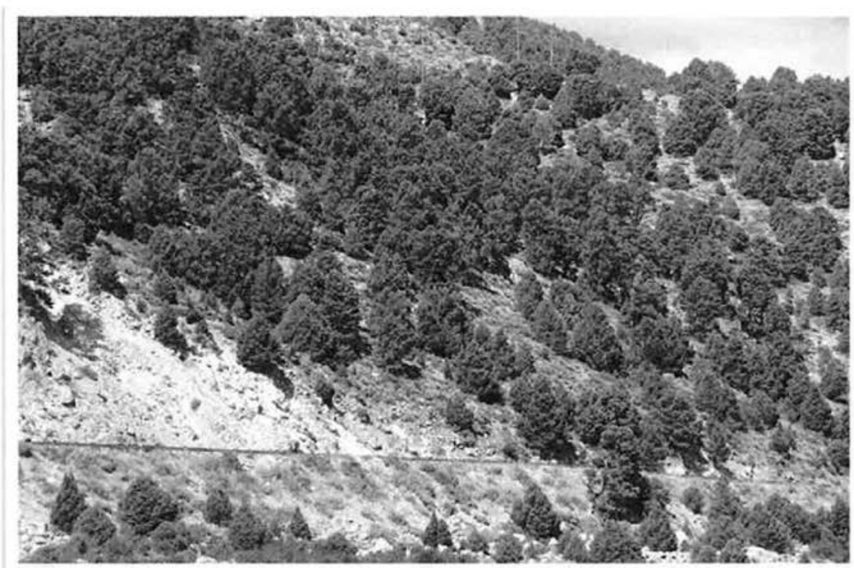


Photo 3: Aerial photograph taken for the U.S. Forest Service, June 1940. By this date Highway 395 roadcuts had been created at all six slope sites identified in the current Project.

Now in 2012, the Rockfall Project includes measures to remediate rocks falling from slopes 1, 2, and 3. In this way, the "insignificant" impacts of that earlier Negative Declaration under CEQA now require extensive treatment to address the previously unaddressed erosion and falling rocks from slopes 1, 2, and 3.

This history makes it clear that the present-day Rockfall Project is seeking to fix impacts created by previous historic highway projects, including one in 1983 that was approved as a Negative Declaration that claimed no significant impacts under CEQA.

Undisturbed, vegetated slopes in the Project area are not a significant source of rockfall



In this September 2012 photo, light soils of Project slope 5 are visible to the left, with undisturbed hillside above and to the right.

In general, the undisturbed slopes in the Project are well vegetated and do not shed significant rocks or sediment. The IS/EA does not identify any undisturbed slopes in the Project area as sources of significant rockfall and does not propose to treat any undisturbed slopes.

> ***Recommendation/Conclusion: Steep slopes in the Project area are generally stable except where disturbed by past highway construction activities. The Project should seek to reestablish such stability for all slopes planned for treatment, thus creating a lasting solution to an eroding roadcut problem that has developed over many decades.***

The Project as currently proposed will produce significant impacts

The Project IS/EA asserts that the Project would have no biological, water quality, recreation, and other impacts; and that the Project would have no significant impact on aesthetics.

MLC does not agree that the Project can be fairly characterized as having no impacts. MLC believes the critical job of the IS/EA is to recognize where such impacts will occur and to establish concrete, enforceable mitigation measures that reduce or eliminate those impacts.

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The IS/EA does not adequately describe the Project's significant impacts

Caltrans faces a challenge in designing this Project: slope stabilization requires taking slope-destabilizing steps backward before forward progress can be made. The task the Project must address is that the significant impacts of the backward steps must be fully mitigated by the Project.

In other words, to prepare for stabilization treatment, existing partially vegetated, partially stable slopes must be cleared of all vegetation and graded, which is highly destabilizing and visually obtrusive. The Project must solve these problems—as well as the rockfall problem—in its overall design.

While the Project measures to control rockfall are quite clear and measurable (anchored mesh, etc.), both Design Options of the Project's build alternative lack specific measures and compliance standards that assure soil and sediment stabilization and visual impact reduction of the cut slopes will succeed. Without guaranteed revegetation, implementation of the build alternative will cause significant negative impacts to the environment including increased erosion leading to water quality degradation and visual and aesthetic impacts.

1. Water Quality and Storm Water Runoff

In the present day, slopes 1-6 are partially stable. They do shed some rocks and sediment, but shrubs, trees, and grasses provide partial stabilization of the slopes. The long exposure of these slopes has also resulted in partially stable slope areas where rocks and consolidated soils are relatively immovable. In short, these slopes have, in part, self-stabilized in ways similar to the stable, undisturbed neighboring slopes.

The IS/EA raises significant concerns that the major activities necessary to prepare the Project slopes for treatment including complete vegetation removal, rock scaling, slope rounding, and the removal of 10,000-12,000 cubic yards of material, will increase erosion of the slopes.

The Project is well designed to assure that rocks of 8-inch size and large are contained by wire mesh systems. However the Project does not address what will be done to stabilize the smaller size rocks, soils, and sediments that will immediately begin to shed from these construction-disturbed hillsides. To do that, the Project must include a concrete revegetation plan designed with performance standards that achieve successful revegetation.

In particular, the lack of such a plan raises significant water quality concerns. The available source of sediment will be greatly increased at these sites, and erosion processes are well documented to take place actively on steep hillsides, even beneath erosion control blankets. From the Project area sediment need travel only a short distance to impact near-shore wetlands and Mono Lake itself. It should be noted as well that Mono Lake is rising to a state-mandated management level, meaning that the lake and shoreline wetlands will be closer to the Project site in the future than they are today. This significant impact must be mitigated.

This significant impact for slopes 4 and 5 under Design Option 1 is of particular concern because the mesh drapery treatment is expected to leave the hillsides in a permanently erosive state. As the IS/EA states (IS/EA pg 30) "Most of the existing rock outcropping, loose rocks and a few remnant pine trees would be removed to accommodate the mesh drapery placement. Although some native plants would be expected to grow under the mesh drapery, the regularly moving slope surface would not support a significant amount of vegetation."

The same situation can occur on all slopes even with the anchored mesh Design Option 2 treatment if specific mitigation measures are not taken to assure slope stabilization.

Thus, absent enforceable mitigation measures the Project can actually be expected to *increase* erosion of the slopes from the current baseline condition, making it much more likely that erosion of fine sediment will impact Mono Lake. Expected water quality impacts would be most significant during intermittent freezing/thawing and heavy precipitation events.

In addition, continued ongoing slope erosion will lead to continued expansion of these cut slopes over time. This raises the possibility of future dramatic slope growth (or "unzipping") and resulting increases in erosion.

View to Slope 6 with Mono Lake in the foreground, September 2012. Project slopes 4, 5, and 6 are all located quite close to Mono Lake. Slope erosion can produce sediment that impacts adjacent wetlands and the lake, an Outstanding National Resource Water.

2. Visual and aesthetic impacts

Overall, the Visual Impact Assessment (Assessment) studied a good range of Observer Viewpoints. However MLC has two significant concerns that indicate the Project, as presented, will have significant visual impacts.

First, the amount of vegetative cover shown in the visual simulations and used for impact assessment appears to be a relatively high percent cover of native shrubs and grasses, a commendable goal, and a potential framework for mitigating the significant construction impacts. However, aside from the computer-generated photo simulations, the IS/EA neither qualitatively nor quantitatively describes such vegetative cover as desired post-Project condition of the slopes. The IS/EA also neglects to establish how

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the end goal displayed in the photo-simulations will be achieved, and what actions will be taken to assure success if revegetation setbacks take place. In addition, the 'fish-eye' type photo simulations do not reveal the complete extent of the project area.

Second, the visual impact evaluation neglects the significant visual impacts of the Project during construction and for years immediately following construction. Instead "for the purpose of the visual study new vegetative growth in the photo-simulations shows plant growth at about three to five years after project construction" (IS/EA p21). Three years is an ambitious revegetation timeline, even with a well-crafted revegetation plan in place.

In summary, the slope clearing, scaling, and grading visual impacts of the project will be significant. The IS/EA visual analysis presumes they will be successfully mitigated, and MLC concurs that this is a critical part of the Project. But the IS/EA must first acknowledge the visual impacts that will take place and then establish concrete visual mitigations.

The IS/EA does not identify specific measures to mitigate the Project's significant impacts

The IS/EA includes a list of "minimization measures" on page 41 that appear to be good practices worth observing in Project implementation. But nowhere are specific mitigation measures identified to address the water quality and visual impacts of the project. As noted, the visual analysis assumes that successful revegetation mitigation has been accomplished, yet the Project does not include measures to assure such mitigation is successful.

In overview, the Project is lacking specifics that will assure that the "steps backward" required for Project construction will be quickly overtaken by steps forward toward revegetated, stabilized slopes.

The Project relies on revegetation treatment that has not worked reliably in other Mono Basin projects

How can the significant impacts be mitigated? Slope revegetation should be the focus. Revegetation, as noted in the IS/EA, is critical to resolving the significant visual impacts created during construction. Likewise, slope revegetation will create the root matrices and healthy soils necessary to stabilize the cut slopes, build healthy precipitation-absorbing soils beneath anchored mesh, and to generally achieve a level of stability comparable to surrounding undisturbed slopes.

Unfortunately there are not grounds to assume the revegetation specification in the IS/EA for hydroseeding and erosion control blankets can achieve the necessary revegetation goal. As discussed later, a quantifiable performance standard is needed—not a treatment specification that is unconnected to results. Additionally, the hydroseeding specification has not proven successful in other local projects. Examples are summarized in the following:

1. The Rush Creek Four-lane Project (1997) disturbed 73 acres of land – 36 acres were paved to provide an additional two lanes of highway south of Lee Vining. The remaining 37 acres were revegetated by using a seed mixture of native grasses, shrubs, and straw and then "punched" into the slopes and disturbed areas of the project. Most of the area to be revegetated was the relatively, flat medians between the highway lanes. Despite what initially appeared to be an easy revegetation task given the flat topography and plants that existed prior to the project, the revegetation component of the Rush Creek Project has not been a success even well after a decade. Significant project acreage remains bare or sparsely vegetated. This is because the

revegetation plan specified various useful revegetation treatments but set no requirements for the successful performance of these treatments.

In recent years, Caltrans initiated test plots in the median near the junction of Highway 120 East to try to determine what method of revegetation might work best with the soil composition there. We are not aware of the results of this experiment and if the information collected was informative. What we do know is that during construction, almost all of the median soils were removed and heavy equipment was staged in the medians which significantly compacted the soil, adversely affecting the revegetation effort. This illustrates the often conflicting aspects of a project and highlights that all aspects of a project need to be coordinated so that construction practices don't adversely affect mitigation goals. Having revegetation performance criteria goals will ensure that construction activities support a successful revegetation plan.

2. The cut slopes on Conway Summit date back many decades and in several areas are steep, barren, unconsolidated slopes that shed rocks, erode soils and show little, if any growth of vegetation. These slopes are by far the steepest cut slopes in the Mono Basin and have shed many tons of sediment downslope into adjacent drainages and waterways. While we are unaware of what stabilization efforts, if any, were made at the time these slopes were cut, they illustrate the point that steep untreated roadcuts continue to shed fine sediment, soils, and rocks. Measures to stop large rocks from landing in the roadway do not address the underlying need to stabilize eroding slopes, nor do they stop significant water quality problems created by eroding fine and medium size sediments. Lastly, Conway Summit illustrates how Caltrans must return again and again to such roadcuts to attempt to solve the underlying stability problem, most recently through Conway Summit test plots that presumably are gathering information to inform a future stabilization project. The current rockfall Project has the potential to create a similar ongoing "problem area" if slope stabilization is not achieved. To avoid this, the Project should be designed to seize the opportunity, through specific performance standards, to address the underlying problem of cut slope stability once and for all.

Recommendation/Conclusion: *To address the Project's significant water quality and visual impacts Caltrans should adopt an enforceable mitigation plan including a concrete and enforceable revegetation plan designed with quantified performance criteria designed to achieve successful revegetation.*

Design Option 1 will create significant unmitigatable impacts and should be removed from further consideration

MLC has reviewed Design Option 1 and believes it is an unacceptable Project choice because it would create significant impacts that could not be mitigated due to the inherent characteristics of the mesh drapery utilized. This would be a step backward from current conditions.

While the implementation of Option 1 on slopes 4 and 5 may prevent rocks from entering the roadway, the installation of mesh drapery requires the removal of existing native vegetation that is partially stabilizing the slopes. This lack of stabilizing vegetation will accelerate the underlying erosion of slopes 4 and 5, and cause unacceptable significant visual and water quality impacts.

The root system of this pinion pine provided substantial slope stabilization. However, continual movement of lower slope soils undermined the tree, causing it to tip over (and be cut for highway safety) thus expanding the size of the eroding slope. Such slope erosion is expected to accelerate under Design Option 1 as all vegetation will be removed to accommodate drapery installation.

As the Project plan itself notes, the mesh drapery of Option 1 makes it unlikely vegetation could reestablish and stabilize the soils on slopes 4 and 5 after slope scaling during construction. Although a few native plants might grow under the mesh drapery, the regularly moving slope surface would not support a significant amount of vegetation (IS/EA p30). Thus these slopes would be less stable than their current condition, creating the following significant problems:

1. Significant water quality impacts that would be subject to action from the Lahontan Regional Water Quality Control Board for non-compliance with discharge to Mono Lake, an Outstanding National Resource Water. One likely result of the implementation of Design Option 1 would be additional future action required by Caltrans to fix the problem once the mesh drapery experiences too much erosion to continue working effectively.
2. Significant intrusive visual impacts in a noted scenic area. The Project plan confirms the intrusive visual impacts of Design Option 1, which the study document identifies as negative for drivers and Mono Lake visitors. These are unacceptable and significantly detract from the visitor experience.
3. Continuing commitment of maintenance personnel. The drapery system of Option 1 also requires local Caltrans personnel to continue ongoing maintenance responsibilities when one of the stated goals of the project is to significantly reduce maintenance needs.

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4. Continued growth of the height and extent of the slopes as they continue to erode beneath the mesh drapery, increasing the likely need for future expensive projects to further address these slopes.

The adoption of Design Option 1 is unacceptable as it would lead to significant increased erosion and potential sediment discharge to Mono Lake, continued growth of already unstable roadcuts, and a persistent visual nuisance.

> ***Recommendation/Conclusion:*** *Option 1 should be removed from further consideration in design of the Project.*

Design Option 2 creates significant impacts that can potentially be addressed. The Project should be modified to include mitigation plans with quantified performance standards for slope stabilization through revegetation

In comparison with Design Option 1, Design Option 2 offers real potential to permanently stabilize slopes 4 and 5 with anchored mesh. However, if the Project were to go forward as described in the Draft IS/EA, Design Option 2 would also be unacceptable for similar reasons as Design Option 1.

Like the installation of a mesh drapery, installation of anchored mesh requires the removal of existing vegetation that partially stabilizes the slopes. Without subsequent revegetation guaranteed to a level like that shown in the project's visual simulations, Option 2 would also be a step backward from current conditions by increasing the overall disturbed area without assurances that plants would successfully grow back to stabilize soils and mitigate visual impacts.

By implementing anchored mesh, Option 2 would prevent large rocks from falling in the roadway. But without guaranteed plant growth to anchor sediment with its roots, smaller rocks, soils, and fine sediment would continue to erode underneath the anchored mesh. This will:

1. assure that the significant visual impacts created during Project implementation persist,
2. create new water quality impacts over time, and
3. leave open the possibility that ongoing erosion below the mesh will advance upslope, causing the eventual "unzipping" of the steep hillside, thus creating an even greater public safety hazard.

Modification of Design Option 2 can solve these problems. The anchored mesh in Design Option 2 for slopes 4, 5, and 6 does create the opportunity for the entire project to succeed by taking the first of several steps needed for revegetation efforts to succeed. Unlike a mesh drapery, anchored mesh is able to support revegetation on the steep topography of slopes 4 and 5. Only a stabilized slope will be able to successfully support native vegetation as shown in the project's visual simulations.

Design Option 2 has the potential to do the job of stabilizing these slopes for the long term, but the Project must be revised to include specific mitigation plans and vegetation performance standards to make sure vegetation cover of the kind shown in the photo simulations is achieved in the real world.

Regarding implementation, MLC understands that slopes would most likely be graded to allow the application of anchored mesh, but MLC recommends that they not be scraped absolutely smooth. An expert should be involved in the planning and implementation of slope revegetation measures. For example, a specified level of textured roughness or scalloping would help retain seeds and organic material necessary for natural plant recruitment, and encourage water infiltration underneath the anchored mesh. The treatment should utilize native seed, high-carbon mulch, and a soil blanket to add nutrients to the soil and encourage re-growth, and specific success criteria would detail revegetation performance criteria for a 3–5 year period

As an additional note, anchored mesh also provides a better long-term investment of taxpayer money. It requires no costly ongoing local maintenance like a mesh drapery, and provides a comprehensive one-time solution to the problem.

Slopes 1 & 2: minimize expansion of disturbance footprint
Slopes 1 and 2 generate lesser amounts of rockfall concern due to shorter heights and increased shoulder space. Their "Rockfall Hazard Rating" is in the bottom three for the project and is just 20% of the rating of the slope of greatest concern (IS/EA pg 2). The IS/EA calls for laying back of slopes 1 and 2 to an angle of 1:5 to 1 (horizontal to vertical ratio).

Laying back these slopes would reduce the possibility of rocks entering the highway. However, based on Design Layout materials, laying the slope back roughly triples the area of disturbed ground, creating a much larger area that must be revegetated. Also, laying the slope back creates a much greater area of visual impact. Even with an optimal revegetation program underway, this disturbed area will be visible to highway users and multiple observation points for many years.

MLC suggests that a more cost-effective and less impactful approach can be taken, and that this approach will produce less ground disturbance. MLC recommends that rock scaling, slope rounding and limited contouring be combined with a site-specific aggressive revegetation program that includes clear performance criteria. This can result in stabilization of slopes 1 & 2 with little to no layback of the slope.

Site-specific information is needed to inform what is possible on slopes 1 and 2 through aggressive revegetation and limited slope scaling. The Lee Vining Revegetation Project (IS/EA pg 6) will provide such information. MLC recommends that one task of the LVRP should be to make specific revegetation recommendations for slope 1 and 2. MLC recommends this be done on a principle of seeking to stabilize the slope with the minimum possible new ground disturbance.

Slope 3: Use quantified performance standards
MLC supports the plan to use revegetation to address the stability of slope 3. This approach will produce the desired results by working from the existing partial vegetation cover on the slope.

The quantified revegetation performance standards that MLC recommends elsewhere should also be applied here to assure quick implementation and success of the revegetation treatment.

Slope 6: apply anchored mesh and revegetate
MLC supports the choice of anchored mesh as the treatment planned for slope 6, as described in the IS/EA. Just like the modification necessary for slopes 4 and 5 in Design Option 2, slope 6 will require similar quantified revegetation performance standards of the anchored mesh treatment to assure successful revegetation.

> ***Recommendation/Conclusion:*** *The Project must include mitigation plans for Design Option 2 that detail a comprehensive revegetation plan with quantified performance criteria designed to achieve successful revegetation to stabilize cut slopes through recovery of soil quality and plant cover as an integral component.*

Mono Lake Committee comments, Lee Vining Rockfall Safety Project, page 18

Recommendation for quantified performance standards to assure slope stabilization and revegetation

In highway construction projects, success is typically measured by the achievement of a quantified goal or standard. A project may aim to widen a section of highway by a certain number of feet or paint traffic lanes on 30 miles of a newly paved roadway. Before a project can be completed and considered a success, measurements are taken to make sure that the project outcome matches the original goal of the plan.

For example, if the highway has only been widened to five feet in one section instead of the six feet planned, remedial measures are taken to add pavement to meet the six foot-wide standard. By the same logic, a paint truck wouldn't stop striping the highway just because it used up a tank of paint. The work crew would take steps to secure the supplies needed to achieve the goal of fully striped highway lanes.

The same results-oriented approach is needed in the Project to assure slope stabilization through successful revegetation. Full slope stabilization is a win-win goal that will create a long term solution to stop rockfall onto the highway and mitigate the otherwise significant impacts of the Project

As discussed earlier, the reason rocks are falling into the road on this section of highway is because previous highway projects cut into the toe of the slope to make room for Highway 395 between the mountains and Mono Lake. Some erosion is natural, but accelerated erosion of the type that contributes to this rockfall is a primary indicator of an unstable slope.

The revegetation component of the Project should seek to achieve stabilized slopes similar to the existing adjacent steep but undisturbed slopes. Quantified performance criteria will create a measurable mechanism to use to ensure that the Project contractor achieves the goals. A similar model is already commonly used with highway tree planting and wetland restoration projects.

Using quantifiable achievement targets to achieve re-vegetation completion goals solves the problem of failed revegetation, and costly repeat treatments over time when the initial treatment does not work. It also removes any subjective analysis of whether or not the project has met completion goals. Clear, measurable success criteria remove ambiguity and guide the project toward the promised public goals.

For example, certain soil or weather conditions or other unforeseen events may negatively affect revegetation progress. A success criteria-based model contains the flexibility to adaptively manage the project and make necessary changes during the course of the project in order to achieve the quantified revegetation goal. This model also makes sure sufficient funds are available to address potential problems long after the primary, engineered project work is completed.

Adaptive process needed to develop accurate performance standards

Tackling erosion with soil stabilization and revegetation in a new site for the first time requires an adaptive approach based on quantifiable performance standards. The Project roadcuts are expected to present a challenge to revegetation efforts with steep slopes, unusual soil chemistry, low nutrients, and an arid climate. Therefore, an adaptive process is needed to guide the adoption of performance criteria designed to move the cut slopes back to a stable condition as well as inform the creation of revegetation treatments for the slopes.

Project slope soils include unusual components such as lakebed sediments, volcanic ash layers, and tufa fragments. Successful revegetation will require an adaptive approach built on treatment tests in the Lee Vining Revegetation Project to determine effective method for achieving vegetation performance goals.

The Project Draft IS/EA contains a brief reference to a major positive step in this direction. The Lee Vining Revegetation Project (LVRP) is described as a pilot project scheduled for construction during the 2013 fiscal year to gather information by using experimental methods to stabilize several small slopes between Project slopes 2 and 3.

MLC applauds Caltrans' effort to use scientific, site-specific information to inform the revegetation components of the Project. However, the IS/EA makes no guarantee that the critical information obtained as a result of the LVRP will be applied to the Project plan, stating that "Should revegetation efforts take root and do so before design work is finished, those results would be applied to the Lee Vining Rockfall Project" (IS/EA p6).

MLC recommends that Caltrans make schedule arrangements to assure that the key information developed in the LVRP can inform the Project. The information gathered and lessons learned from the LVRP must be used to inform the design process of the larger Project for all six slopes. Ideally, the invaluable experimental data gathered on erosion control and revegetation strategies during the LVRP will identify both the correct performance criteria to adopt to achieve the desired outcome as well as the most successful and cost effective revegetation treatments to achieve those criteria within five years.

For this adaptive process to work, a high degree of communication is required. As the LVRP is implemented, Caltrans should make public all experimental methods used, all data and results, and the final recommendation of the LVRP contractor.

In addition, the final decision to adopt suitable performance criteria, treatment methods, and remedial measures if the performance criteria are not met on schedule should include an opportunity for public comment.

With a full commitment to developing performance criteria adapted to the site specifics of this Project, Caltrans will be on the cutting edge of highway slope erosion control and restoration science. Other experimental Caltrans slope revegetation projects, such as Brockway Summit near Lake Tahoe, have proven the effectiveness of an adaptive approach to slope stabilization in challenging locations.

A pinion pine rooted on steep soils on slope 4, showing the high potential for recovery on stabilized slopes if revegetation is correctly implemented.

Performance criteria that must be included in Project mitigation plans

Specific, quantifiable performance criteria are the key to successful revegetation mitigation. MLC has discussed such criteria with soils and revegetation experts and proposes the following:

1. The performance criteria that follow should be utilized
2. As a quantified starting point, baseline numeric goals for these criteria should be developed from adjacent undisturbed slopes. These are a reasonable point of reference.
3. Data gathered during the LVRP can be used to inform the establishment of final numeric objectives for each of the criteria.

Erosion control

One of the primary indicators of the degree of stability and health of a slope is the amount, timing, duration, and type of erosion occurring. Methods of measuring erosion should include simulated rainfall infiltration data. The LVRP should also include baseline measurements of adjacent undisturbed slopes to guide the adoption of natural background erosion rates.

Mono Lake Committee comments, Lee Vining Rockfall Safety Project, page 21

Performance criteria goal: Decreased erosion rates for fine or coarse soil particles from all slopes to as close to the baseline erosion rate of similar nearby undisturbed slopes as can be reasonably expected.

Soil health
A thorough understanding of physical, chemical, and biological soil condition health and chemistry is crucial to designing a treatment plan. As a minimum, tests should be conducted for pH, salts, nutrients and total organic matter. A nearby stable and well vegetated area will be used as a comparison site. This information should be used to determine potential soil treatments needed to bring the treatment area soil to a state capable of supporting vegetation and resisting erosion.

Performance criteria goal: Healthy soil as defined by adjacent, well vegetated slopes which will be capable of supporting a diverse community of native shrubs and grasses.

Plant density
The successful growth and recruitment of a native grasses and shrubs is critical to the stabilization of fine and coarse sediment not addressed by the application of anchored mesh on a slope.

Performance criteria goal: Sufficient density of native grasses and shrubs gradually increasing over a period of five years to anchor soil, resist erosion, and be on track to mimic the natural condition of nearby stable slopes.

Plant species richness and diversity
To achieve the best ecological conditions for the site and minimize negative visual impacts of the Project, the plants growing on the treated slopes should mirror the plant communities of the surrounding natural slopes as closely as possible.

Performance criteria goal: Sufficient diversity of early successional native grasses and shrubs gradually increasing over a period of five years on track to mimic the natural condition of nearby stable slopes.

Plant survival and growth rate
In order to achieve successful slope stabilization through revegetation, the recruiting plants must be in good health. Continued annual monitoring over the initial five-year period will be critical to assuring that adverse weather conditions like drought or a major rainfall event will not prevent the revegetation treatment from reaching its full potential. Specific remedial actions should be planned in advance and implemented if performance criteria do not met set targets.

Performance criteria goal: Sufficient survival and growth of early successional native grasses and shrubs gradually increasing over a period of five years on track to mimic the natural condition of nearby stable slopes.

Annual monitoring and remedial measures necessary
A critical section of the performance standards must be the development of specific, limited remediation measures that will be triggered when annual monitoring reveals that the erosion control and revegetation performance standards for that year have not been met.

MLC recommends that for each year for five years after the completion of the Project, springtime monitoring by a soil and vegetation specialist be conducted to determine the status of the slopes in relation to the performance standards.

Each performance standard must have a corresponding remediation measure for each of the five years. If and when the monitoring data show that the slope's condition does not meet or exceed the performance criteria on schedule, the remediation measure would be enacted.

MLC understands that Caltrans operates under contractual complexities that could make the performance standards a financial and logistical challenge. However, MLC is also aware that there are precedents for various alternate contracting methods such as those used in the LVRP, in Caltrans Plant Establishment Periods (PSPs) for tree and shrub planting projects, and other projects. The benefits of successfully and permanently mitigating Project impacts and addressing the root cause of the safety hazard on this nationally-recognized section of Highway 395 are well worth the contracting logistical hassles and challenges.

> ***Recommendation/Conclusion:*** *Specific revegetation performance criteria should be set in the mitigation plan for the Project and they should include the criteria and goals suggested above. This will assure that the revegetation necessary for mitigation of Project impacts is successfully achieved.*

Comments on impacts during construction

MLC offer the following comments and recommendations relevant to the impacts identified in the IS/EA that will occur during construction.

Agency oversight and coordination

1. During construction, the Project contractor will have to build the project to meet the very high standards of these special designations. It is MLC's understanding and experience that once the project is awarded to a specific contractor Caltrans personnel are often not involved in the day-to-day activities of the project. In the past, this has been problematic because at times the contractor doesn't execute with the level of sophistication that Caltrans has specified. To address this we recommend that once construction work begins Caltrans should assign a Caltrans staff person to function as the on-the-ground oversight and point of contact for the project to assure compliance requirements are met. Additionally, this person would be responsible for ensuring on-going coordination with appropriate agency staff including the Forest Service, State Parks, Lahontan Regional Water Quality Control Board, and Great Basin Unified Air Pollution Control District. There may be occasions during the construction period when agency experts need to be consulted for guidance and direction.
2. One important coordination that should take place is with the USFS to assure a Forest Service expert is on site when slope clearing, scaling, and sizing is underway. A Forest Service landscape architect (or other designated representative) can help Caltrans personnel assure that the on-the-fly decisions required of the contractor meet Scenic Area standards.

Traffic

1. MLC agrees that a detailed Traffic Management Plan will help to mitigate the impact of traffic delays once construction work begins. MLC recommends that Caltrans work with the Lee Vining community in advance of finalizing the plan to incorporate the needs of the community with the needs of the contractor. The Mono Basin Regional Planning Advisory Committee (RPAC) is a good forum in which to accomplish this.

Mono Lake Committee comments, Lee Vining Rockfall Safety Project, page 23

2. Once the plan is developed, communicating both the plan and any unanticipated adjustments as they occur will be essential. A special emphasis should be given to communicating with visitor centers, chambers of commerce, and service locations within Mono County. The Mono Basin RPAC should be consulted and updated monthly during the construction period.
3. Equipment staging locations should not interfere with tourism activities especially at the Old Marina visitor location adjacent to the project area. This site is very popular given its easy access from the highway. Special care and consideration should be given to this area when planning the Traffic Management Plan. To the extent possible, the Old Marina site should not be affected by traffic control stops.

Air Quality

1. MLC agrees that to minimize impacts to air quality full compliance with Great Basin Unified Air Pollution Control District's rules, ordinances, and regulations is critical. MLC assumes that the appropriate permits will be secured in advance of the construction phase.

Water Quality

As detailed earlier, Mono Lake is an Outstanding National Resource Water and as such no degradation is allowed of Mono Lake's water quality from the legally established baseline. Even though the project document asserts that there will be no impacts to the water quality of Mono Lake, and our comments discuss erosion impacts above, we have the following additional construction-related concerns and recommendations.

1. A significant amount of material will be removed from the various slopes during the construction process. The project document does not specify where that material will be deposited. The site should not be near Mono Lake. It is our understanding that a pre-approved, legal disposal site is a requirement of the project. Coordination with other agencies including Mono County Solid Waste department may be helpful in identifying an appropriate location.
2. All pullout areas adjacent to the project area are sensitive in nature and include slopes to Mono Lake, some with wetland areas. The pullouts are not paved and have a hardened but porous surface. We recommend that if these pullouts are to be used for equipment staging that a non-permeable material be placed under the equipment so that the ground is protected from contaminants. Otherwise, pollutants could enter the soil and leach into Mono Lake over time.
3. The project document acknowledges that accidents and improper use of materials could release contaminants into the project environment. Even though best management practices and mitigation measures will be used to minimize potential impacts, having a Caltrans staff person on-site during construction activities as described above will help to prevent accidents from occurring.
4. Caltrans acknowledges that it will prepare a Storm Water Pollution Prevention Plan (SWPP) for this project. MLC expects that the SWPP will be prepared and approval received from Lahontan Regional Water Quality Board well before any site disturbance takes place. The final document should confirm this process.
5. The Project also describes that the operator of the construction site will implement sediment, erosion, and pollution prevention control measures and comply with the provisions of the Construction General Permit. While the Storm Water Management Plan provides potential Best Management Practices that could be used, it is general in nature and certainly not specific enough to assure that water quality will be protected. Mitigation measures related to water quality must be specific and enforceable.

Biology

1. Of the four measures proposed to minimize impacts to species occupying willow stands in the project area, MLC supports Option 1. Compliance with the Migratory Bird Treaty Act and all other applicable regulatory requirements is essential for all aspects of the project

Tufa

1. Significant outcroppings of tufa occur on and adjacent to the slopes the Project will scale and grade. The IS/EA does not address tufa. The visiting public has a broad interest in tufa and the State has established protections for these resources (for example, Public Resources Code 5048 prohibits "any disturbance, defacement, displacement, or other interference with any tufa"). For these reasons, specific plans should be developed in conjunction with the Mono Lake Tufa State Natural Reserve and US Forest Service. These plans should be included in the final Project document and specified for the construction contractor. In general they should include a survey of tufa resources in the Project area of disturbance that includes representatives from these agencies. Disturbance of visually prominent tufa should be avoided where possible. Where disturbance is unavoidable, intact tufa should be relocated to sites designated by these agencies to allow for public educational and interpretive benefits.

Ice age tufa outcrop located immediately above slope 4.

Conclusion

The Lee Vining Rockfall Safety Project holds real potential to provide a long-term solution to stabilize eroding roadcuts next to Mono Lake, solving a decades-old issue by transitioning these roadcuts to the stable condition of adjacent undisturbed slopes. Some of these roadcuts have been in need of stabilization treatment for over 80 years.

However a Negative Declaration is not appropriate given 1) the multiple special designations that overlay to the Project area, which call for the highest level of impact minimization and mitigation in Project design and construction; and 2) the significant impacts that will result from the design plans presented in the IS/EA.

MLC urges Caltrans to fully realize this project's potential by preparing a revised environmental document based on Design Option 2 that includes clear mitigation measures to assure long-term stability and successful revegetation of all six slopes. The implementation of stabilization techniques that enable revegetation by using quantitative success criteria offers great potential to stabilize these slopes once and for all.

Thank you for the opportunity to comment on this Project. The Mono Lake Committee looks forward to continuing to work with the District 9 Bishop and state Caltrans staff on this project.

Sincerely,

Geoffrey McQuilkin
Executive Director
Mono Lake Committee

Attachment 1 – Caltrans announcement flyer and letter dated 1983
Attachment 2 – US Forest Service letter dated December 1, 2003

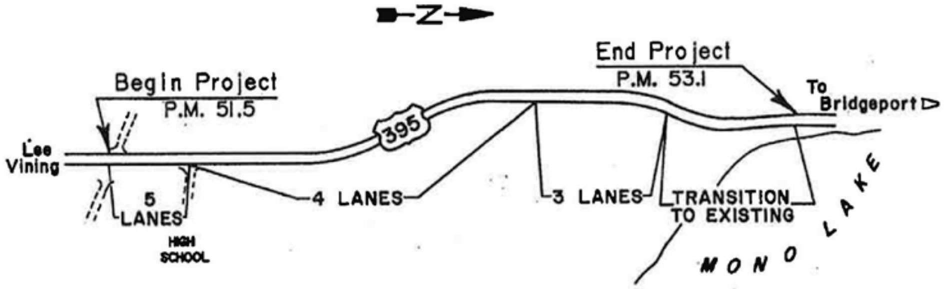
CC:

Tom Hallenbeck, California Department of Transportation
Cedrik Zemitis, California Department of Transportation
Bud Amorfini, Lahontan Regional Water Quality Control Board
Marilyn Linkem, California State Parks
Tamara Sasaki, California State Parks
John Reggelbrugge, Inyo National Forest
Sarah Tomsky, Inyo National Forest
Jon Kazmierski, Inyo National Forest
Lynn Oliver, Inyo National Forest

Attachment 1 to Mono Lake Committee Letter

PUBLIC NOTICE
Study results available

Do you want a public hearing on changes proposed for route 395?



WHAT'S BEING PLANNED

CALTRANS (California Department of Transportation) would like to construct passing lanes on U.S. 395 between First Street and the road to the Old Marina north of Lee Vining. To allow room for a wider road, portions of the existing cut into the hillside west of the highway and the fill slope east of the highway will be enlarged.

WHY THIS AD

CALTRANS has studied the effects this project may have on the environment. Our studies show it will not significantly affect the quality of the environment. The report that explains why is called a Negative Declaration/Environmental Assessment. This notice is to tell you of the preparation of the Negative Declaration/ Environmental Assessment and of its availability for you to read, and to offer the opportunity for a public hearing.

WHAT'S AVAILABLE

The Negative Declaration/Environmental Assessment is available at the CALTRANS District Office, 500 S. Main Street, Bishop, on weekdays from 7:30 a.m. to 5:00 p.m. Come in and take a look; ask questions; express your concerns.

The Negative Declaration/Environmental Assessment is also available for inspection at the Mono County Free Library in Bridgeport, at the branch library in Lee Vining, and at the U.S. Forest Service Ranger Station in Lee Vining.

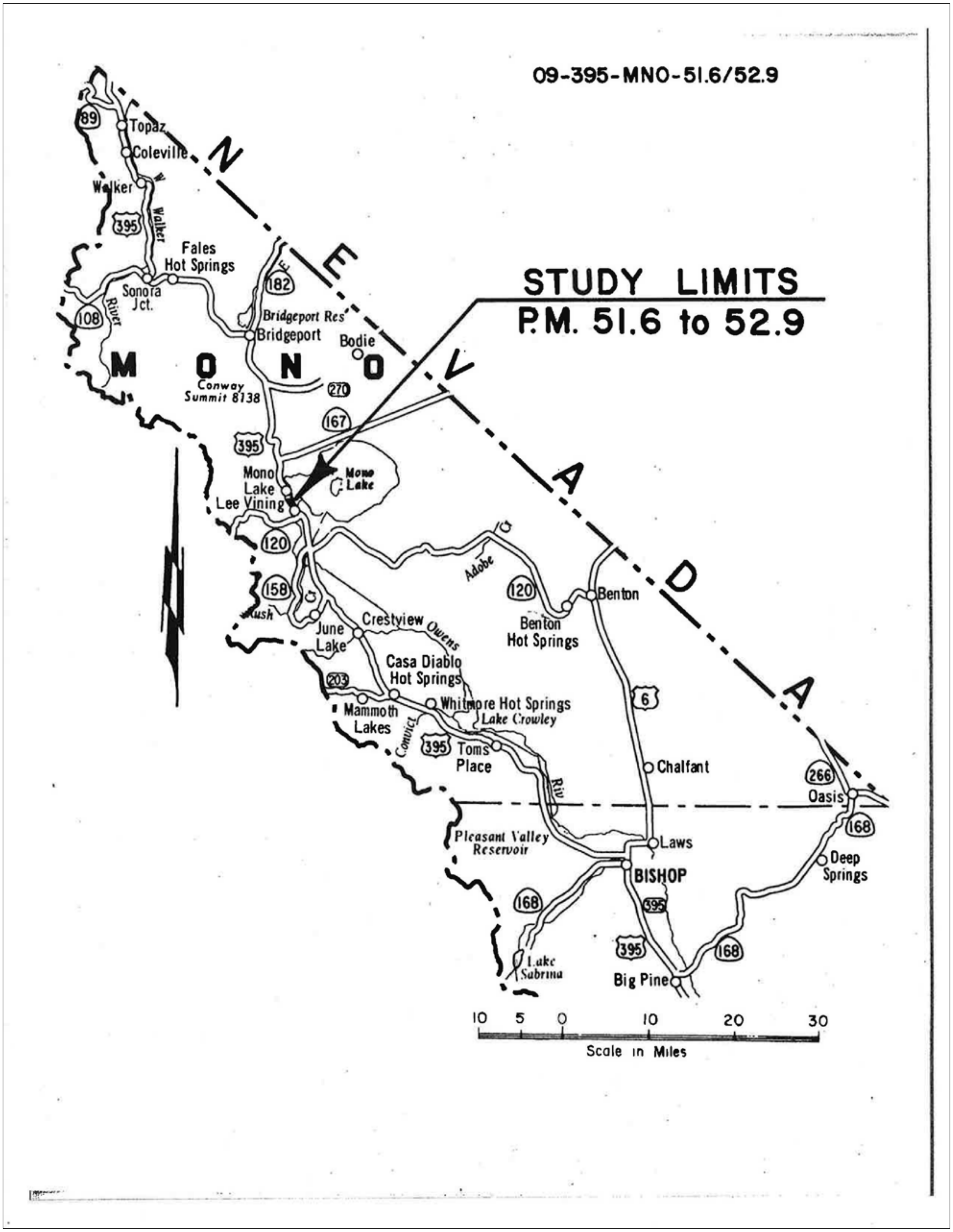
WHERE YOU COME IN

Do you have any comments about processing the project with a Negative Declaration/Environmental Assessment? Do you disagree with the findings of our study as set forth in the Negative Declaration/ Environmental Assessment? Would you care to make any other comments on the project? Would you like a public hearing? Please submit your comments or requests for a public hearing in writing no later than September 15, 1984 to CALTRANS, P.O. Box 847, Bishop, CA 93514.

If there are no major comments or requests for a public hearing, CALTRANS will proceed with the project's design and request approval from the Federal Highway Administration.

CONTACT

For more information about this project or any transportation matter, call CALTRANS at (619)873-8411.


09-395-MNO-51.6/52.9
STUDY LIMITS
P.M. 51.6 to 52.9
NEVADA
MONO
Topaz
Coleville
Walker
Walker
Fales
Hot Springs
Sonora
Jct.
River
Bridgeport Res
Bridgeport
Bodie
Conway
Summit 8138
Mono
Lake
Lee Vining
Mono
Lake
Adobe
Benton
Benton
Hot Springs
June
Lake
Crestview
Owens
Casa Diablo
Hot Springs
Whitmore Hot Springs
Lake Crowley
Mammoth
Lakes
Convict
Toms
Place
Riv
Chalfant
Oasis
Pleasant Valley
Reservoir
Laws
BISHOP
Deep
Springs
Lake
Sabrina
Big Pine
89
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108
182
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Scale in Miles

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY

GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF TRANSPORTATION
500 SOUTH MAIN
P.O. BOX 847
BISHOP, CALIFORNIA 93514
(619) 873-8411

December 2, 1983

9-Mno-395-51.6/52.9

Mr. David Carle
Mono Lake Tufa State
Reserve
P. O. Box 99
Lee Vining, CA 93541

Dear Mr. Carle:

This is to advise you that studies are being formally initiated relative to constructing passing lanes for the portion of State Highway Route 395 in Mono County between 0.3 miles north of Lee Vining Avenue and 1.6 miles north of Lee Vining Avenue, a total of 1.3 miles, near the community of Lee Vining. Construction is planned for the fiscal year 1985-86. The attached map shows the general limits of the proposed studies.

The appropriate local governing bodies and agencies are also being notified at this time of the initiation of studies. During the course of these studies, we plan to work closely with these agencies and their staffs to exchange ideas, and to assure that all pertinent factors are being considered. We would welcome any comments or suggestions concerning alternatives or social, economic, and environmental factors. We would appreciate receiving your comments within 60 days.

When sufficient engineering, environmental, and socioeconomic data have been developed, an opportunity for a public hearing will be afforded to discuss the project studies. The public hearing will be well publicized, and you will be notified well in advance of the hearing time and location.

We will be pleased to answer any questions you may have in regard to this project.

Sincerely,

Keith E. McKean

Keith E. McKean
District Director
of Transportation

Attachment

Attachment 2 to Mono Lake Committee Letter

United States Department of Agriculture **Forest Service** **Inyo National Forest** **351 Pacu Lane Bishop, CA 93514 (760) 873-2400 (760) 873-2538 TDD**

File Code: 1950

Date: December 1, 2003

Mike Donahue
Caltrans Senior Environmental Planner
2015 E. Shields, Suite 100
Fresno, CA 93726

Dear Mr. Donahue:

Thank you for the opportunity to comment on the proposed Mono Lake Widening Project of U.S. 395 within the Mono Basin National Forest Scenic Area. As a result of fire assignments in Southern California, we cannot provide comprehensive substantive comments to meet the existing December 1st deadline. Due to these unforeseen circumstances, the Forest Service is requesting an extension of the comment period to January 15, 2004.

On November 20, 2003, Brad Mettam, Project Manager, and Juan Torres, Environmental Planner, met with Deputy District Ranger, Molly Brown, and Deputy Forest Supervisor, Bill Bramlette. Bill stated that additional time was needed for resource specialists to prepare a detailed response to the Draft EA/EIS. As discussed with Brad and Juan, we are hopeful that an extension would not impact your staff given the holiday period and the time needed to process public comments.

I support the comment made by Bill Bramlette to Caltrans at the PDT meeting on November 20th. We disagree with the following statement: "The proposed project would not have an adverse impact because the purposed project conforms to the *Mono Basin National Forest Scenic Area Comprehensive Management Plan, 1989"* (Page 103 of the Draft EA/EIS). As stated in my August 3, 2001 letter (enclosed), the proposed Mono Lake Widening Project currently reflects a project that could have a negative impact on the management objectives of the Scenic Area.

The Forest received the Federal Highway Administration determination that 4(f) does not apply. I disagree with the FHWA determination. The Scenic Area is public land, created and designated by statute to provide for recreational use and to protect its geologic, ecologic, and cultural resources. I still assert that the entire Scenic Area falls under the section 4(f) definition of a park, wildlife refuge and recreation area.

I believe the following suggestions will improve the draft document to reflect the unique Scenic Area designation, and provide for a customized approach that the area warrants.

- **Add National Forest System lands boundary to project map.**
- **Include letters from adjacent landowners, specifically State Parks and Forest Service as an appendix to the document.**

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- Identify historic, existing and restoration lake level references on project and alternative maps. Los Angeles Department of Water and Power (DWP) has the ability to store more water than mandated if available.

- Expansion of existing highway easement would require separate analysis and a letter of consent from the me.

- Provide the Forest with biological reports conducted by your wildlife biologist. We believe there to be willow flycatcher (Forest Service Sensitive Species) within the project area.

- Create a more conservative alternative that addresses rock fall, drainage improvements, necessary turning lanes, possible scenic and interpretive sites, no increase in speed limits, minimize use of expansive retaining walls and fill slopes, and minimize the need of easement expansion.

- Review of mitigation measures will be forthcoming by resource specialists.

In closing, the Mono Basin National Forest Scenic Area merits design exceptions and special consideration. If you have any questions please contact Molly Brown, Deputy District Ranger and Scenic Area Manager at (760) 647-3033.

Sincerely,

JEFFREY E. BAILEY
Forest Supervisor

Enclosure

Cc's Molly Brown, Inyo National Forest
David Grah, Caltrans
John Cecil, Mono County Supervisor
Ken Anderson, California State Parks
Lisa Cutting, Mono Lake Committee
Mono County LTC Members
Jeff Moulton, Office of General Council

2

Response to Comment from the Mono Lake Committee

1. Implementing a revegetation plan on the six slopes was always a project feature, but details of the revegetation plan, including monitoring, was not clearly defined in the July 2012 document. In this document, details of the revegetation plan have been included in Section 1.3.3. Additionally, an agreement between the Mono Lake Committee and Caltrans has been signed that includes a Plant Establishment (PE) Program (see Appendix I). The purpose of the PE Program is to reduce erosion, to establish healthy soil, and to promote successful revegetation in and around the project areas requiring revegetation. The PE Program will include a description of the areas requiring revegetation and requirements for appropriate seed mixes and planting practices.

2. As a result of comments on the July 2012 document regarding the revegetation plan for this project and the agreement between Caltrans and the Mono Lake Committee, this Mitigated Negative Declaration/Finding of No Significant Impact includes greater detail and clarification of this project feature. Implementing a revegetation plan on the slopes is considered part of the project description; Caltrans has an obligation and desire to prevent erosion and create context sensitive design methods for our highway projects. The revegetation plan will include a 5-year plant establishment/monitoring plan. Refer to Section 1.3.3 for clarification on the revegetation plan and Appendix I for additional details that are included in the agreement between the Mono Lake Committee and Caltrans.

   The Build Alternative with Design Option 2 has been selected as the preferred alternative for Slopes 3, 4, 5, and 6. Slopes 1 and 2 will be scaled to remove loose rocks and the cornice rounded as needed to reduce rockfall and erosion, and a plant establishment program will be implemented.

3. Caltrans has determined that a Mitigated Negative Declaration (MND) is the appropriate level of documentation under the California Environmental Quality Act, and a Finding of No Significant Impact (FONSI) is the appropriate level of documentation under the National Environmental Policy Act. Design features and mitigation measures were presented in the Initial Study/Environmental Assessment. However, additional detail and clarification of the revegetation plan has been included in the Mitigated Negative

Declaration/Finding of No Significant Impact as a result of comments during the public circulation period. Refer to Section 1.3.3 for clarification on the revegetation plan and Section 2.1.1 Avoidance, Minimization and /or Mitigation Measures for clarification on the visual mitigation measures.

4. The existing slopes are not in a natural state; they were created as road-cuts during the building of U.S. 395. The proposed slope treatment at Slopes 1 and 2 will be less dramatic than the cut shown in visual simulations in the July 2012 Initial Study/Environmental Assessment. All six slopes will be included in the revegetation plan to prevent erosion and minimize the visual impact. Refer to Section 1.3.3 for clarification on the revegetation plan and Appendix I for additional details that are included in the agreement between the Mono Lake Committee and Caltrans.

5. Vegetation growth shown in the visual simulations under proposed conditions is based on Caltrans standard practices for revegetation. It is well known that the soils in this area, and unpredictable seasonal weather conditions, are harsh on vegetation. For this reason, Caltrans will implement a 5-year plant establishment period to encourage sufficient vegetation coverage to prevent unacceptable erosion.

6. As stated in this document, a Visual Impact Assessment was done for the project by two professional Landscape Architects, each with over 20 years of experience. The assessment determined that the viewer response to the proposed condition of each slope will be a moderate positive visual impact change with Design Option 2. With the implementation of a revegetation plan (see Section 1.3.3) and the mitigation measures listed in Section 2.1.1, the overall visual impact of the Preferred Alternative will be moderately beneficial.

7. To prevent erosion, the project design includes a revegetation plan (see Section 1.3.3) and, during construction, standard best management practices will be used to prevent erosion and storm water impacts. Details of these best management practices have been added to Section 2.2, the Water Quality subsection, of this document. As discussed in Section 2.2, per the Construction General Permit, Caltrans (or the construction contractor) will develop and implement an effective Storm Water Pollution Prevention Plan. By incorporating proper and accepted engineering practices and best

management practices, the project will not produce substantial impacts to water quality during its construction or operation.

8. Implemention of a revegetation plan on the six slopes was always a project feature, but details of the revegetation plan, including success criteria, were not clear in the July 2012 Initial Study with Proposed Negative Declaration/Environmental Assessment. Additional details of the revegetation plan have been included as part of the Mitigated Negative Declaration/Finding of No Significant Impact. Details of best management practices to prevent erosion and storm water runoff have been added to Section 2.2.

9. See response to #3, above.

10. During the project approval, environmental document and design phases of a project, Caltrans staff continuously prepares and updates a mitigation monitoring plan referred to as the Environmental Commitments Record (ECR). The Environmental Commitments Record includes all commitments and mitigation measures, including the commitments made in the agreement between the Mono Lake Committee and Caltrans, the responsible parties, and the timeline for implementation and completion of each commitment.

11. In response to the Mono Lake Committee's comments on the lack of an enforceable plan for revegetating the slopes affected by this project: Caltrans and the Mono Lake Committee held a series of meetings. At these meetings, we addressed these concerns by developing a plan for treating the affected slopes. Both parties signed an agreement that includes a plant establishment program (PE Program) (see Appendix I). The purpose of the plant establishment program is to reduce erosion, establish healthy soil, and promote successful revegetation in and around the project areas requiring revegetation. The plant establishment program will include a description of the areas requiring revegetation and requirements for appropriate seed mixes and planting practices. Caltrans and the Mono Lake Committee also agreed to the following commitments:

    - The PE Program shall be carried out for at least five full growing seasons (April-October) following initial planting/seeding required to revegetate the slopes affected by the project.

- The PE Program shall be based on and incorporate information and recommendations from the most recent annual report prepared for the Lee Vining Revegetation (Test Plot) Project. The first annual report is scheduled to be issued by November 1, 2013.

- The PE Program shall not be finalized until after the first annual report for the Test Plot project has been issued.

- Routine maintenance may involve tasks such as: watering (if the season brings below average precipitation or if clearly needed), repair of localized sloughed areas, inspection, clearing, and dressing.

- Criteria for determining interim and final success of plant establishment, which are expected to include the following:

  - Vegetation density: Information from the Test Project will be used to determine the current baseline vegetation, a method for determining vegetation density at the project site (e.g., high resolution photography), and vegetation density success criteria.

  - Vegetation viability (survival).

  - Species diversity, soil health, and erosion control.

  - Success criteria may vary for different portions of each slope due to varying terrain (e.g., rocky versus vegetated). Up to 3 zones can be identified for each slope for success criteria.

- Caltrans shall identify defined action points and a requirement that Caltrans perform tests and assessments at each action point to determine whether revegetation has met the criteria for success established in the PE Program.

  - For Slopes 1, 2, and 3, action points would occur at a minimum at the end of years 2 and 4.

  - For Slopes 4, 5, and 6, action points would occur at a minimum at the end of years 2, 3, and 4.

- The PE Program shall include requirements for remedial actions. If revegetation and slope stability on any slope has not met the success criteria set forth in the PE Program (including interim success goals), the PE Program will require remedial action in addition to routine maintenance. Remedial actions will be identified and designed based on the results of the Test Project and could include but are not limited to: spraying extra hydroseed on localized areas of any slope, applying a topical fertilizer or high carbon mulch, applying a surficial tackifier.

- Caltrans shall prepare five annual reports, one following each of the first five full growing seasons (April-October) after the initial planting/seeding required to revegetate the slopes affected by the project. If the initial planting/seeding occurs mid-growing season, any report prepared after the first partial growing-season shall not count toward the five reports required. The annual reports shall include relevant data collected and shall describe the revegetation actions taken during the growing season, the progress of the revegetation efforts, routine maintenance activities, whether the revegetation efforts have met the success criteria set forth in the PE Program, and any remedial action taken. All supporting data shall be available upon request by the Mono Lake Committee. A requirement that Caltrans prepare a final report after the PE Program has been implemented for five full growing seasons (April-October), which shall include an analysis of revegetation success on each slope and recommendations for additional revegetation activities, if any. This final report shall include any additional recommendations made in the final report prepared for the Test Plot Project.

- Caltrans shall consider any other recommendations or elements identified from the Test Plot Project that will contribute to a successful PE Program.

12. Caltrans' State Water Management Plan, which is approved by the State Water Resources Control Board, addresses the larger picture with regards to storm water quality and implementing the requirements of the National Pollutant Discharge Elimination System (NPDES) permit. As such it describes how Caltrans will comply amongst the many statewide projects Caltrans administers; it is not intended to address the more narrowly focused project specific water pollution control requirements.

Based on the comments received to the Draft Environmental Document (DED) this Environmental Document has been updated to reflect those comments received. This project proposes to implement slope stabilization methods which will reduce rockfall, stabilize the slopes, and reduce the amount of sediment eroding from the project slopes. This will improve water quality once the project is completed. The project will comply with the General Permit for Storm Water Discharges Associated with Construction Activities- Construction General Permit. As required, a Storm Water Pollution Prevention Plan will be implemented and will outline appropriate water pollution control methods. In addition, Caltrans construction documents will outline the required pollution controls to be implemented.

The project will address water quality issues and comply with the Construction General Permit by utilizing short term construction related best management practices along with long term design pollution prevention practices. Once this environmental document is approved the project will proceed to the Plans, Specifications, and Estimates phase where the Storm Water Data Report will be updated and best management practices selection appropriate for the project will be selected.

Typical short term best management practices will address run-on and run-off storm water flows, storm drain protection at inlets and outlets, tracking controls, and general good house-keeping measures to name a few. Since this is a combined Project Risk Level 2 project in regards to storm water, additional water quality monitoring and a Rain Event Action Plan (REAP) will be required as stipulated by the Construction General Permit. Revegetation strategies applied to all project slopes along with mechanical stabilization, at Slopes 4-6, rounding off the top of slopes to reduce effects of run-on erosion, and implementing a five year post construction plant establishment program are some but not all of the design pollution prevention best management practices which will address long term slope stability and water quality concerns.

As outlined in the agreement between Caltrans and the Mono Lake Committee the revegetation strategies will be determined by the data provided by the Lee Vining Test Plots Project. The revegetation strategies will include methods to stabilize the slopes in the short term as well as the long term. Implementation of the five year post construction plant establishment program as outlined in the agreement will further address any long term water quality concerns.

With the above stabilization methods and storm water pollution controls in-place the project will not cause or contribute to additional pollution or sedimentation to Mono Lake or its tributaries.

13. See response to #11.

14. See response to #11.

15. See response to #3.

Comment from members of the Mono Lake Committee

SLOW FOR THE CONE ZONE

Scott Smith/D06/Caltrans/CAGov

09/13/2012 01:08 PM

To John Q Thomas/D06/Caltrans/CAGov@DOT

cc

bcc

Subject Fw: Comments on the Lee Vining Rockfall Safety Project

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Chief
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559-779-6612

----- Forwarded by Scott Smith/D06/Caltrans/CAGov on 09/13/2012 01:08 PM -----

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09/13/2012 12:51 PM

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Subject Comments on the Lee Vining Rockfall Safety Project

Dear Mr. Smith,

Thank you for the opportunity to comment on the Lee Vining Rockfall Safety Project. As someone who cares deeply about Mono Lake and the surrounding area I urge you to further develop the project by preparing a revised environmental document that recognizes and mitigates the significant impacts of the project.

1 The Rockfall Project holds potential to provide a long-term solution to fix eroding roadcuts, but a Negative Declaration is not appropriate given the possible significant impacts. The revised document should be based on Design Option 2 and fully mitigate significant negative visual and water quality impacts with clear, firm plans to assure slope stability and long-term re-vegetation success. This will not only improve highway safety, but also minimize visual impairment of this internationally recognized scenic area, and prevent future water quality problems.

2 The six slopes the Rockfall Project proposes to address are old highway roadcuts. The surrounding undisturbed slopes are steep but have minimal erosion and rarely shed rocks due to abundant native shrubs and pinyon trees that hold the slope in place. In general, the Rockfall Project should seek to return all six slopes to a similar fully vegetated condition in order to solve rockfall, reduce visual impacts, and stabilize soils to reduce erosion and resulting water quality problems.

3 The proposed Rockfall Project lies within the protected boundaries of the Mono Basin National Forest Scenic Area, next to the Mono Lake Tufa State Natural Reserve, and along a California State Scenic Highway. Over a quarter million people visit Mono Lake each year and the scenic Mono Lake experience is critical to the tourist economy of Lee Vining and Mono County. During construction, the contractor will have to build the project to meet the very high standards of these special designations. To assure success it is critical that the project plan contain clear enforceable mitigation measures. We can't

afford to have any problems with the construction of a substantial project next to Mono Lake.

4 I do not support Design Option 1 because it would create significant impacts and be a step backward from current conditions. While Option 1 may prevent rocks from entering the roadway, the installation of a mesh drapery requires removal of existing native vegetation that partially stabilizes these slopes. This action would lead to significant increased erosion and sediment discharge to Mono Lake, continued growth of the unstable roadcut, and a visual nuisance. As the project plan notes, Option 1 makes it unlikely vegetation would reestablish on slopes 4 and 5.

5 Additionally, the intrusive visual impacts of Design Option 1, which the study document identifies as negative for drivers and Mono Lake visitors, are unacceptable and significantly detract from the visitor experience. Option 1 also requires local Caltrans personnel to continue ongoing maintenance responsibilities when one of the stated goals of the project is to reduce maintenance needs.

6 Design Option 2 has the potential to do the job, but the document should be revised to include specific mitigation plans and vegetation performance standards to make sure vegetation cover of the kind shown in the photo simulations is achieved in the real world. I support using anchored mesh, as described in the study, to achieve stabilization of slopes 4, 5, and 6. Only a stabilized slope will be able to successfully support native vegetation as shown in the project's visual simulations. Anchored mesh also provides a better long-term investment of tax-payer money. It requires no costly ongoing maintenance like a mesh drapery, and provides a comprehensive one-time only solution to the problem.

7 The Lee Vining Rockfall Safety Project holds real potential to provide a long-term solution to fix eroding roadcuts next to Mono Lake, but a Negative Declaration is not appropriate given the possible significant impacts. I urge you to fully realize this project's potential by preparing a revised environmental document based on Design Option 2 that includes clear mitigation measures to assure long-term stability and successful revegetation of all six slopes.

8 When I visit Mono Lake ten years from now, I hope that it will be hard to distinguish the project slopes from the surrounding hillside. That would mean the return of healthy native shrubs and trees to the project slopes, minimal erosion problems, visual continuity with the surrounding landscape--and of course no rocks falling onto the highway.

Sincerely,

Amanda Bielskas
New York, NY

The above email comment was sent to Caltrans by 1,027 members of the Mono Lake Committee between September 17, 2012 and September 24, 2012. The members include:

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Response to Comment from the Mono Lake Committee Members

1. Instead of a Negative Declaration, a Mitigated Negative Declaration has been prepared for this project. Impacts as a result of this project have been determined to be less than significant with the previously identified measures/mitigation and detailed revegetation plan, as set forth in the agreement between Caltrans and the Mono Lake Committee (Appendix I).

2. Implementing a revegetation plan on the six slopes was always a project feature, but details of the revegetation plan, including success criteria, were not clearly defined in the July 2012 document. In this document, details of the revegetation plan have been included in Section 1.3.3. Additionally, an agreement between the Mono Lake Committee and Caltrans has been signed that includes a Plant Establishment (PE) Program (see Appendix I). The purpose of the PE Program is to reduce erosion, to establish healthy soil, and to promote successful revegetation in and around the project areas requiring revegetation. The PE Program will include a description of the areas requiring revegetation and requirements for appropriate seed mixes and planting practices. Details of best management practices to prevent erosion and storm water runoff have been added to Section 2.2 of the document.

3. Comment noted. See the agreement between Caltrans and the Mono Lake Committee in Appendix I.

4. The Build Alternative with Design Option 2 has been selected as the preferred alternative for Slopes 3, 4, 5, and 6. Slopes 1 and 2 will be scaled to remove loose rocks, and the cornice rounded as needed to reduce rockfall and erosion; then a plant establishment program will be implemented.

5. See response to #4, above.

6. Comment noted. See additional revegetation plan information in Section 1.3.3 and the agreement between Caltrans and the Mono Lake Committee (Appendix I).

7. Instead of a Negative Declaration, a Mitigated Negative Declaration has been prepared for this project. Impacts as a result of this project have been determined to be less than significant with the previously identified mitigation and detailed revegetation plan.

8. Thank you for your comment.

Comment from Ted Dougherty

CALTRANS
855 M Street, Suite 200
Fresno, CA 93721
Attention: Scott Smith

September 19th 2012

Dear Mr. Smith,

Thank you for the opportunity to comment on the Lee Vining Rockfall Safety Project. As someone who cares deeply about Mono Lake and the surrounding area I urge you to further develop the project by preparing a revised environmental document that recognizes and mitigates the significant impacts of the project.

1 The Rockfall Project holds potential to provide a long-term solution to fix eroding roadcuts, but a Negative Declaration is not appropriate given the possible significant impacts. The revised document should be based on Design Option 2 and fully mitigate significant negative visual and water quality impacts with clear, firm plans to assure slope stability and long-term re-vegetation success. This will not only improve highway safety, but also minimize visual impairment of this internationally recognized scenic area, and prevent future water quality problems.

2 The six slopes the Rockfall Project proposes to address are old highway roadcuts. The surrounding undisturbed slopes are steep but have minimal erosion and rarely shed rocks due to abundant native shrubs and pinyon trees that hold the slope in place. In general, the Rockfall Project should seek to return all six slopes to a similar fully vegetated condition in order to solve rockfall, reduce visual impacts, and stabilize soils to reduce erosion and resulting water quality problems.

3 The proposed Rockfall Project lies within the protected boundaries of the Mono Basin National Forest Scenic Area, next to the Mono Lake Tufa State Natural Reserve, and along a California State Scenic Highway. Over a quarter million people visit Mono Lake each year and the scenic Mono Lake experience is critical to the tourist economy of Lee Vining and Mono County. During construction, the contractor will have to build the project to meet the very high standards of these special designations. To assure success it is critical that the project plan contain clear enforceable mitigation measures. We can't afford to have any problems with the construction of a substantial project next to Mono Lake.

4 I do not support Design Option 1 because it would create significant impacts and be a step backward from current conditions. While Option 1 may prevent rocks from entering the roadway, the installation of a mesh drapery requires removal of existing native vegetation that partially stabilizes these slopes. This action would lead to significant increased erosion and sediment discharge to Mono Lake, continued growth of the unstable roadcut, and a visual nuisance. As the project plan notes, Option 1 makes it unlikely vegetation would reestablish on slopes 4 and 5.

5 Additionally, the intrusive visual impacts of Design Option 1, which the study document identifies as negative for drivers and Mono Lake visitors, are unacceptable and significantly detract from the visitor

experience. Option 1 also requires local Caltrans personnel to continue ongoing maintenance responsibilities when one of the stated goals of the project is to reduce maintenance needs.

6 Design Option 2 has the potential to do the job, but the document should be revised to include specific mitigation plans and vegetation performance standards to make sure vegetation cover of the kind shown in the photo simulations is achieved in the real world. I support using anchored mesh, as described in the study, to achieve stabilization of slopes 4, 5, and 6. Only a stabilized slope will be able to successfully support native vegetation as shown in the project's visual simulations. Anchored mesh also provides a better long-term investment of tax-payer money. It requires no costly ongoing maintenance like a mesh drapery, and provides a comprehensive one-time only solution to the problem.

7 The Lee Vining Rockfall Safety Project holds real potential to provide a long-term solution to fix eroding roadcuts next to Mono Lake, but a Negative Declaration is not appropriate given the possible significant impacts. I urge you to fully realize this project's potential by preparing a revised environmental document based on Design Option 2 that includes clear mitigation measures to assure long-term stability and successful revegetation of all six slopes.

8 When I visit Mono Lake ten years from now, I hope that it will be hard to distinguish the project slopes from the surrounding hillside. That would mean the return of healthy native shrubs and trees to the project slopes, minimal erosion problems, visual continuity with the surrounding landscape--and of course no rocks falling onto the highway.

Sincerely, Mr Ted Dougherty

Post Script:
I am one hundred percent
behind the Mono Lake Committee
Ted Dougherty

Response to Comment from Ted Dougherty

1-8. Please refer to the responses to comments from the Mono Lake Committee Members, above.

Comment from Tom Hedges

Tom Hedges
2154 Ward St
Berkeley, CA 94705-1016

USA 3c Silver Coffeepot 2007

USA 1c Tiffany Lamp 2007

ALCATRAZ

USA 28

Scott Smith
CALTRANS
855 M Street, Suite 200
Fresno, California 93721

certified cradletocradle SILVER TRADEMARK OF MBDC © 2009 USPS recycled

9-19-2012
June Lake

Dear Mr. Smith

1 RE: Lee Vining Rockfall Safety Project

Please rework the EIR using option 2 plus mitigation against erosion and to preserve vegetation as well as reduce visual impairment.

Sincerely,
Tom L. Hedges

Response to Comment from Tom Hedges

1. Thank you for your input on this safety project. Your suggestion to move forward with Design Option 2 plus erosion control, vegetation and reduced visual impairment is very much what has been identified as the preferred alternative.

Comment from Rae Paddock

SACRAMENTO CA 957

20 SEP 2012 PM 6 L

Dr. Scott Smith
Caltrans Senior Envirornmental Planner
855 M Street. Suite 200
Fresno, CA 93721

21275350

September 20, 2012

Dear Dr. Smith

1 I'm writing to add my voice to the chorus asking you to work for the protection and preservation of our treasured, irreplaceable Mono Lake. Thank you.

Rae Paddock
3328 Oyster Bay
Davis, CA 95616

Response to Comment from Rae Paddock

1. The Mono Lake Committee and Caltrans have signed an agreement that includes a plant establishment program (PE Program) (see Appendix I). Details of the PE Program have been included in Section 1.3.3 of the document.

Public Hearing Transcript

LEE VINING ROCKFALL SAFETY PROJECT

PUBLIC HEARING

Lee Vining Community Center

296 Mattly Avenue

Lee Vining, California

Tuesday, August 7, 2012

4:00 P.M. TO 7:00 P.M.

ATKINSON-BAKER, INC.
COURT REPORTERS
(800) 288-3376
www.depo.com

REPORTED BY: KRISTY R. KEENER, CSR NO. 6422

JOB NO. A6069A3

1

LEE VINING, CALIFORNIA; TUESDAY, AUGUST 7, 2012

4:00 p.m.

* * *

JANICE BOWMAN: This public hearing is now open.

(Public Comments:

1 NICK HOLT: An idea I thought of while talking with the engineers here is trying to see if it would be feasible to install a certain concentration of pinion pines on the re-vegetated areas, especially those with an anchored mesh system wherein you could have trees planted with periodic waterings to make sure that they could survive and have loops installed in the anchored mesh so that the system could still be structurally sound.)

(End of public comments.)

JOHN THOMAS: The public hearing is closed.

(Whereupon, the public hearing concluded at 7:00 p.m.)

2

REPORTER'S CERTIFICATE

I, Kristy R. Keener, CSR No. 6422, Certified Shorthand Reporter, certify:

That the foregoing proceedings were taken before me at the time and place therein set forth;

That the foregoing is a true and correct transcript of my shorthand notes so taken.

I declare under penalty of perjury under the laws of California that the foregoing is true and correct.

Dated this 8th day of August, 2012.

____
Kristy R. Keener, CSR No. 6422

Response to Comments in the Public Hearing Transcript

Nick Holt

1. The Mono Lake Committee and Caltrans have signed an agreement that includes a plant establishment program (PE Program) (see Appendix I). Details of the PE Program have been included in Section 1.3.3 of the document. The purpose of the PE Program is to reduce erosion, establish healthy soil, and promote successful revegetation in and around the project areas requiring revegetation. The PE Program will include a description of the areas requiring revegetation and requirements for appropriate seed mixes and planting practices.

Appendix I Mono Lake Committee and Caltrans Agreement

AGREEMENT WITH RELEASE OF ALL CLAIMS

This Agreement with Release of All Claims (hereinafter "Agreement") is entered into by and between the Mono Lake Foundation d/b/a Mono Lake Committee ("MLC"), a non-profit organization, and the California Department of Transportation ("Caltrans"), an agency of the State of California (collectively, "Parties"). The purpose of this Agreement is to settle all claims between the Parties related to the Lee Vining Rockfall Project (Project No. 0900020002) ("Project").

RECITALS

THE PARTIES ENTER INTO THIS AGREEMENT on the basis of the following facts, understandings, and intentions, all of which are incorporated into this Agreement:

A. Caltrans proposes to reduce rockfall at six existing cut slopes on the west side of U.S. 395 north of Lee Vining in Mono County by modifying those slopes, installing certain mesh devices, and replanting the area. The proposed Project begins at post mile 52.3 and ends at post mile 53.7. The purpose of the Project is to improve safety for the traveling public and maintenance personnel by reducing rockfall from the existing steep slopes between these post miles.

B. The proposed Project will take place within the Mono Basin National Forest Scenic Area and in close proximity to Mono Lake, one of only two lakes in California designated as an Outstanding National Resource Water under the Clean Water Act. The proposed Project will also be visible from the Mono Lake Tufa State Natural Reserve.

C. In July 2012, Caltrans issued an Initial Study with Proposed Negative Declaration/Environmental Assessment ("IS/EA") for the Project. The IS/EA concluded that the Project, as described and without mitigation measures, would not have a significant impact on the environment.

D. MLC submitted comments to Caltrans on the IS/EA within the public comment period. These comments asserted that the proposed Project would have potentially significant impacts on various resources, including aesthetics, water quality, and biological resources. MLC specifically noted that a rigorous and enforceable plan for revegetating the slopes affected by the Project was necessary to reduce the Project's impacts to a level of insignificance, as required under CEQA.

E. MLC and Caltrans staff subsequently held a series of meetings during which they developed a plan for treating the affected slopes that addressed MLC's concerns.

1

F. Caltrans has not yet issued a "Notice of Determination" for the Project, but plans to do so in the near future.

G. Because MLC commented on the IS/EA, MLC could file a lawsuit challenging the Project approval under CEQA. However, MLC would prefer to work cooperatively and in good faith with Caltrans to create a successful revegetation plan for the affected slopes.

H. Caltrans is currently implementing a minor project, "Lee Vining Test Plots" 09-35700 ("Test Project"), that will gather site specific information and perform revegetation tests in order to provide Caltrans with detailed information on the most effective methods to revegetate slopes in the Project area.

I. Without admitting or acknowledging any liability and solely to avoid the expense of litigation and buy their peace, the Parties to this Agreement desire to settle fully and finally any and all current or future differences between them concerning the Project.

AGREEMENT

NOW THEREFORE, in consideration of the foregoing Recitals, the mutual covenants and promises herein contained, and other good and valuable consideration, receipt of which is hereby acknowledged, MLC and Caltrans agree to all of the following conditions and terms in this Agreement:

1. **Caltrans' Obligations.**

a. **Plant Establishment Program**.

i. Caltrans shall prepare, carry out, and require its agents and contractors to carry out, a plant establishment program ("PE Program") for the Project. The PE Program shall be carried out for at least five full growing seasons (April-October) following initial planting/seeding required to revegetate the slopes impacted by the Project. The purpose of the PE Program is to reduce erosion, to establish healthy soil, and to promote successful revegetation in and around Project areas requiring revegetation. The PE Program shall be based on and incorporate information and recommendations included in the most recent annual report prepared for the Test Project prior to draft Project plans. The first annual report is scheduled to be issued by November 1, 2013. The PE Program shall not be finalized until after the first annual report for the Test Project has been issued. At a minimum, the PE Program must contain the following elements and requirements:

2

(1) A description of areas requiring revegetation pursuant to this Agreement and the Project approval documents.

(2) Requirements for appropriate seed mixes and planting practices.

(3) Requirements for routine maintenance of the revegetated areas. Routine maintenance may involve tasks such as: watering (if the season brings below average precipitation or if clearly needed), repair of localized sloughed areas, inspection, clearing, and dressing.

(4) Criteria for determining interim and final success of plant establishment, which are expected to include the following:

   (a) Vegetation density: Information from the Test Project will be used to determine the current baseline vegetation, a method for determining vegetation density at the Project site (e.g., high resolution photography), and vegetation density success criteria.

   (b) Vegetation viability (survival).

   (c) Species diversity, soil health, and erosion control.

   (d) Success criteria may vary for different portions of each slope due to varying terrain (e.g., rocky v. vegetated). Up to 3 zones can be identified for each slope for success criteria.

(5) Identification of defined action points and a requirement that Caltrans perform tests and assessments at each action point to determine whether revegetation has met the criteria for success established in the PE Program.

   (a) For Slopes #1, #2, and #3 action points would occur at a minimum at the end of years 2 and 4.

   (b) For Slopes #4, #5, and #6 action points would occur at a minimum at the end of years 2, 3, and 4.

(6) Requirements for remedial actions. If revegetation and slope stability on any slope has not met the success criteria set forth in the PE Program (including interim success goals), the PE Program will require remedial action in addition to routine

maintenance. Remedial actions will be identified and designed based on the results of the Test Project and could include but are not limited to: spraying extra hydroseed on localized areas of any slope, applying a topical fertilizer or high carbon mulch, applying a surficial tackifier.

(7) A requirement to prepare five annual reports, one following each of the first five full growing seasons (April-October) after the initial planting/seeding required to revegetate the slopes impacted by the Project. If the initial planting/seeding occurs mid-growing season, any report prepared after the first partial growing-season shall not count toward the five reports required. The annual reports shall include relevant data collected and shall describe the revegetation actions taken during the growing season, the progress of the revegetation efforts, routine maintenance activities, whether the revegetation efforts have met the success criteria set forth in the PE Program, and any remedial action taken. All supporting data shall be available upon request by MLC.

(8) A requirement that Caltrans prepare a final report after the PE Program has been implemented for five full growing seasons (April-October) which shall include an analysis of revegetation success on each slope and recommendations for additional revegetation activities, if any. This final report shall include any additional recommendations made in the final report prepared for the Test Project.

(9) Any other recommendations or elements identified in the first annual report prepared for the Test Project.

ii. **MLC Review**. Caltrans shall provide MLC a copy of the proposed PE Program for MLC's review and comment at least twenty (20) days prior to finalizing the PE Program or any amendment thereto. The purpose of this period of review is to ensure that the PE Program, as described in any contract for its implementation, follows as closely as possible the successful revegetation methods from the Test Project.

b. **Project Design Selection**. The IS/EA included several options for treating the six identified slopes to prevent further rockfall. In carrying out the Project, Caltrans shall select the following options for each slope and apply the following treatments:

i. Slopes #1 and #2 will be scaled to remove loose rocks, the cornices cut and sculpted as needed to reduce rockfall, and revegetated. If revegetation is unsuccessful at stabilizing one or both slopes at the end of the PE Program, Caltrans may implement the slope layback alternative, including revegetation, on the unstable slope.

ii. Slope #3 will be treated with light scaling and revegetation, in accordance with Design Option 2.

iii. Slopes #4, #5, and #6 will be treated with anchored mesh as described in Design Option 2 and will be revegetated.

iv. When preparing any slope for revegetation or installation of anchored mesh, and when installing anchored mesh, Caltrans will implement the following best practices to support successful revegetation:

    (1) designing contours and showing the areas to be graded as detailed as possible to maintain as natural a plane as possible (i.e., not allowing the contractor to grade the slope flat);

    (2) having a Design Engineer on-site during trim excavation, crown removal, and slope shaping to make sure the contractor is properly constructing the project as designed;

    (3) not allowing the contractor to excessively compact the soil; and

    (4) any other practices recommended in the first annual report of the Test Project.

v. Whenever revegetation is required by this Agreement or by Project approval documents, Caltrans shall use best efforts to make the revegetation successful. The success of revegetation on any slope will be measured according to the "success criteria for plant establishment" included in the PE Program. "Best efforts" shall include:

    (1) implementing the PE Program and

    (2) following the successful revegetation methods in the Test Project annual reports.

vi. Caltrans shall use the following process to select the color of the anchored mesh used for the Project. The Caltrans Landscape

Architect will identify three appropriate colors for the anchored mesh with the goal of reducing visibility to the greatest extent possible. Caltrans shall present the U.S. Forest Service with the three proposed colors and shall obtain approval of one color from the U.S. Forest Service. Caltrans shall place the color samples of the anchored mesh in the project area to confirm visual blending with the adjacent landscape before the U.S. Forest Service makes a final color selection.

c. **<u>Contract Requirements.</u>** Caltrans will divide the Lee Vining Rockfall Project into two contracts, one for the main rockfall project contract and the second for the PE Program contract. Caltrans will provide MLC with the proposed Request for Proposals or similar document issued to obtain bids on the PE Program contract prior to publishing it and will provide MLC ten (10) days to review and comment on it. The purpose of this procedure is to ensure that the PE Program is accurately described in the Request for Proposals. Caltrans will ensure that appropriate information regarding plant establishment activities in the Lee Vining Rockfall Project is passed on to the appropriate staff working on plant establishment after Construction Contract Acceptance. The Project engineer and Resident engineer will keep detailed logs of all relevant project construction activities so there is a seamless transition between the main rockfall project and the PE Program.

2. **<u>MLC's Obligations</u>**. MLC will **not** file any litigation challenging Caltrans' approval of the Project as set forth and analyzed in the IS/EA and as consistent with this Agreement, and will expressly abandon and waive any such claims.

3. **<u>Mutual Release from Liability</u>.**

a. MLC hereby releases and unconditionally absolves Caltrans from any and all liabilities, debts, or obligations of any kind or character that they have had, now have, of may have in the future, which arise from or are in any way related to the Project. Petitioners will not file any complaints, claims, grievances, or other actions against Caltrans with any state, federal, or local agency or court with regard to or related to the Project. This Agreement releases and forever discharges Caltrans from any and all past, present, or future charges, complaints, claims, lawsuits, and liabilities of any kind or nature whatsoever, known or unknown, suspected or unsuspected, regarding events that have occurred as of the date of this Agreement and arising from or relating to the Project, to the maximum extent permitted by law. All such claims are forever barred by this Agreement without regard to whether those claims are based upon any alleged breach of duty arising in a statute, contract, or tort; any alleged unlawful act or any other claim; and regardless of the forum which it might be brought.

b. Caltrans hereby releases and unconditionally absolves MLC from any and all liabilities, debts, or obligations of any kind or character that they have had, now have, of may have in the future, which arise from or are in any way related to Caltrans' approval of the Project. Caltrans will not file any complaints, claims, grievances, or other actions against MLC with any state, federal, or local agency or court with regard to or related to Caltrans' actions taken to date in approving and implementing the Project. This Agreement releases and forever discharges MLC from any and all past, present, or future charges, complaints, claims, lawsuits, and liabilities of any kind or nature whatsoever, known or unknown, suspected or unsuspected, regarding events that have occurred as of the date of this Agreement and arising from or relating to Caltrans' approval of the Project, to the maximum extent permitted by law. All such claims are forever barred by this Agreement without regard to whether those claims are based upon any alleged breach of duty arising in a statute, contract, or tort; any alleged unlawful act or any other claim; and regardless of the forum which it might be brought.

c. It is understood by the Parties that there is a risk that any of them may incur or suffer loss, damage or injuries which are in some way caused by or related to the subject matter of the releases contained in this Agreement, but which are unknown or unanticipated at the time of the execution of this Agreement. Further, there is a risk that loss or damage presently known may be or become greater than either party now expects or anticipates. Each of the Parties assumes such risks that the releases contained herein shall apply to all unknown and/or unanticipated results arising from or relating to the subject matter of the releases contained in this Agreement, and, EACH PARTY WAIVES AGAINST THE OTHER ALL RIGHTS UNDER CALIFORNIA CIVIL CODE SECTION 1542 (OR ANY APPLICABLE SIMILAR PROVISION OF FEDERAL, STATE, OR FOREIGN LAW), WHICH PROVIDES AS FOLLOWS:

> "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE WHICH, IF KNOWN BY HIM OR HER, MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR."

d. It is agreed and understood that paragraphs 3(a)-3(c) do not constitute a release of, or otherwise affect, any rights and obligations specifically created or reserved by this Agreement. The releases set forth herein are the result of a compromise and shall not for any purpose be considered an admission of the truth of the allegations, claims, or contentions of the Parties or an admission of any wrongdoing by either of the Parties.

4. **General Provisions.**

a. **Effective Date**. The Agreement is effective as of the date the last signatory to the Agreement signs the Agreement.

b. **Successors and Assigns**. This Agreement shall be binding upon, and inure to the benefit of, the Parties hereto and their respective successors, heirs, administrators, and assigns.

c. **Amendments**. Except as otherwise provided herein, this Agreement may be amended or modified only by a written instrument executed by Caltrans and MLC.

d. **Notice**. Any notice related to this Agreement shall be sent by certified mail, return receipt requested, to the addresses set forth below unless a party gives notice in writing to the other of a change of address to which any notices should be sent.

To Mono Lake Committee:
Geoff McQuilkin, Executive Director
Mono Lake Committee
Hwy 395 at Third Street
P.O. Box 29
Lee Vining, CA 93541

To Counsel for Mono Lake Committee:
Winter King
Shute, Mihaly & Weinberger LLP
396 Hayes Street
San Francisco, CA 94702

To Caltrans:

Thomas P. Hallenbeck
District 9 Director
500 South Main Street
Bishop, CA 93514

To Counsel for Caltrans:
Judith A. Carlson

Deputy Attorney
Caltrans Legal Division
1120 N Street
Sacramento, CA 95814

e. **Merger of Prior Agreements**. The Parties intend that this Agreement shall be the final expression of their agreement with respect to the subject matter hereof and may not be contradicted by evidence of any prior or contemporaneous oral or written agreements or understandings. The Parties further intend that this Agreement shall constitute the complete and exclusive statement of its terms and that no extrinsic evidence whatsoever (including, without limitation, prior drafts or changes therefrom) may be introduced in any judicial, administrative, or other legal proceeding involving this Agreement.

f. **Interpretation of Agreement**. The section headings of this Agreement are for convenience of reference only and shall not affect the meaning or interpretation of any provision contained herein. Whenever the context so requires, the use of the singular shall be deemed to include the plural and vice versa, and each gender reference shall be deemed to include the other and the neuter. This Agreement has been negotiated at arm's length and between persons sophisticated and knowledgeable in the matters dealt with herein. In addition, each Party has been represented by experienced and knowledgeable legal counsel. Accordingly, any rule of law (including California Civil Code section 1654) or legal decision that would require interpretation of any ambiguities in this Agreement against the Party that has drafted it is not applicable and is waived. The provisions of this Agreement shall be interpreted in a reasonable manner to affect the purposes of the Parties and this Agreement.

g. **Time Is of the Essence**. Time is of the essence with respect to each of the provisions and time periods in this Agreement.

h. **Counterparts**. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument. This Agreement may be executed by facsimile signatures.

i. **Authority**. The individuals executing this Agreement represent and warrant that they are fully authorized to execute this Agreement on behalf of their respective entities.

j. **Governing Law**. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

k. **Nonwaiver**. Unless otherwise expressly provided in this Agreement, no waiver by a Party of any provision hereof shall be deemed to have been made unless expressed in writing and signed by such Party. No delay or omission in the exercise of any right or remedy accruing to any Party upon any breach under this Agreement shall impair such right or remedy or be construed as a waiver of any such breach theretofore or thereafter occurring. The waiver by a Party of any breach of any term, covenant, or condition herein stated shall not be deemed to be a waiver of any other term, covenant, or condition.

l. **Severability**. The invalidity of any portion of this Agreement shall not invalidate the remainder. If any term, provision, covenant, or condition of this Agreement is held to be invalid, void, or unenforceable by a court of competent jurisdiction, the Parties shall amend this Agreement and/or take other action necessary to achieve the intent and purpose of this Agreement in a manner consistent with the ruling of the court.

m. **Additional Documents**. The parties agree that they will execute any additional documents required to be signed to effectuate any of the terms and conditions of this Agreement in a timely manner.

n. **No Admission of Fault or Liability**. It is agreed and understood by all the Parties hereto that this Agreement constitutes a compromise of disputed claims. Nothing herein shall be construed as an admission of fault or liability by any Party hereto.

o. **Enforcement; Notice of Violation; Opportunity to Cure**. If a party believes that another party is in violation of this agreement that party shall give written notice to party alleged to be in violation as described in this section.

   i. Consultation. When any disagreement, conflict, need for interpretation, or need for enforcement arises between or among parties to this Agreement, the party alleging a violation party shall first consult with the other party in good faith about the issue and attempt to resolve the issue without resorting to legal action.

   ii. Notice of Violation; Corrective Action. If any party determines that a violation of the terms of this Agreement has occurred or is threatened, that party shall give written notice of such violation to the party alleged to be in violation and request corrective action sufficient to cure the violation.

iii. Litigation. If the party alleged to be in violation has not cured the violation within 30 days of service of the notice of violation, or if the parties disagree about whether action taken by either party has cured the violation within 30 days of service of the notice of violation, the party who issued the notice of violation may pursue all available legal remedies. Service of the notice shall be deemed to have occurred upon the issuing party depositing it in the United States mail or otherwise sending it in accordance with paragraph the notice provisions of this Agreement.

p. Failure to insist on compliance with any term, covenant, or condition contained in this Agreement shall not be deemed a waiver of that term, covenant or condition, nor shall a waiver or relinquishment of any right or power contained in this Agreement at any one time or more times be deemed a waiver or relinquishment of any right or power at any other time or times.

The Parties have duly executed this Agreement as of the respective dates written below.

MONO LAKE COMMITTEE

DATED: May 20, 2013

By: ______________________
GEOFFREY McQUILKIN

Executive Director, Mono Lake Committee

Approved as to form by:

DATED: May 10, 2013

SHUTE, MIHALY & WEINBERGER LLP

By: ______________________
WINTER KING

Attorneys for Mono Lake Committee

11

CALIFORNIA DEPARTMENT OF TRANSPORTATION

DATED: 5/28, 2013

By: T.P. Hallenbeck

THOMAS P. HALLENBECK

District 9 Director

DATED: 5/21, 2013

By: Judith Carlson

JUDITH A. CARLSON

Deputy Attorney

470306.6

12

List of Technical Studies that are Bound Separately

Air, Noise and Water Quality Report (Updated June 2013)

Natural Environment Study (June 2012)

Floodplain Evaluation (January 2007)

Cultural Clearance Memo (April 2012)

Hazardous Waste Initial Site Assessment (June 2012)

Visual Impact Assessment (June 2012), Addendum (June 2013)

Paleontological Identification Report (March 2012)

Geotechnical Design Report (March 2012)

Storm Water Data Report (June 2013)

Attachment B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3 / 53.7		

INDEX OF PLANS

SHEET No DESCRIPTION

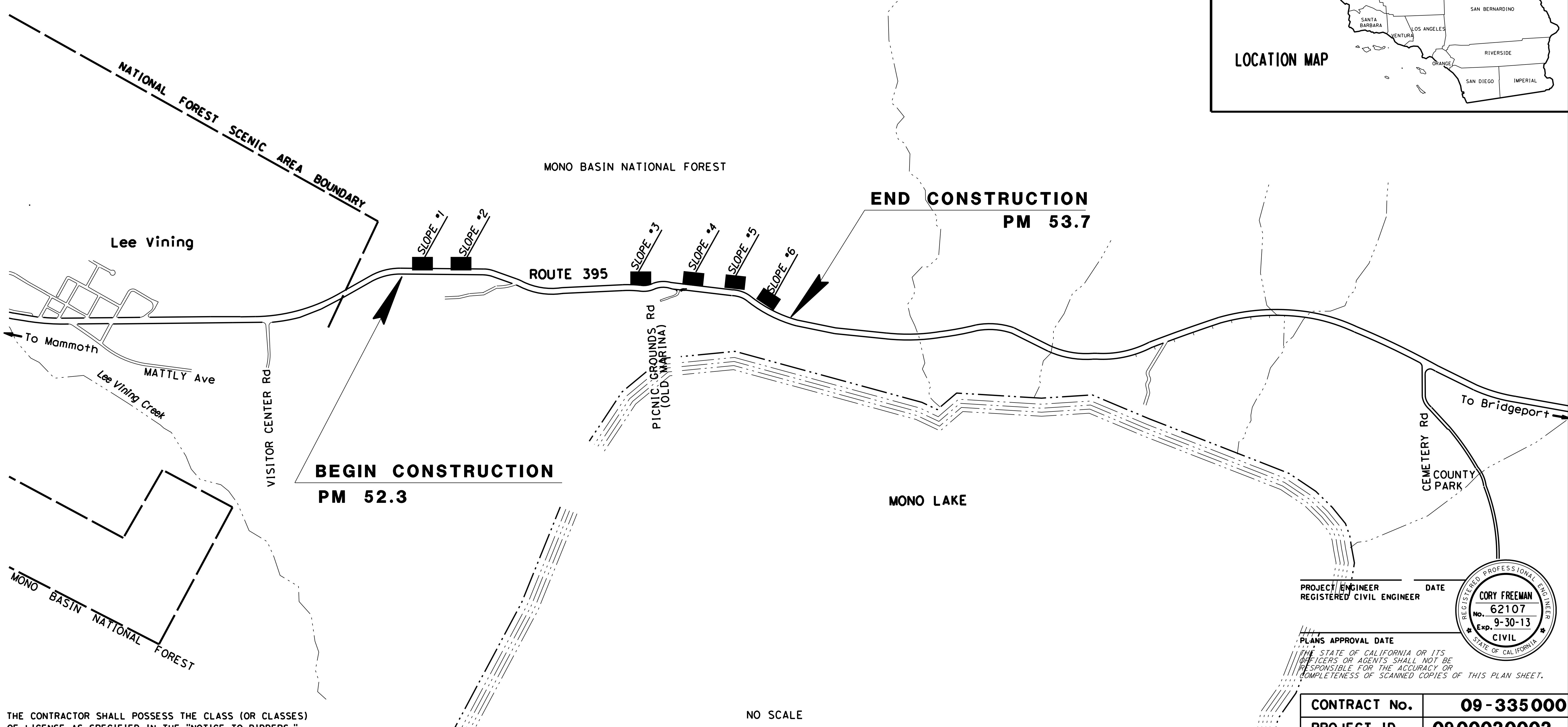
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN MONO COUNTY NEAR LEE VINING FROM 0.4 MILES N OF VISITOR CENTER ROAD TO 0.7 MILES N OF PICNIC GROUNDS RD

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

The Standard Plans List Applicable to This Contract is Included In the Notice to Contractors and Special Provisions Book.



PROJECT MANAGER CEDRIK ZEMITIS

DESIGN ENGINEER CORY FREEMAN

PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
CORY FREEMAN
No. 62107
Exp. 9-30-13
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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

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

CONTRACT No.	09-335000
PROJECT ID	0900020002

DATE PLOTTED => $DATE
TIME PLOTTED => $TIME
LAST REVISION 5-7-2012

Attachment C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CORY FREEMAN
No. 62107
Exp 9-30-13
CIVIL
STATE OF CALIFORNIA

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SLOPE 1

PREFERRED ALTERNATIVE LAYOUT

ALT 1, DESIGN OPTION 2

SCALE: 1"=20'

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

FUNCTIONAL SUPERVISOR	BRIAN WESLING
CALCULATED-DESIGNED BY	CORY FREEMAN
CHECKED BY	BRIAN WESLING
REVISED BY	
DATE REVISED	

LAST REVISION 04-27-12

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TIME PLOTTED => $TIME

BORDER LAST REVISED 7/2/2010

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DGN FILE => $REQUEST

RELATIVE BORDER SCALE IS IN INCHES
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UNIT 1444

PROJECT NUMBER & PHASE 0900020002

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CORY FREEMAN No. 62107 Exp 9-30-13 CIVIL STATE OF CALIFORNIA

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SLOPE 2
PREFERRED ALTERNATIVE LAYOUT
ALT 1, DESIGN OPTION 2 SCALE: 1"=20' L-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR BRIAN WESLING
CALCULATED-DESIGNED BY CORY FREEMAN
CHECKED BY BRIAN WESLING
REVISED BY
DATE REVISED

LAST REVISION 04-27-12
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TIME PLOTTED => $TIME

BORDER LAST REVISED 7/2/2010
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DGN FILE => $REQUEST
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1444
PROJECT NUMBER & PHASE 0900020002

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CIVIL
STATE OF CALIFORNIA

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SLOPE 3
PREFERRED ALTERNATIVE LAYOUT

ALT 1, DESIGN OPTION 2 SCALE: 1"=20' **L-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING

CALCULATED-DESIGNED BY: CORY FREEMAN

CHECKED BY: BRIAN WESLING

REVISED BY

DATE REVISED

LAST REVISION 04-27-12

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BORDER LAST REVISED 7/2/2010

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1444

PROJECT NUMBER & PHASE 0900020002

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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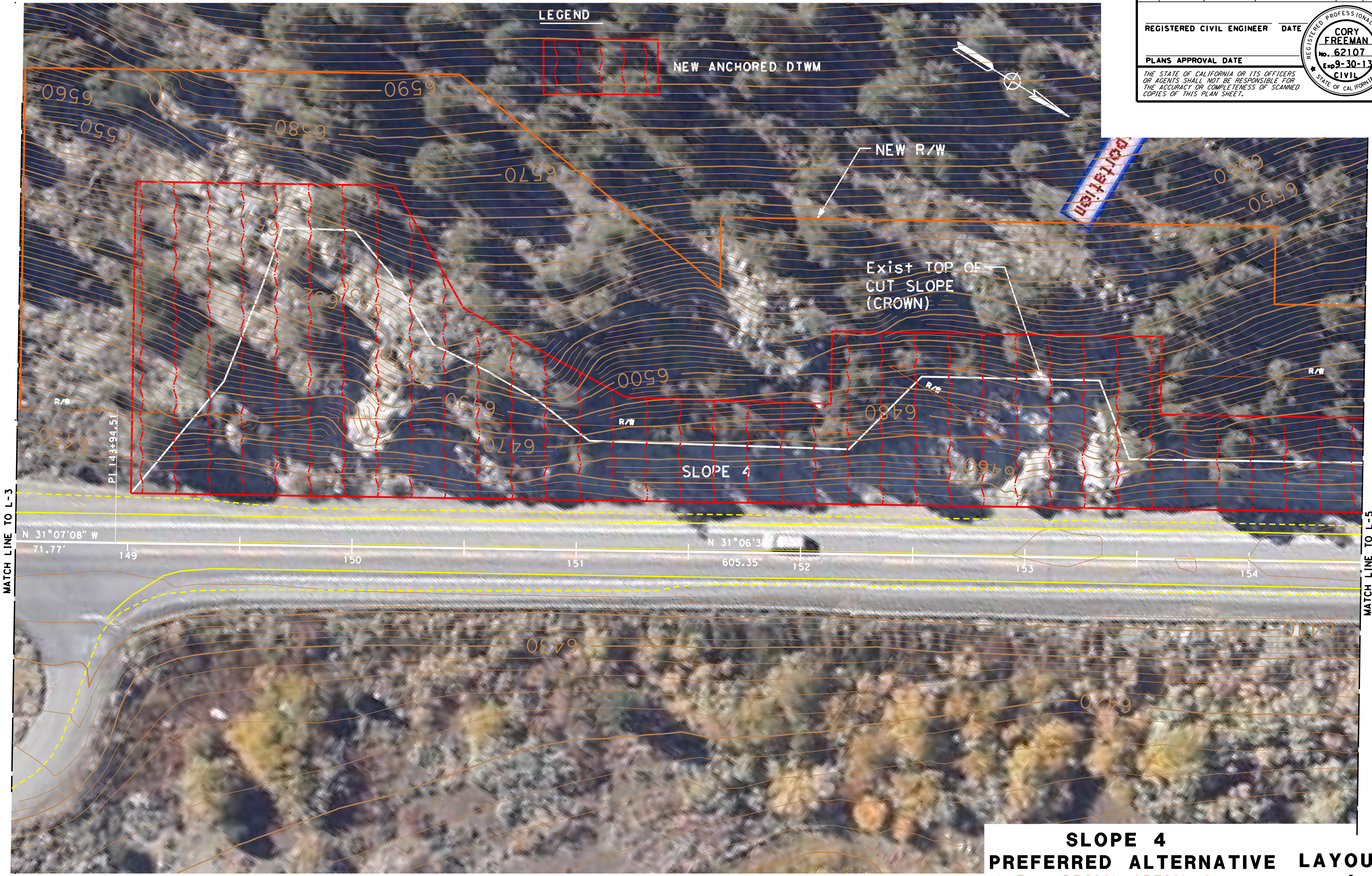
CORY FREEMAN
No. 62107
Exp 9-30-13
CIVIL
STATE OF CALIFORNIA



SLOPE 4
PREFERRED ALTERNATIVE LAYOUT

ALT 1, DESIGN OPTION 2 SCALE: 1"=20' **L-4**

REVISED BY	
DATE REVISED	
CALCULATED-DESIGNED BY	CORY FREEMAN
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FUNCTIONAL SUPERVISOR	BRIAN WESLING

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

Caltrans

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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No. 62107
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CIVIL
STATE OF CALIFORNIA

SLOPE 4
PREFERRED ALTERNATIVE LAYOUT

ALT 1, DESIGN OPTION 2

SCALE: 1"=20'

L-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

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CHECKED BY: BRIAN WESLING

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DATE REVISED

LAST REVISION 04-27-12

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UNIT 1444

PROJECT NUMBER & PHASE 0900020002

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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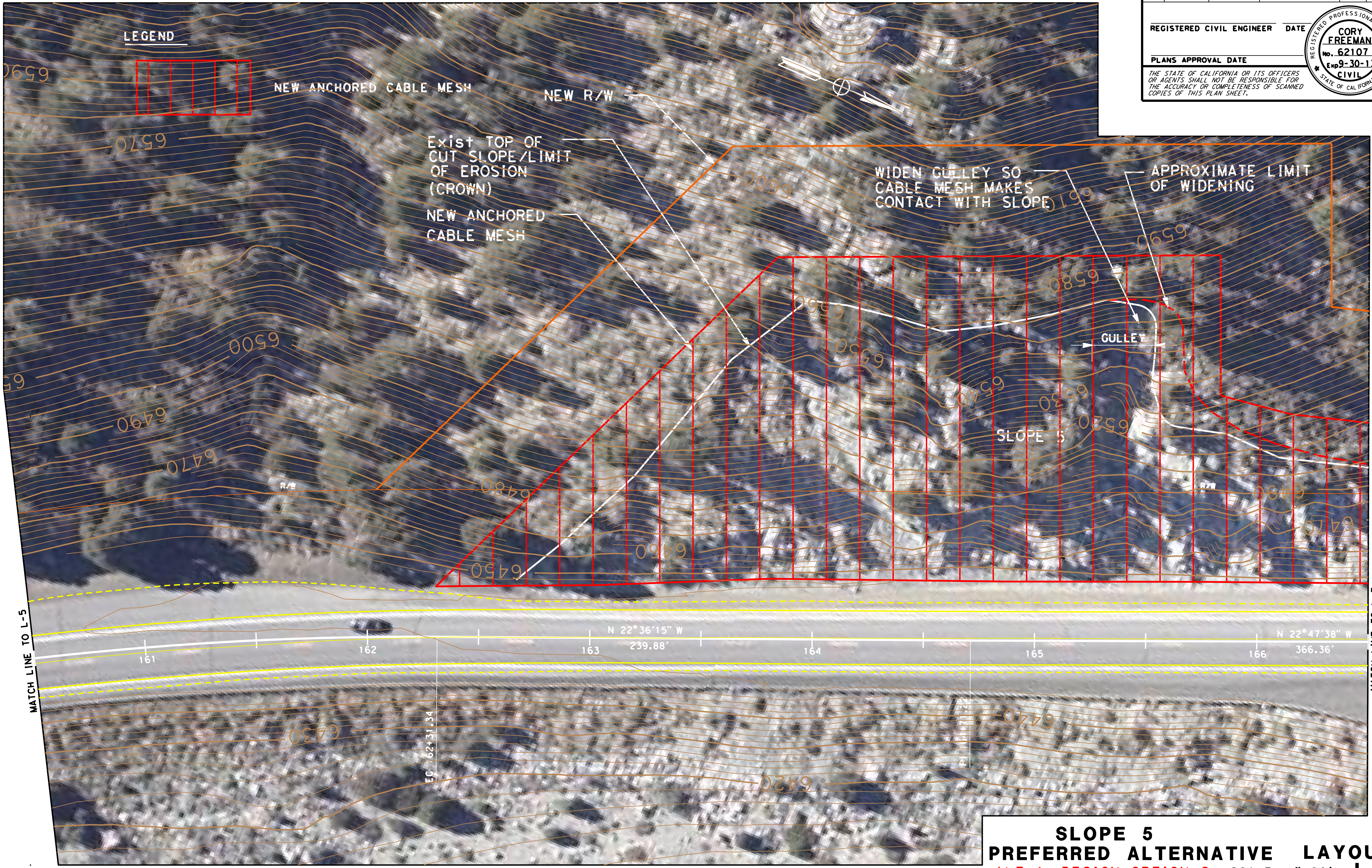
CIVIL
STATE OF CALIFORNIA



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING

CALCULATED-DESIGNED BY: CORY FREEMAN

CHECKED BY: BRIAN WESLING

REVISED BY

DATE REVISED

SLOPE 5
PREFERRED ALTERNATIVE LAYOUT

ALT 1, DESIGN OPTION 2

SCALE: 1"=20'

L-6

LAST REVISION 04-27-12

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UNIT 1444

PROJECT NUMBER & PHASE 0900020002

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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DESIGN

FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
BRIAN WESLING	CORY FREEMAN	BRIAN WESLING		

SLOPE 5
PREFERRED ALTERNATIVE LAYOUT

ALT 1, DESIGN OPTION 2

SCALE: 1"=20'

L-7

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1444

PROJECT NUMBER & PHASE 0900020002

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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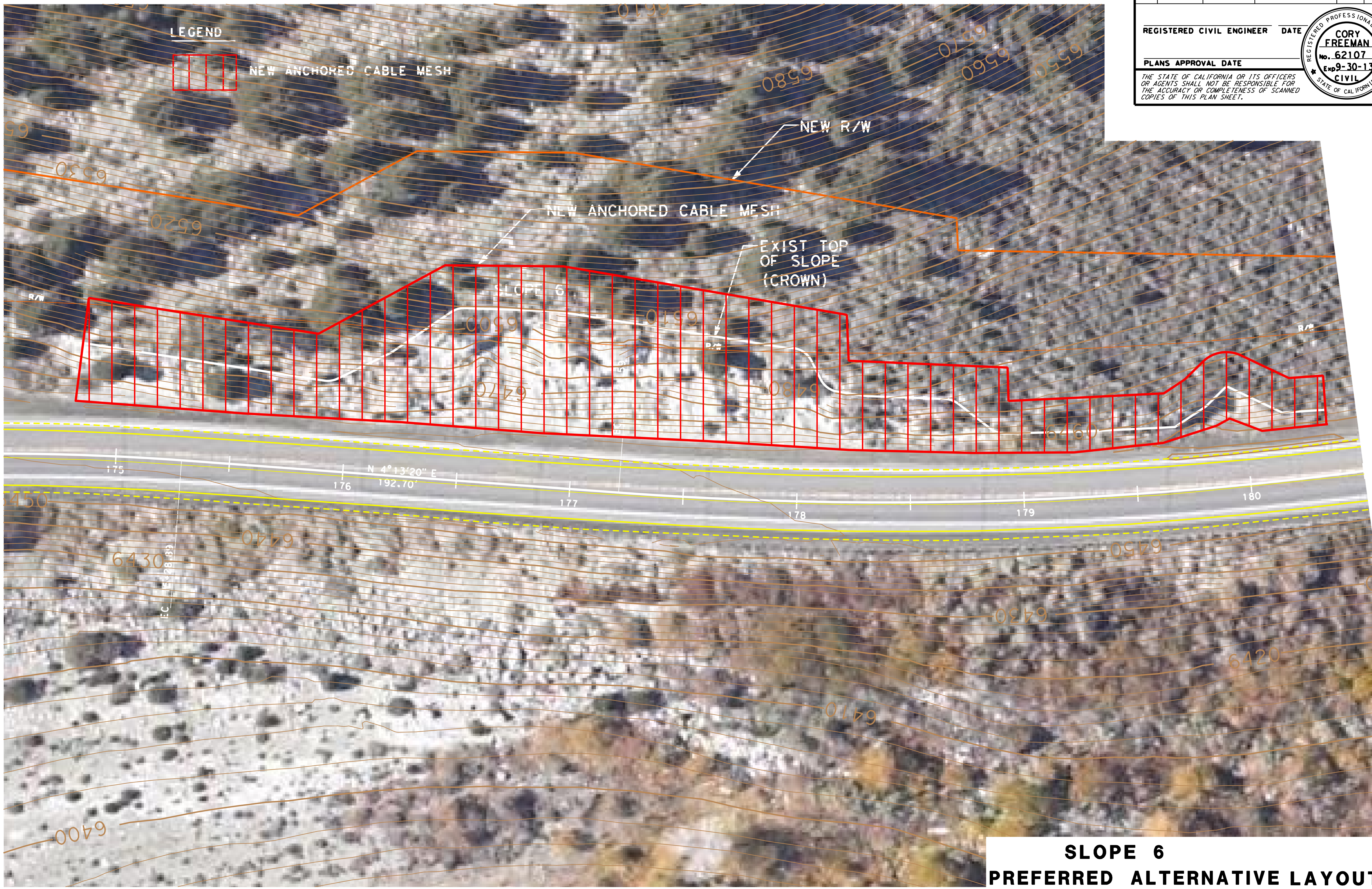
REGISTERED PROFESSIONAL ENGINEER CORY FREEMAN No. 62107 Exp 9-30-13 CIVIL STATE OF CALIFORNIA



SLOPE 6
PREFERRED ALTERNATIVE LAYOUT
ALT 1, DESIGN OPTION 2 SCALE: 1"=20' L-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING
CALCULATED-DESIGNED BY: CORY FREEMAN
CHECKED BY: BRIAN WESLING
REVISED BY
DATE REVISED

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UNIT 1444
PROJECT NUMBER & PHASE 0900020002

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING

CALCULATED-DESIGNED BY: CORY FREEMAN

CHECKED BY: BRIAN WESLING

REVISED BY

DATE REVISED

SLOPE 1

ALTERNATIVE 1

DESIGN OPTION 1

LAYOUT

SCALE: 1"=20' **L-1**

LAST REVISION 04-27-12

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TIME PLOTTED => $TIME

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1444

PROJECT NUMBER & PHASE 0900020002

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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REGISTERED PROFESSIONAL ENGINEER
CORY FREEMAN
No. 62107
Exp 9-30-13
CIVIL
STATE OF CALIFORNIA

SLOPE 2
ALTERNATIVE 1
DESIGN OPTION 1

LAYOUT
SCALE: 1"=20' L-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING
CALCULATED-DESIGNED BY: CORY FREEMAN
CHECKED BY: BRIAN WESLING
REVISED BY
DATE REVISED

LAST REVISION 04-27-12
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UNIT 1444

PROJECT NUMBER & PHASE 0900020002

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REGISTERED PROFESSIONAL ENGINEER CORY FREEMAN No. 62107 Exp 9-30-13 CIVIL STATE OF CALIFORNIA

SLOPE 3 ALTERNATIVE 1

DESIGN OPTION 1

LAYOUT L-3

SCALE: 1"=20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING

CALCULATED-DESIGNED BY: CORY FREEMAN

CHECKED BY: BRIAN WESLING

REVISED BY

DATE REVISED

LAST REVISION 04-27-12

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DGN FILE => $REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1444

PROJECT NUMBER & PHASE 0900020002

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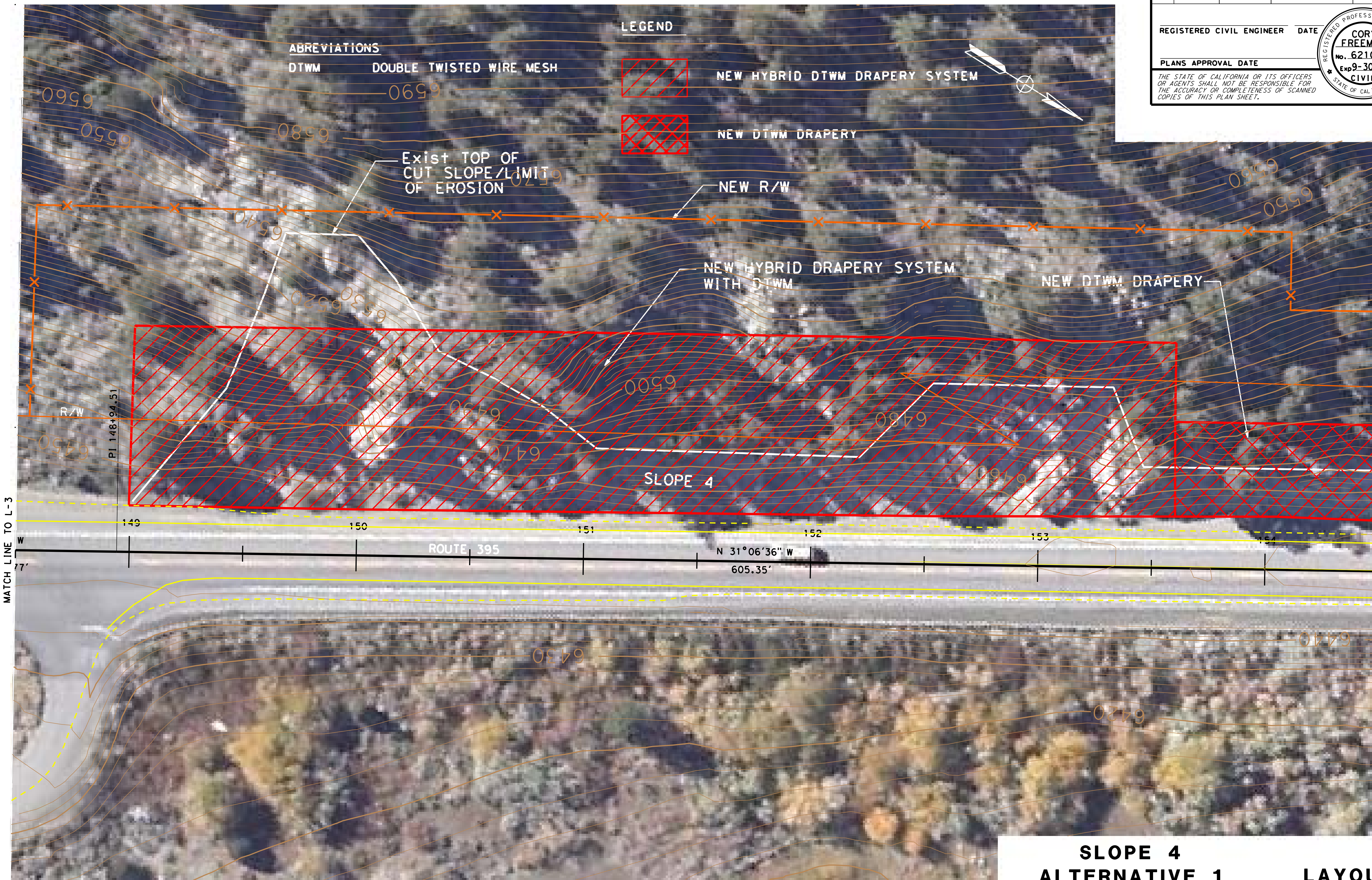
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

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
CORY FREEMAN
No. 62107
Exp 9-30-13
CIVIL
STATE OF CALIFORNIA



SLOPE 4
ALTERNATIVE 1
DESIGN OPTION 1

LAYOUT
SCALE: 1"=20' L-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING
CALCULATED-DESIGNED BY: CORY FREEMAN
CHECKED BY: BRIAN WESLING
REVISED BY
DATE REVISED

LAST REVISION: 04-27-12
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TIME PLOTTED => $TIME

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1444
PROJECT NUMBER & PHASE 0900020002

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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No. 62107
Exp 9-30-13
CIVIL
STATE OF CALIFORNIA

SLOPE 4
ALTERNATIVE 1
DESIGN OPTION 1

LAYOUT
SCALE: 1"=20' L-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING
CALCULATED-DESIGNED BY: CORY FREEMAN
CHECKED BY: BRIAN WESLING
REVISED BY
DATE REVISED

LAST REVISION 04-27-12
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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1444
PROJECT NUMBER & PHASE 0900020002

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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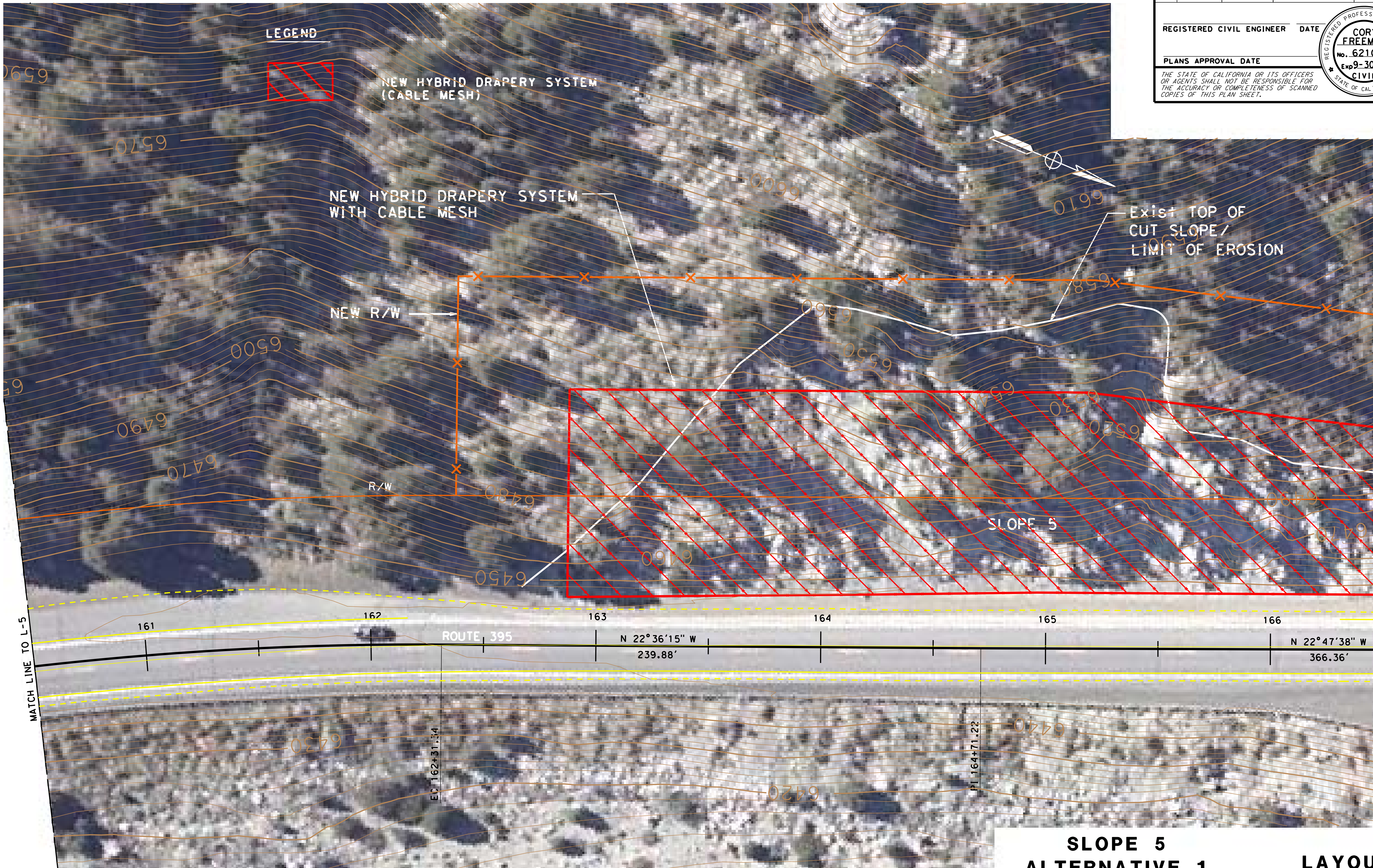
REGISTERED PROFESSIONAL ENGINEER
CORY FREEMAN
No. 62107
Exp 9-30-13
CIVIL
STATE OF CALIFORNIA



SLOPE 5
ALTERNATIVE 1
DESIGN OPTION 1

LAYOUT
SCALE: 1"=20' L-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING
CALCULATED-DESIGNED BY: CORY FREEMAN
CHECKED BY: BRIAN WESLING
REVISED BY
DATE REVISED

DATE PLOTTED => $DATE
TIME PLOTTED => $TIME
LAST REVISION 04-27-12

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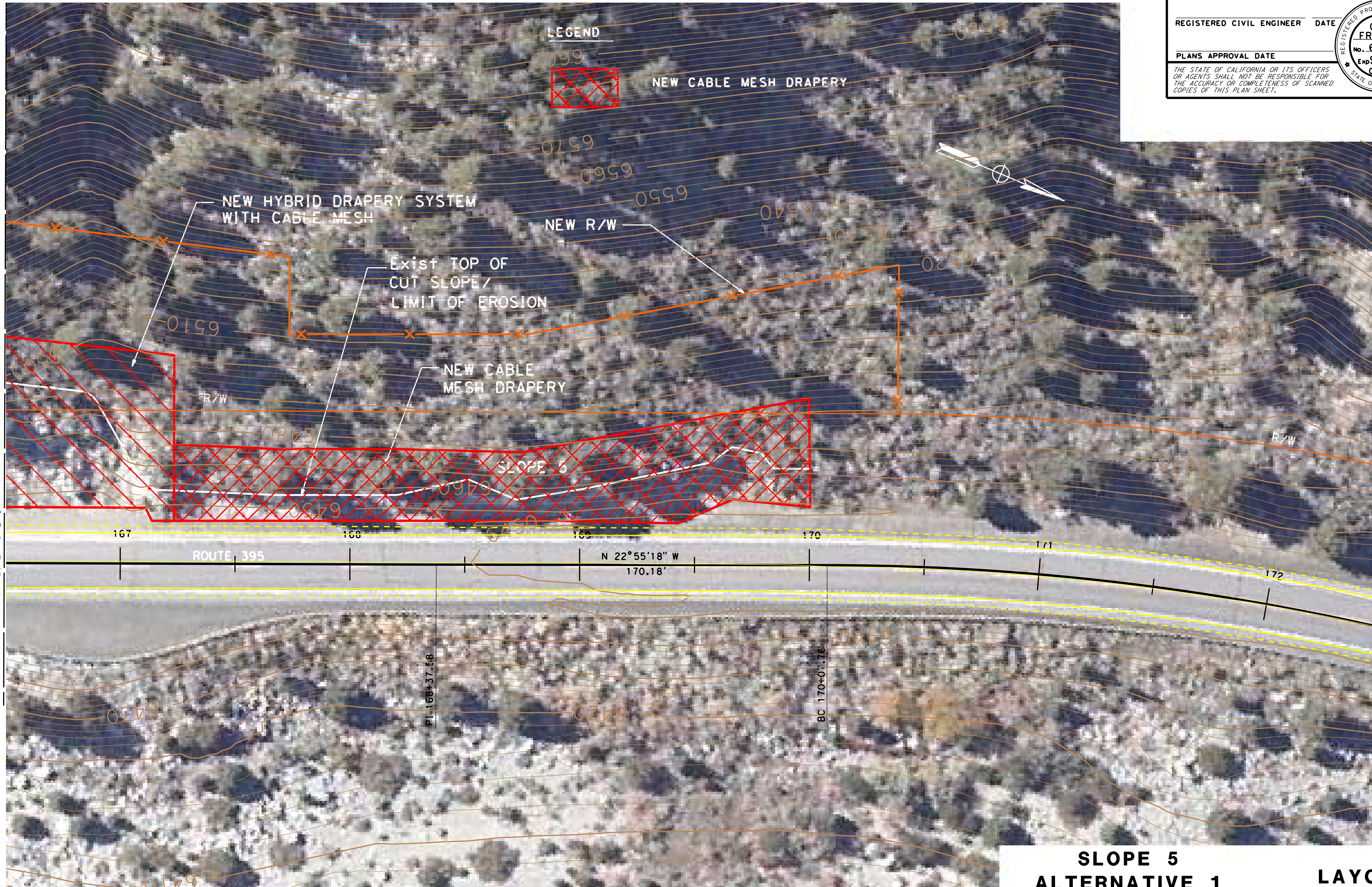
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1444
PROJECT NUMBER & PHASE 0900020002

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CORY FREEMAN
No. 62107
Exp 9-30-13
CIVIL
STATE OF CALIFORNIA



SLOPE 5
ALTERNATIVE 1
DESIGN OPTION 1

LAYOUT
SCALE: 1"=20' L-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING
CALCULATED-DESIGNED BY: CORY FREEMAN
CHECKED BY: BRIAN WESLING
REVISED BY
DATE REVISED

DATE PLOTTED => $DATE
TIME PLOTTED => $TIME
LAST REVISION 04-27-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CORY FREEMAN
No. 62107
Exp 9-30-13
CIVIL
STATE OF CALIFORNIA

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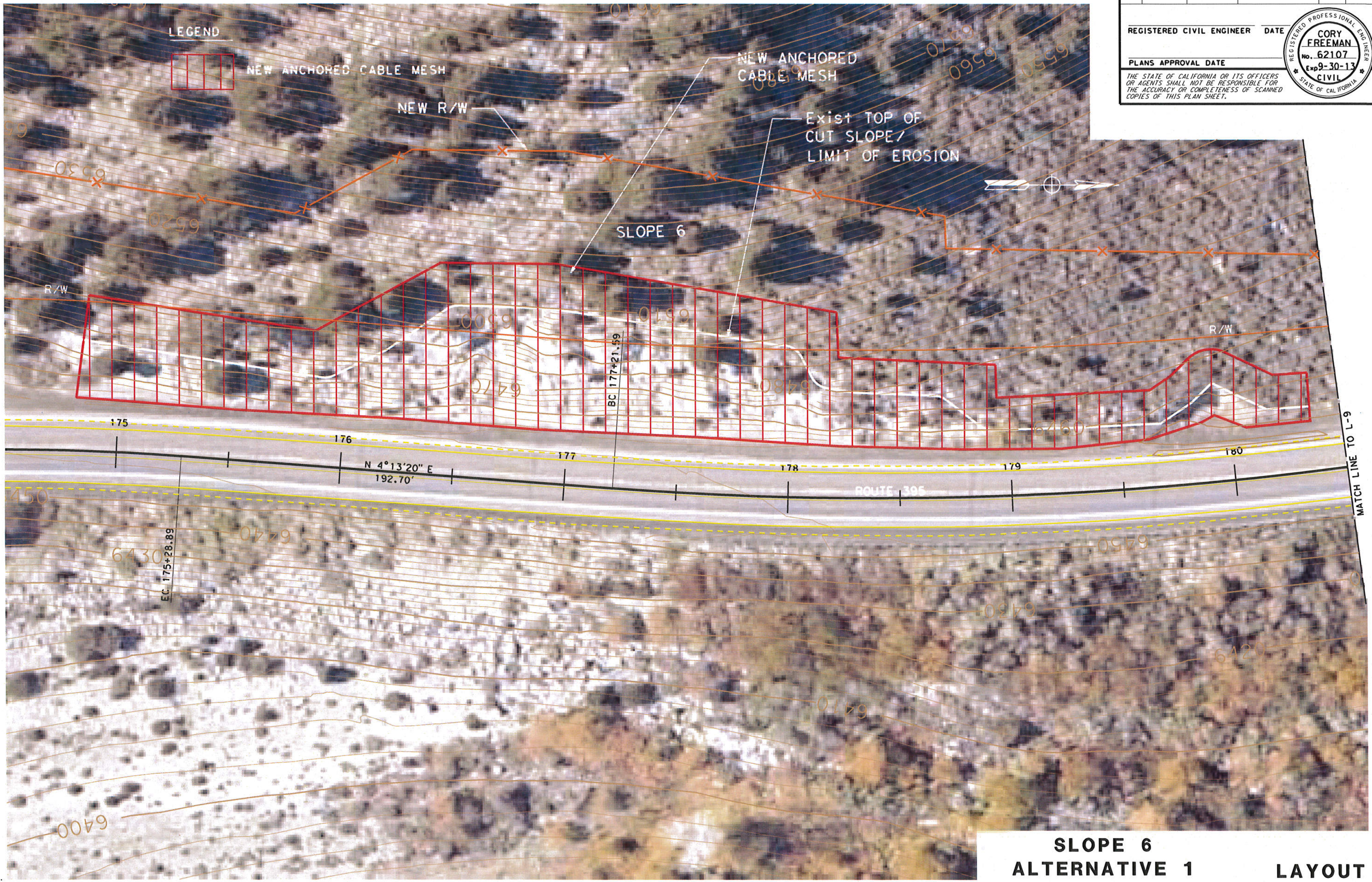

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
BRIAN WESLING	CORY FREEMAN	BRIAN WESLING		

SLOPE 6
ALTERNATIVE 1
DESIGN OPTION 1

LAYOUT
SCALE: 1"=20' **L-8**

LAST REVISION 04-27-12
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TIME PLOTTED => $TIME

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DGN FILE => $REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1444

PROJECT NUMBER & PHASE 0900020002

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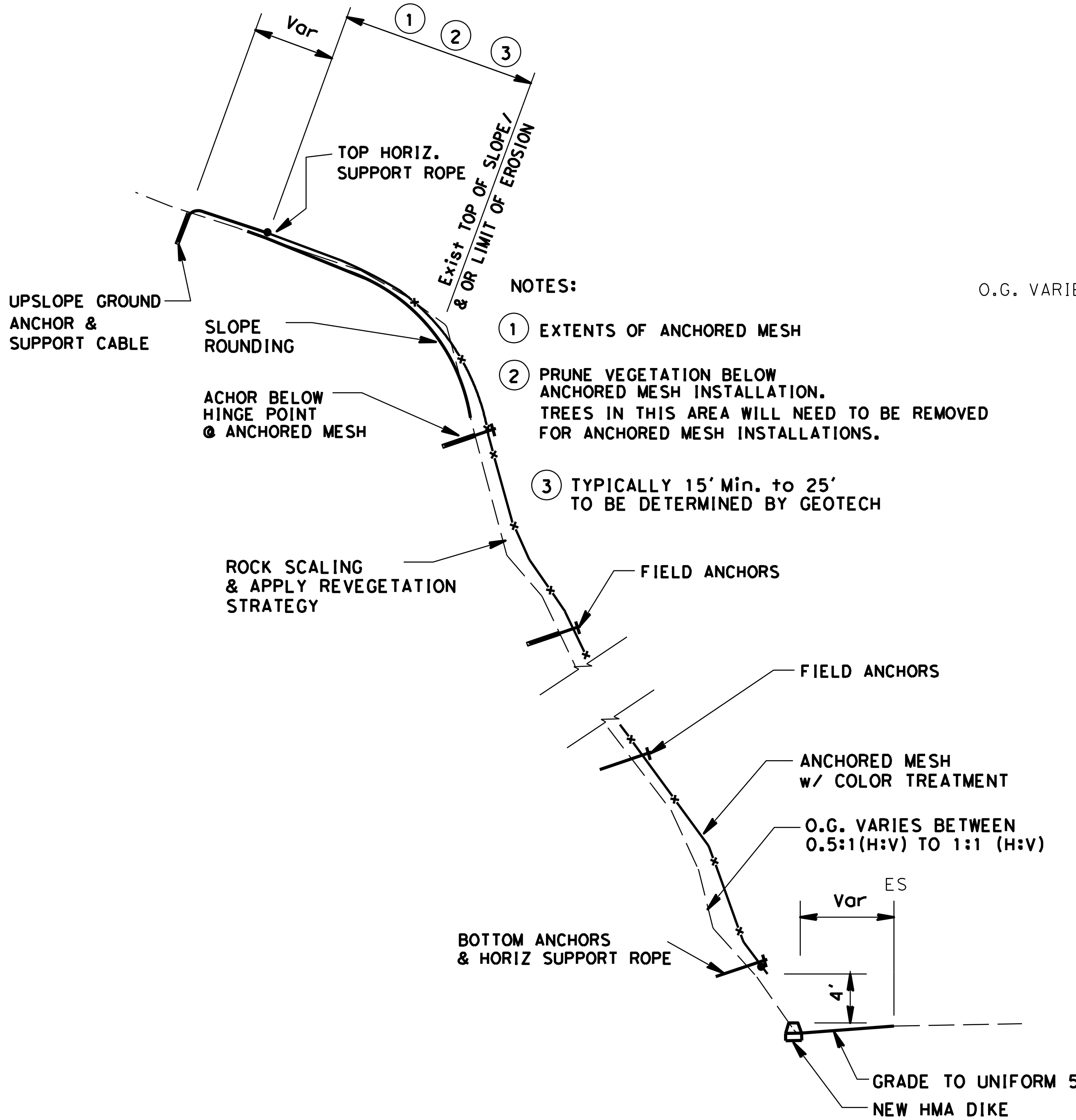
Attachment D

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CORY FREEMAN No. 62107 Exp 9-30-13 CIVIL STATE OF CALIFORNIA

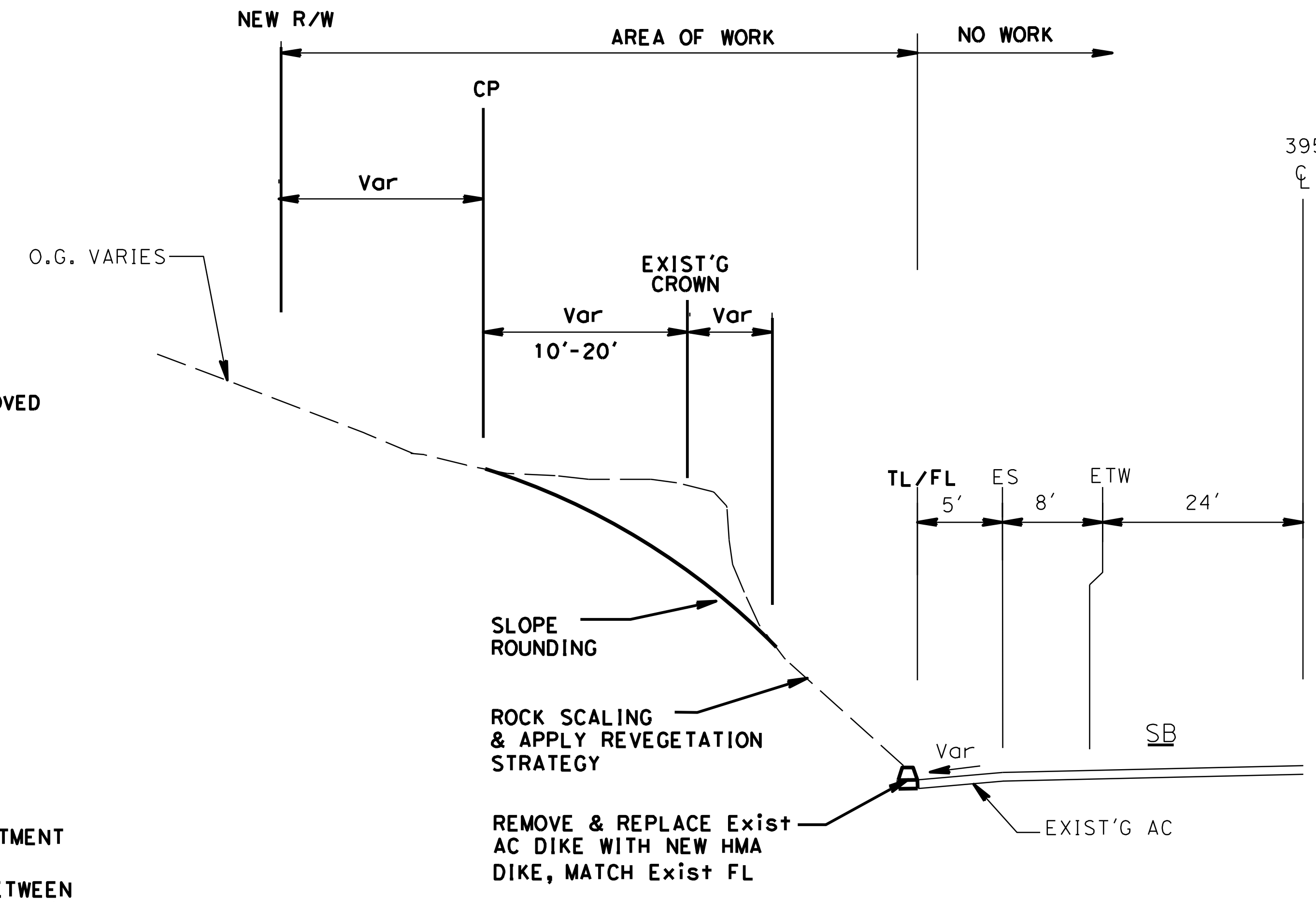


NOTES:

1. EXTENTS OF ANCHORED MESH
2. PRUNE VEGETATION BELOW ANCHORED MESH INSTALLATION. TREES IN THIS AREA WILL NEED TO BE REMOVED FOR ANCHORED MESH INSTALLATIONS.
3. TYPICALLY 15' Min. to 25' TO BE DETERMINED BY GEOTECH

ANCHORED MESH DETAIL

SLOPES 4, 5, & 6



REVEGETATE

SLOPE 1, 2, & 3

PREFERRED ALTERNATIVE
ALT 1, DESIGN OPTION 2
TYPICAL X SECTIONS

SCALE: 1"=20' **X-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
BRIAN WESLING	CORY FREEMAN	BRIAN WESLING		

LAST REVISION 04-27-12 DATE PLOTTED => $DATE TIME PLOTTED => $TIME

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
09	Mno	395	52.3/53.7		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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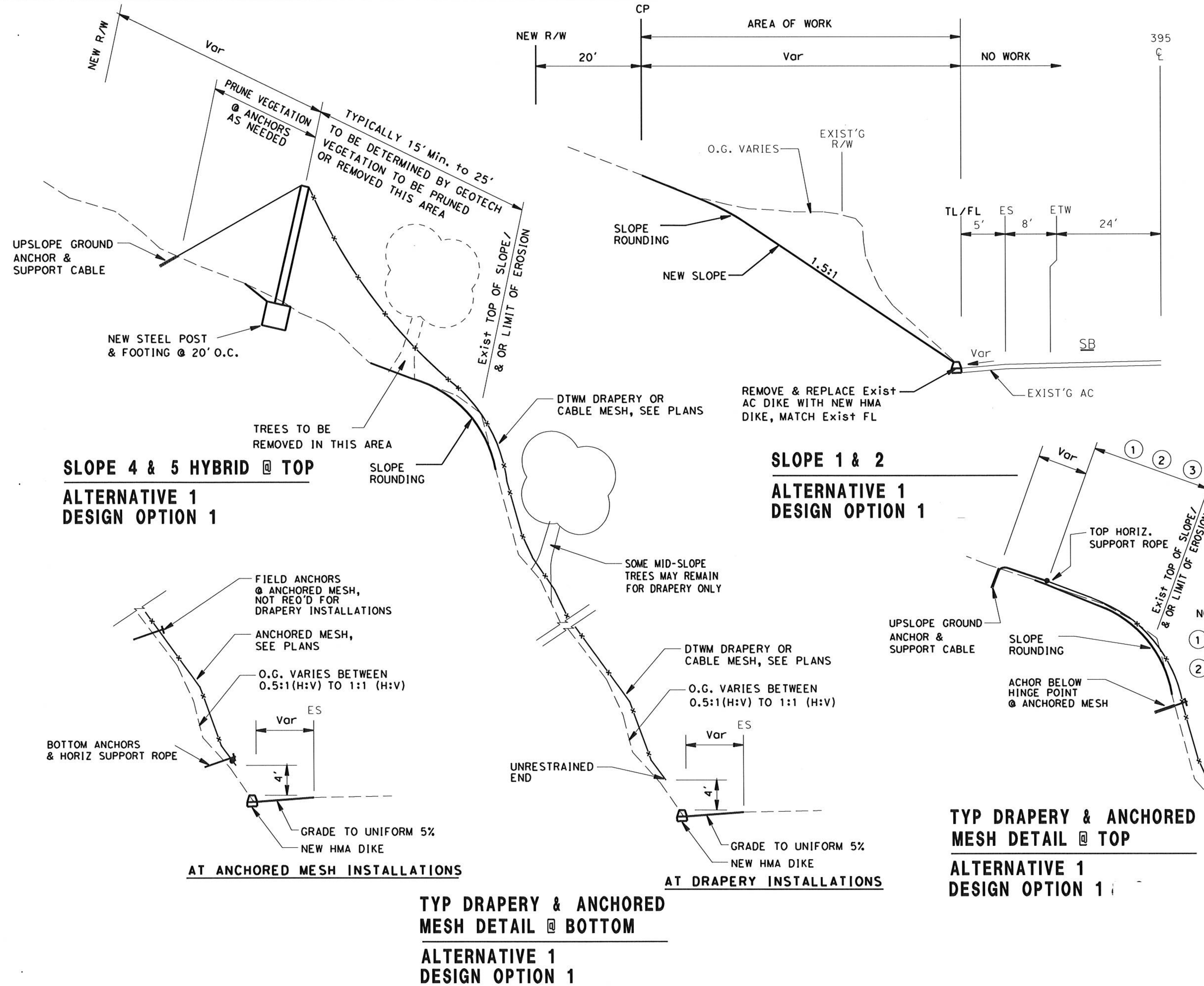
REGISTERED PROFESSIONAL ENGINEER
CORY FREEMAN
No. 62107
Exp 9-30-13
CIVIL
STATE OF CALIFORNIA



NOTES:

1. EXTENTS OF DRAPERY OR ANCHORED MESH
2. PRUNE VEGETATION BELOW DRAPERY OR ANCHORED MESH INSTALLATION. SELECT TREES MAY REMAIN FOR DRAPERY INSTALLATIONS. TREES IN THIS AREA WILL NEED TO BE REMOVED FOR ANCHORED MESH INSTALLATIONS.
3. TYPICALLY 15' Min. to 25' TO BE DETERMINED BY GEOTECH

ALT 1, DESIGN OPTION 1

TYPICAL X SECTIONS

SCALE: 1"=20' **X-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: BRIAN WESLING
CALCULATED-DESIGNED BY: CORY FREEMAN
CHECKED BY: BRIAN WESLING
REVISED BY
DATE REVISED

LAST REVISION 04-27-12
DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

USERNAME => $USER
FILE => $REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1444

PROJECT NUMBER & PHASE 0900020002

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Attachment E

DRAFT PROJECT REPORT COST ESTIMATE

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

PROJECT DESCRIPTION:

Limits: In Mono County on US 395, noth of Lee Vining, from approximately 0.5 miles north of the Mono Lake Visitor Center entrance to approximately 0.5 mile north of the junction with Picnic Grounds Road.

Proposed Improvement: (Scope of Work) Stabilize existing cut slopes by installing anchored mesh and revegetate slopes.

Alternative: 1 *Option 2 (Preferred Alternative)*

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	**Total of Sections 1 - 10 shown above**	$ 6,801,785
TOTAL STRUCTURES ITEMS		$ 0
SUBTOTAL CONSTRUCTION COSTS		$ 6,801,785
TOTAL RIGHT OF WAY ITEMS (Not Escalated)		$ 3,000
TOTAL PROJECT CAPITAL OUTLAY COSTS		$ 6,804,785

Reviewed by Design Manager: (Signature) 5/28/13 (Date)

Approved by Project Manager: Cedrik Zemitis (Signature) 5/28/13 (Date)

Phone Number: 760 872-5250

Form revised 12/01/09

DRAFT PROJECT REPORT COST ESTIMATE

Caltrans

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

I. ROADWAY ITEMS

Section 1 - Earthwork	Quantity	Unit	Unit Price	Item Cost	Section Cost
Roadway Excavation				$0	
Imported Borrow				$0	
Clearing & Grubbing(includes rock scaling)	1	LS	$80,000	$80,000	
Develop Water Supply	1	LS	$15,000	$15,000	
Top Soil Reapplication	14,000	SQYD	$3	$42,000	
Stepped Slopes and Slope			$0	$0	
Rounding (Contour Grading)	2,000	CY	$30	$60,000	
Surplus	3,600	CY	$35	$126,000	
				Subtotal Earthwork:	$323,000

Section 2 - Pavement Structural Section*	Quantity	Unit	Unit Price	Item Cost	Section Cost
PCC Pvmt ______ **Depth**	0	CY	$0	$0	
PCC Pvmt ______ **Depth**	0	CY	$0	$0	
Asphalt Concrete	0	Ton	$0	$0	
Lean Concrete Base	0	CY	$0	$0	
Cement-Treated Base	0	CY	$0	$0	
Aggregate Base	0	CY	$0	$0	
Treated Permeable Base	0	CY	$0	$0	
Aggregate Subbase	0	CY	$0	$0	
Pavement Reinforcing Fabric	0	SF	$0	$0	
Edge Drains	0	FT	$0	$0	
HMA DIKE	1,100	LF	$3	$3,300	
				Subtotal Pavement Structural Section:	$3,300

Section 3 - Drainage	Quantity	Unit	Unit Price	Item Cost	Section Cost
Large Drainage Facilities	0	LS	$0	$0	
Storm Drains	0	LS	$0	$0	
Pumping Plants	0	LS	$0	$0	
Project Drainage	0	LS	$0	$0	
				$0	
				Subtotal Drainage:	$0

DRAFT PROJECT REPORT COST ESTIMATE

Caltrans

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

Section 4 - Specialty Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Retaining Walls	0	SF	$0	$0	
Noise Barriers	0	EA	$0	$0	
ESA Fenciing	4,000	LF	$5	$18,000	
Equipment/Animal Passes	0	EA	$0	$0	
Water Pollution Control(Less Erosion Contro	1	LS	$73,000	$73,000	
Hazardous Waste Investigation and/or Mitigation Work	0	LS	$0	$0	
Environmental Compliance	0	LS	$0	$0	
Resident Engineer Office Space	1	LS	$10,000	$10,000	
Anchored Cable Mesh System	99,000	SQFT	$16	$1,584,000	
Anchored Wire Mesh System	80,000	SQFT	$15	$1,200,000	
Temp Chain Link Fence(rock barrier)	3,000	LF	$35	$105,000	
				Subtotal Specialty Items:	$2,990,000

Section 5 - Traffic Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Lighting	0	LS	$0	$0	
Traffic Delineation Items	4,100	LS	$3	$12,300	
Traffic Signals	1	LS	$50,000	$50,000	
Overhead Sign Structures	0	EA	$0	$0	
Roadside Signs	0	EA	$0	$0	
Traffic Control Systems	1	LS	$80,000	$80,000	
Transportation Management Plan	0	LS	$0	$0	
Temporary Detection System	0	LS	$0	$0	
Construction Area Signs	1	LS	$5,000	$5,000	
Temp Railing (Type K)	3,400	LF	$30	$102,000	
Crash Cusion Module	11	EA	$75	$825	
Staging	1	LS	$20,000	$20,000	
				$0	
				Subtotal Traffic Items:	$270,200

DRAFT PROJECT REPORT COST ESTIMATE

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

II. ROADSIDE ITEMS

Section 6 Planting and Irrigation	Quantity	Unit	Unit Price	Item Cost	Section Cost
Highway Planting(5 years)	1	LS	$1,500,000	$1,500,000	
Replacement Planting	0	LS	$0	$0	
Irrigation Modification	0	LS	$0	$0	
Relocate Existing Irrigation	0	LS	$0	$0	
Facilities	0	LS	$0	$0	
Irrigation Crossovers	0	LS	$0	$0	
Remove Trees	20	LS	$500	$10,000	
			Subtotal Planting and Irrigation Section:		$1,510,000

Section 7: Roadside Management and Safety Section	Quantity	Unit	Unit Price	Item Cost	Section Cost
Vegetation Control Treatments	0	LS	$0	$0	
Gore Area Pavement	0	LS	$0	$0	
Pavement beyond the gore area	0	LS	$0	$0	
Miscellaneous Paving	0	LS	$0	$0	
Erosion Control(Hydro seeding/netting)	1	LS	$170,000	$170,000	
Slope Protection	0	LS	$0	$0	
Side Slopes/Embankment Slopes	0	LS	$0	$0	
e Vehicle Pull outs Off-freeway Access (gates,	0	LS	$0	$0	
roadsice facilities/fea	0	LS	$0	$0	
				$0	
			Subtotal Roadside Management and Safety Section:		$170,000

TOTAL SECTIONS 1 thru 7 $5,266,500

DRAFT PROJECT REPORT COST ESTIMATE

Caltrans

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

III. ROADWAY ADDITIONS

Section 8 - Minor Items

						Item Cost	Section Cost
(Subtotal Sections 1 thru 7)	$5,266,500	x	0.05 (5 to 10%)	=		$263,325	
TOTAL Minor Items:							$263,400

Section 9 - Roadway Mobilization

(Subtotal Sections 1 thru 8)	$5,529,900	x	0.08 (10%)	=	$442,392	
TOTAL Roadway Mobilization:						$442,400

Section 10 - Supplemental Work & Contingencies

Supplemental Work

(Subtotal Sections 1 thru 8)	$5,529,900	x	0.05 (5 to 10%)	=	$276,495	

Contingencies

(Subtotal Sections 1 thru 8)	$5,529,900	x	0.10 (**%)	=	$552,990	
Supplemental Work & Contingencies:						$829,485

TOTAL ROADWAY ADDITIONS Sections 8 thru 10: $6,801,785

TOTAL ROADWAY ITEMS:

(Subtotal Sections 1 thru 10)

Estimate Prepared

Cory Freeman Phone: 760 872-0716 05/28/13
(Print or Type Name) (Date)

Estimate

Brian Wesling Phone: 760 872-0630 05/28/13
(Print or Type Name) (Date)

DRAFT PROJECT REPORT COST ESTIMATE

Caltrans

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

II. STRUCTURE ITEMS

	STRUCTURE No. 1	No. 2	No. 3	
Bridge Name				
Structure Type				
Width (out to out) - (ft)				
Span Length - (ft)	0	0	0	
Total Area - ft^2	0	0	0	
Footing Type (pile/spread)	0	0	0	
Cost per ft^2 (incl. 10 % mobilization and 20 % contingency)	0	0	0	
Total Cost for Structure	$0	$0	$0	
SUBTOTAL STRUCTURES ITEMS (Sum of Total Cost for Structures)				$0
Railroad Related Costs (Not incl. in R/W Est)				$0
				$0
SUBTOTAL RAILROAD ITEMS				$0
TOTAL STRUCTURES ITEMS (Sum of Structures items plus Railroad Items)				$0

COMMENTS:

Prepared

_______________ (Print or Type Name) Phone: _______________ 0/0/00 (Date)

DRAFT PROJECT REPORT COST ESTIMATE

Caltrans

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

III. RIGHT OF WAY ITEMS

No. of years for Escalation = 0

	Current Values	Rate (%)	Escalation Factor		Escalated Values
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$0	5.0	1.00	-	$0
B. Utility Relocation (State Share)	$0	5.0	1.00	-	$0
C. Relocation Assistance	$0	5.0	1.00	-	$0
D. Permit Review Fees	$3,000	4.0	1.00	-	$3,030
E. Clearance/Demolition	$0	7.0	1.00	-	$0
F. Title and Escrow Fees	$0	4.0	1.00	-	$0
TOTAL RIGHT OF WAY** ITEMS=	$3,000				$3,030
					(Escalated Value)

Anticipated Date of Right of Way Certification: 01/01/14

(Date to which Values are Escalated)

Construction Contract Work

Brief Description of Work

F.

Right of Way Branch Cost Estimate for Work* $0

* This dollar amount is to be included in the Roadway and/or Structures Items of Work, as appropriate. Do not include in Right of Way Items

COMMENTS:

Estimate Prepared by:

(Print or Type Name)

Phone:

0/0/00
(Date)

DRAFT PROJECT REPORT COST ESTIMATE

Caltrans

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

PROJECT DESCRIPTION:

Limits: **In Mono County on US 395, noth of Lee Vining, from approximately 0.5 miles north of the Mono Lake Visitor Center entrance to approximately 0.5 mile north of the junction with Picnic Grounds Road.**

Proposed Improvement: (Scope of Work) **minimize rockfall by laying back to a lesser angle existing cut slopes, install rockfall drapery systems, and anchored cable mesh system.**

Alternative: 1 ***Option 1***

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	**Total of Sections 1 - 10 shown above**	$	3,184,105
TOTAL STRUCTURES ITEMS		$	0
	SUBTOTAL CONSTRUCTION COSTS	$	3,184,105
TOTAL RIGHT OF WAY ITEMS (Not Escalated)		$	3,000
	TOTAL PROJECT CAPITAL OUTLAY COSTS	$	3,187,105

Reviewed by Design Manager: Stephen Wagner (Signature) 7/23/2012 (Date)

Approved by Project Manager: Cedrik Zemitis (Signature) 7/23/12 (Date)

Phone Number: **760 872-5250**

Form revised 12/01/09

DRAFT PROJECT REPORT COST ESTIMATE

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

I. ROADWAY ITEMS

Section 1 - Earthwork	Quantity	Unit	Unit Price	Item Cost	Section Cost
Roadway Excavation	8,700	CY	$30	$261,000	
Imported Borrow		CY	$0	$0	
Clearing & Grubbing	1	LS	$30,000	$30,000	
Develop Water Supply	1	LS	$15,000	$15,000	
Top Soil Reapplication	5,200	SQYD	$3	$15,600	
Stepped Slopes and Slope			$0	$0	
Rounding (Contour Grading)			$0	$0	
Surplus	10,400	CY	$35	$364,000	
				Subtotal Earthwork:	$685,600

Section 2 - Pavement Structural Section*		Quantity	Unit	Unit Price	Item Cost	Section Cost
PCC Pvmt	Depth	0	CY	$0	$0	
PCC Pvmt	Depth	0	CY	$0	$0	
Asphalt Concrete		0	Ton	$0	$0	
Lean Concrete Base		0	CY	$0	$0	
Cement-Treated Base		0	CY	$0	$0	
Aggregate Base		0	CY	$0	$0	
Treated Permeable Base		0	CY	$0	$0	
Aggregate Subbase		0	CY	$0	$0	
Pavement Reinforcing Fabric		0	SF	$0	$0	
Edge Drains		0	FT	$0	$0	
HMA DIKE		1,100	LF	$3	$3,300	
			Subtotal Pavement Structural Section:			$3,300

Section 3 - Drainage	Quantity	Unit	Unit Price	Item Cost	Section Cost
Large Drainage Facilities	0	LS	$0	$0	
Storm Drains	0	LS	$0	$0	
Pumping Plants	0	LS	$0	$0	
Project Drainage	0	LS	$0	$0	
				$0	
				Subtotal Drainage:	$0

DRAFT PROJECT REPORT COST ESTIMATE

Caltrans

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

Section 4 - Specialty Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Retaining Walls	0	SF	$0	$0	
Noise Barriers	0	EA	$0	$0	
Barriers and Guardrails	0	LF	$0	$0	
Equipment/Animal Passes	0	EA	$0	$0	
Water Pollution Control	1	LS	$43,100	$43,100	
Hazardous Waste Investigation and/or Mitigation Work	0	LS	$0	$0	
Environmental Compliance	0	LS	$0	$0	
Resident Engineer Office Space	1	LS	$10,000	$10,000	
Anchored Cable Mesh System	29,330	SQFT	$18	$527,940	
Hybrid Drapery System	42,600	SQFT	$6	$234,300	
Cable Mesh Drapery System	53,000	SQFT	$7	$344,500	
Double Twisted Wire Mesh(DTWM)	34,000	SQFT	$4	$136,000	
Temp Chain Link Fence(rock barrier)	3,000	LF	$35	$105,000	
			Subtotal Specialty Items:		$1,400,900

Section 5 - Traffic Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Lighting	0	LS	$0	$0	
Traffic Delineation Items	4,100	LS	$3	$12,300	
Traffic Signals	1	LS	$50,000	$50,000	
Overhead Sign Structures	0	EA	$0	$0	
Roadside Signs	0	EA	$0	$0	
Traffic Control Systems	1	LS	$80,000	$80,000	
Transportation Management Plan	0	LS	$0	$0	
Temporary Detection System	0	LS	$0	$0	
Construction Area Signs	1	LS	$5,000	$5,000	
Temp Railing (Type K)	3,400	LF	$30	$102,000	
Crash Cusion Module	11	EA	$75	$825	
Staging	1	LS	$19,400	$19,400	
				$0	
			Subtotal Traffic Items:		$269,600

Caltrans

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

II. ROADSIDE ITEMS

Section 6 Planting and Irrigation	Quantity	Unit	Unit Price	Item Cost	Section Cost
Highway Planting	1	LS	$30,000	$30,000	
Replacement Planting	0	LS	$0	$0	
Irrigation Modification	0	LS	$0	$0	
Relocate Existing Irrigation	0	LS	$0	$0	
Facilities	0	LS	$0	$0	
Irrigation Crossovers	0	LS	$0	$0	
Remove Trees	10	LS	$500	$5,000	
		Subtotal Planting and Irrigation Section:			$35,000

Section 7: Roadside Management and Safety Section	Quantity	Unit	Unit Price	Item Cost	Section Cost
Vegetation Control Treatments	0	LS	$0	$0	
Gore Area Pavement	0	LS	$0	$0	
Pavement beyond the gore area	0	LS	$0	$0	
Miscellaneous Paving	0	LS	$0	$0	
Erosion Control	1	LS	$71,000	$71,000	
Slope Protection	0	LS	$0	$0	
Side Slopes/Embankment Slopes	0	LS	$0	$0	
Maintenance Vehicle Pull outs Off-freeway Access (gates, stairways, etc.)					
Roadside Facilities (Vista Points, Transit, Park & Ride, etc)	0	LS	$0	$0	
Relocating roadsice facilities/features	0	LS	$0	$0	
				$0	
		Subtotal Roadside Management and Safety Section:			$71,000

TOTAL SECTIONS 1 thru 7 $2,465,400

Caltrans

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

III. ROADWAY ADDITIONS

Section 8 - Minor Items

						Item Cost	Section Cost
(Subtotal Sections 1 thru 7)	$2,465,400	X	0.05 (5 to 10%)	=		$123,270	
					TOTAL Minor Items:		$123,300

Section 9 - Roadway Mobilization

(Subtotal Sections 1 thru 8)	$2,588,700	X	0.08 (10%)	=		$207,096	
					TOTAL Roadway Mobilization:		$207,100

Section 10 - Supplemental Work & Contingencies

Supplemental Work

(Subtotal Sections 1 thru 8)	$2,588,700	X	0.05 (5 to 10%)	=		$129,435	

Contingencies

(Subtotal Sections 1 thru 8)	$2,588,700	X	0.10 ( )	=		$258,870	
					Supplemental Work & Contingencies:		$388,305
					TOTAL ROADWAY ADDITIONS Sections 8 thru 10:		$718,705
					TOTAL ROADWAY ITEMS: (Subtotal Sections 1 thru 10)		$3,184,105

Estimate Prepared by:	Cory Freeman (Print or Type Name)	Phone: 760 872-0716	05/05/12 (Date)
Estimate Checked by:	Brian Wesling (Print or Type Name)	Phone: 760 872-0630	05/05/12 (Date)

DRAFT PROJECT REPORT COST ESTIMATE

Caltrans

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

II. STRUCTURE ITEMS

	STRUCTURE No. 1	No. 2	No. 3	
Bridge Name				
Structure Type				
Width (out to out) - (ft)				
Span Length - (ft)	0	0	0	
Total Area - ft^2	0	0	0	
Footing Type (pile/spread)	0	0	0	
Cost per ft^2 (incl. 10 % mobilization and 20 % contingency)	0	0	0	
Total Cost for Structure	$0	$0	$0	
SUBTOTAL STRUCTURES ITEMS (Sum of Total Cost for Structures)				**$0**
Railroad Related Costs (Not incl. in R/W Est)				$0
				$0
SUBTOTAL RAILROAD ITEMS				**$0**
TOTAL STRUCTURES ITEMS (Sum of Structures items plus Railroad Items)				**$0**

COMMENTS:

Estimate Prepared by: ______________________ (Print or Type Name)

Phone: __________

0/0/00 (Date)

DRAFT PROJECT REPORT COST ESTIMATE

Dist-Co-Rte: 09-MNO-395
PM: 52.3 to 53.7
EA: 09-33500
Program Code: 20.10.201.015

III. RIGHT OF WAY ITEMS

No. of years for Escalation = 0

		Current Values	Rate (%)	Escalation Factor		Escalated Values
	Acquisition, including excess lands, damages to remainder(s) and Goodwill	$0	5.0	1.00	-	$0
A.	Utility Relocation (State Share)	$0	5.0	1.00	-	$0
	Relocation Assistance	$0	5.0	1.00	-	$0
B.	Clearance/Demolition	$0	7.0	1.00	-	$0
C.	Title and Escrow Fees	$3,000	4.0	1.00	-	$3,000
D.	**TOTAL RIGHT OF WAY** ITEMS=**	$3,000				$3,000
E.						(Escalated Value)

Anticipated Date of Right of Way Certification: 01/01/14

(Date to which Values are Escalated)

Construction Contract Work

F. Brief Description of Work

Right of Way Branch Cost Estimate for Work* $0

* This dollar amount is to be included in the Roadway and/or Structures Items of Work, as appropriate. Do not include in Right of Way Items

COMMENTS:

Estimate Prepared by:

(Print or Type Name) Phone: 0/0/00 (Date)

Attachment F

State of California Business, Transportation and Housing Agency

Right of Way Data Sheet Report

To: Cedrik Zemitis
Project Manager

Date: May 23, 2013
File Ref.: Mono 395 PM 52.3/53.7
EA: 09-335000 updated
Project No. 09-0002-0002
Alt No.: Preferred (Alt.1, Option 2)

Attention: Brian Wesling, Project Manager
Cory Freeman - RCE, Project Engineer

From: **DEPARTMENT OF TRANSPORTATION, Division of Right of Way, Central Region - Bishop**

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: *May 22, 2013 , updated to capture acreage requirement changes. "LeeVining Rockfall Safety Project" .* The following assumptions and limiting conditions were identified:

1. The April 2013 Bishop "Status of Projects", page 7, **has** outlined a target right of way certification date of 8/1/2014, and an anticipated Construction/Award date of September 2014.

2. The Project Engineer indicates that **new** right of way is required, that environmental mitigation parcels are not required, and that there are no utility involvements.

3. The Environmental Branch provided a MCCE form dated 4/23/2009, showing a permit fee is required.

4. A longer lead time will be needed to work with USDA-Forest Service for the 6 slope locations.

5. Right of Way activities (ordering title reports, preparing base maps, preparing appraisal maps, etc) can commence upon receipt of completed Certificate of Sufficiency. Anticipated Lead Times for this project will be –

   - Preparation of R/W Maps to Regular R/W activities (base map prep, order title reports, appraisal map prep, comparable sales search) — 4 Months

   - Regular R/W activities (acquiring parcels or permits, performing RAP, utility relocation activities) to Right of Way Certification. — 12 Months

   NOTE: **The last chance to submit map/project changes to Right of Way, without jeopardizing r/w certification date, is 3 months after start of regular right of way work.**

ANTICIPATED Right of Way LEAD - TIME will require a minimum of 12 months after we receive certified Appraisal Maps, the necessary environmental clearances have been obtained, and freeway agreements have been approved.

NANCY ESCALLIER
Field Office Chief
Right of Way, Central Region - Bishop
(760) 872-0641; Fax (760) 872-0755

RIGHT OF WAY DATA SHEET

REQUEST DATE: 5/22/2012

From: FRE ☐ STK ☐ SLO ☐ BIS ☒

District: 09 County: Mono Route: 395
PM 52.3/53.7 Alt No. Preferred
EA 09-335000 updated Proj. No. 09-0002-0002

1. **RIGHT OF WAY COST ESTIMATE:**
(entered into PMCS COST RW1-5 Screens)

	Current Value (Year 2012)	Escalation Rate	Escalated Value (Year 2014)
Acquisition (for project only) - USFS	$ 0.00		$ 0.00
ENVIRONMENTAL permit/filing fees – per MCCE form dated 4/23/2009	$ 2,387.38		$ 2,387.38
Mitigation Acquisition costs			
Utility Relocation			
Relocation Assistance			
Clearance/Demolition			
Title and Escrow Fees			
TOTAL CURRENT VALUE	**$ 2,387.38**		**$ 2,387.38**
R/W SUPPORT COSTS			
Construction Contract Work (construction costs to be included in projects PS&E)			

2. Current anticipated date of RIGHT OF WAY CERTIFICATION: ___2014________

3. **PARCEL DATA:**
(entered on PMCS EVNT RW screen)

TYPE	NUMBER	DUAL APPR	UTILITIES		RR INVOLVEMENT	
X			U4-1		None	X
A			-2		C & M Agmt	None
B	1- for all 6 slopes		-3		Service Contract	None
B			-4		Lic/RE/Clauses	None
D					**MISC R/W WORK**	
TOTAL:	1		U5-7		RAP Displacement	None
			5-8		Clear/Demo	None
			5-9		Const Permits	
EXCESS:	0				Cond	

Parcel Area: 5.0 acres total

4. Items of construction contract work: YES ☐ NO ☒

5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.): USFS ownership of steep slopes alongside highway of pinion scrub style land.

YES - RIGHT OF WAY REQUIRED ☒ NO – NONE REQUIRED ☐

6. Effect on assessed valuation: YES ☒ NOT SIGNIFICANT ☐ NO ☐

7. Utility facilities or rights of way affected: NO ☒

8. Railroad facilities or rights of way affected: YES ☐ Railroad Worksheet attached. NO ☒

9. Previously unidentified sites with hazardous waste and/or material found: NONE EVIDENT ☒

10. RAP displacements required: YES ☐ NO ☒

11. Material borrow and/or disposal sites required: NO ☒

12. Potential relinquishments and/or vacations: YES ☐ NO ☒

13. Existing and/or potential Airspace sites: YES ☐ NO ☒

14. Environmental mitigation parcels required: YES ☐ NO ☒ MCCE form dated 4/23/2009 only outlines the need for permit fees: $2,387.38 for DFG.

15. All Right of Way work will be performed by Caltrans staff: YES ☒ NO ☐

16. Data for evaluation provided by:

Estimator: Lora Rischer Date: 5/22/13
Lora Rischer

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

5/22/13
Date

N Escallier
NANCY ESCALLIER
Field Office Chief
Right of Way, Central Region - Bishop

Entered onto PMCS Screens (Event, Cost, Agre.) By: ____________ Date: ____________

Revised: 4/23/2009

Central Region Environmental Division Mitigation Cost Compliance Estimate Form (MCCE)

This MCCE is for: PEAR

Dist - Co - Rte - PM:	09-MNO-395-52.3 / 53.7	EA:	09-33500_
Project Name:	Lee Vining Rockfall	Alternative #: (If applicable)	
Project Description:	MITIGATE MONO LAKE ROCKFALL		
Environmental Manager:	Sarah Gassner	Phone Number:	559-243-8243
Design Manager:	Brian Wesling	Phone Number:	(760) 872-0630
Design Engineer:	Mike Collins	Phone Number:	(760) 872-0792
Project Manager:	Cedrik Zemitis	Phone Number:	(760) 872-5250
Date:	4/23/2009		
MCCE Prepared By:	Haesun Lim	Phone Number:	559-243-8300

	Right of Way Capital (Prior to Construction 050-$'s)	Construction Capital (During & Post Construction 042-$'s)
Archaeological		
Historical		
Paleontology		
Hazardous Waste		
Air Emissions		
Biological		
Mitigation parcels (# of acres only)		
Mitigation/Bank Credits ($-only)		
Monitoring		
Permit Fees		
401 Permit Fee		
404 Permit Fee		
1600 Permit Fee		
Coastal Development Permit Fee		
DFG Fee	$2,387.38	
Bat/Swallow Exclusion		
Other:		
TOTAL	**$2,387.38**	

Approved By: _[signature]_ for Sarah Gassner Date: 4/23/09

Environmental Branch Chief

This form is completed as part of the PEAR for all candidate projects, at completion of the Draft Environmental Document, at completion of the Final Environmental Document, and during preparation of the PS&E

This form is to be completed for all SHOPP, STIP, and Minor A & B projects (even those without mitigation).

Include all costs necessary to complete the commitment including: capital outlay (non-staffing support costs); cost of right-of-way or easements; long-term monitoring and reporting by consultants during the construction phase; and any follow-up maintenance post construction.

Timing of Enhancement/Endowment funds will depend on which agency is requiring the mitigation. Funds may need to be available as 050 or as 042.

Attachment G

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

M e m o r a n d u m

Flex your power!
Be energy efficient!

To: **BRIAN WESLING**
Design J

Date: September 20, 2011

File: 09-335000
MNO-395-PM 52.3/53.7
Lee Vining Rock Fall

From: **DONNA HOLLAND**
Traffic Operations

Subject: Traffic Index (TI) Calculations and Design Designation

Attached you will find the Traffic Index (TI) Calculations and Design Designation for the Lee Vining Rock Fall Project on Mono 395 between PM's 52.3 and 53.7. Also attached is a 10 year accident analysis. This data replaces any you have received previously.

Data Year…………………………………2010 AADT = 3550
Construction Year AADT………………2014 AADT = 3710
5 Year AADT…………….………………2019 AADT = 3920
10 Year AADT…………………………2024 AADT = 4140
20 Year AADT…………………………2034 AADT = 4620
5 Year TI……………..…………………2019 TI = 8.5
10 Year TI………………..………………2024 TI = 9.0
20 Year TI………………..………………2034 TI = 10.0
Construction Year DHV…………….….…2014 DHV = 640
5 Year DHV………………..……………2019 DHV = 680
10 Year DHV…………….………………2024 DHV = 710
20 Year DHV…………….………………2034 DHV = 800
2010 Directional Split = 55.36 %
2010 Trucks = 11.2 %

If you have any questions, please do not hesitate to call me. I may be reached at (760) 872-0711.

Attachment

c: File

"Caltrans improves mobility across California"

TRAFFIC INDEX and DESIGN DESIGNATION
CALCULATION SHEET

CO-RTE-PM MNO-395-PM 52.3/53.7
EA 09-335000
JOB NAME Lee Vining Rock Fall

Requested by: Brian Wesling
Unit: Design J
Date: 09/20/11

Census Year 2010
Construction Year 2014
Complete Construction Year 2014
2 Way AADT 3,550
Lane Distribution Factor 1.0 (Table 602.3B, Highway Design Manual)

	AM Peak	PM Peak
Peak Hour Percent, K	15.5	17.25
Directional Split, D	55.36	51.36
Product of K and D, KD	8.58	8.86
DHV = AADT x K /100	550	612

PERCENT TRUCKS (%) 11.2
1 WAY TRUCK VOLUME 220
GROWTH FACTOR, %/Year 1.1

-------------------TRAFFIC INDEX CALCULATIONS-------------------

Traffic Index Calculations are based on completion of construction per HDM 103.2

FIVE YEAR TRAFFIC INDEX

Vehicle Type	Trucks (%)	Present ADT One Way	Expansion Factor	Expanded ADT One Way	5 Year Constant	Lane Factor	ESALs
2 axle	28.45	62.0	1.0737	67.0	345	1	23,115
3 axle	8.5	19.0	1.0737	20.0	920	1	18,400
4 axle	1.1	2.0	1.0737	2.0	1470	1	2,940
5 axle	61.95	136.0	1.0737	146.0	3445	1	502,970
TOTALS	100	219.0		235.0			547,425

Five Year TI **8.5**

TEN YEAR TRAFFIC INDEX

Vehicle Type	Trucks (%)	Present ADT One Way	Expansion Factor	Expanded ADT One Way	10 Year Constant	Lane Factor	ESALs
2 axle	28.45	62.0	1.1035	68.0	690	1	46,920
3 axle	8.5	19.0	1.1035	21.0	1840	1	38,640
4 axle	1.1	2.0	1.1035	2.0	2940	1	5,880
5 axle	61.95	136.0	1.1035	150.0	6890	1	1,033,500
TOTALS	100	219.0		241.0			1,124,940

Ten Year TI **9.0**

TWENTY YEAR TRAFFIC INDEX

Vehicle Type	Trucks (%)	Present ADT One Way	Expansion Factor	Expanded ADT One Way	20 Year Constant	Lane Factor	ESALs
2 axle	28.45	62.0	1.1655	72.0	1380	1	99,360
3 axle	8.5	19.0	1.1655	22.0	3680	1	80,960
4 axle	1.1	2.0	1.1655	2.0	5880	1	11,760
5 axle	61.95	136.0	1.1655	159.0	13780	1	2,191,020
TOTALS	100	219.0		255.0			2,383,100

Twenty Yr TI **10.0**

SHOULDER TIs

Design Life	2% ESALs	TI
5 Year	10,949	**5.5**
10 Year	22,499	**5.5**
20 Year	47,662	**6.5**

-------------------DESIGN DESIGNATION-------------------

Design Designation is based on year of construction per HDM 103.1

Construction Year AADT………………………………………….. AADT (2014) = 3710
Five Year AADT…………………………………………………….. AADT (2019) = 3920
Ten Year AADT……………………………………………………… AADT (2024) = 4140
Twenty Year AADT………………………………………………… AADT (2034) = 4620
Construction Year DHV………………………………………….. DHV (2014) = 640
Five Year DHV……………………………………………………… DHV (2019) = 680
Ten Year DHV……………………………………………………… DHV (2024) = 710
Twenty Year DHV………………………………………………… DHV (2034) = 800
D = 55.36 %
T = 11.2 %

TRAFFIC OPERATIONS

September 20, 2011
DATE

Attachment H

GEOTECHNICAL DESIGN REPORT

Lee Vining Rockfall Safety Project in Mono County near Lee Vining from 0.4 mile north of National Forest Visitor Center Road to 0.7 mile north of Picnic Grounds Road

09-Mno-395 PM 52.3/53.7

EA: 09-33501

EFIS: 0900020002

June 25, 2012

Division of Engineering Services

Geotechnical Services

Office of Geotechnical Design – North

Branch E

State of California
Department of Transportation

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: **CEDRICK ZEMITIS**
Project Manager
District 9 - Design

Attention: Cory Freeman

Date: June 25, 2012

File: 09-Mno-395
PM 52.3/53.7
09-355001
Project ID. 09 0002 0002
Lee Vining Rockfall

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Geotechnical Design Report

As requested, the Office of Geotechnical Design North (OGDN) is providing a District Geotechnical Design Report for the proposed Lee Vining Rockfall Safety Project on Highway 395 in Mono County, between postmiles 52.3 and 53.7, north the town of Lee Vining.

If you have any questions or comments, please call me, Brandon Badeker, at (916) 227-1046 or my supervisor, John Huang, at (916) 227-1037.

BRANDON BADEKER, C.E.G.
Engineering Geologist
Office of Geotechnical Design – North
Branch E

c: John Huang (Geotechnical Services, Geotechnical Design North)

Cedrick Zemitis (D09 Project Manager)
Mark Willian (Geotechnical Services, Corporate Unit)
Dave Dhillon (D09 District Materials Engineer)
District Construction R.E. Pending File
Brad Rockwell (D09 Office Engineer)

Table of Contents

List of Figures

List of Tables

1. Introduction

As requested, the Office of Geotechnical Design North (OGDN) is providing a District Preliminary Geotechnical Report for the proposed project on Highway 395 in Mono County, between postmiles 52.3 and 53 .7, near the town of Lee Vining. The project is located adjacent to the westerly shore of Mono Lake. There is recurring rock fall at six locations along the alignment. It is proposed to grade slopes 1 through 3 at 2: 1 (h:v) or flatter. It is recommended that Slope 4 be draped with a double twisted wire mesh (DTWM) drapery. Attenuator systems consisting of DTWM over cable net drapery is anticipated for Slopes 5 and 6. No shoulder widening is anticipated.

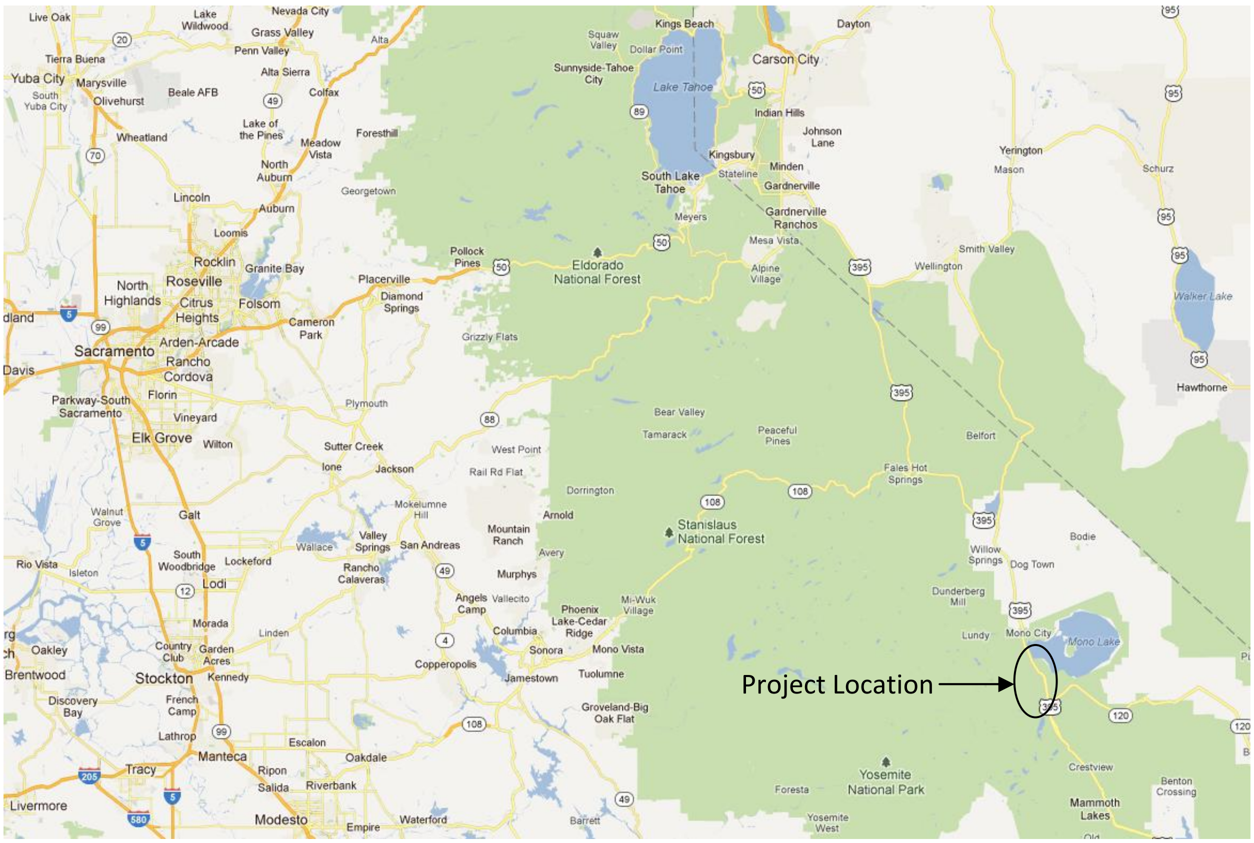

Figure 1: Vicinity Map showing the location of the Lee Vining Rockfall Safey Project, adapted from Google Maps, 2012.

2. Existing Facilities and Proposed Improvements

Highway 395 in this area trends north south, is constructed of two, twelve-foot lanes and one to four-foot paved shoulders and four to six-foot unpaved shoulders. The highway was constructed on a cut/fill in this section with the existing cut slopes graded at with a maximum vertical height of 70-feet. The fill slopes were graded at with a maximum vertical height of 20-feet. The cut slopes arc covered with about 20 to 30% vegetative cover. Loose, fine material consistently erodes from the slope, undermining larger blocks of intact rock.

Slope 1 is located at PM 52.39, and begins at Station 114+90 and extends to Station 117+40. The slope lies at an angle of 1:1 (h:v) with a vertical height of about 25-feet to the hinge line. The slope then continues at 1.5: 1 to 2:1 (h:v). The length of the slope is about 250-feet parallel to the roadway. The rocks at this location are typically about 8-inches to 2-feet in diameter.

Figure 2: Photograph looking to the northwest showing Slope 1.

Slope 2 is located at PM 52.50. It begins at Station 120+60 and extends to Station 123+ 10 The slope lies at an angle of 1:1 with a maximum height of 25-feet and a length of about 215-feet along the roadway. The slope then continues at 1.5:1 to 2:1 (h:v) further west. The rocks at this location are typically 6-inches to l.5-feet in diameter.

Figure 3: Photograph looking to the northwest showing Slope 2.

Slope 3 is located at postmile 52.93 and extends from Station 143+05 to 145+80. The slope lies at an angle of 0.75 :1 to 1:1 (h:v) with a maximum height of about 33-feet and a length of 260-feet. The slope then continues at 1.5:1 to 2:1. The rocks at this location are typically 8-inches to less than two-feet in diameter.

Figure 4: Photograph looking to the northwest showing Slope 3.

Slope 4 is located at postmile 53.05, north of the marina tum off. The slope extends from Station 149+90 to Station 159+95. The slope is currently at a ratio of 1:1 with a maximum height of 40-feet and a length of about 1000-feet. The slope then continues at 1.5:1 to 2:1 further west. The rocks at this location are typically 8-inches to 2-feet in diameter.

Figure 5: Photograph looking to the southwest showing Slope 4.

Slope 5 is located at postmile 53.30 and extends from Station 163+20 to 171+20. The slope lies at an angle of about 0.5: I to 0.75: I (h:v) with a maximum height of about 70-feet and a length of about 800-feet. The slope then continues at 1.5:1 to 2:1. The rock observed at the ground surface at this location is typically 8-inches to over 2-feet in diameter.

Figure 6: Photograph looking to the southwest showing Slope 5.

Slope 6 is located at postmile 53.59 and lies between Stations 175+60 and 179+00. The slope lies at an angle of 1:1 with a maximum height of 60-feet and a length of about 340-feet. The slope then continues at 2: 1(h:v). The rocks at this location are typically 18- inches to greater than four-feet in diameter.

Figure 7: Photograph looking to the north showing Slope 6.

3. Pertinent Reports and Investigations

In preparing of this report, following documents were reviewed:

- Bailey, R.A., 1989, Geologic map of Long Valley Caldera, Mono-Inyo Craters Volcanic Chain and Vicinity, Eastern California: U.S. Geological Survey, Miscellaneous Investigations Series Map I-1933, scale 1:62500.
- Western Regional Climate Center for 1988-2010
- USGS Topographic Map of the Mount Dana 7.5' quadrangle, 1 :24,000,1994
- USGS Topographic Map of the Lee Vining 7.5' quadrangle, 1 :24,000,1994
- Web Soil Survey, http://websoilsurvey.nrcs.usda.gov , United States Department of Agriculture
- Department of Water Resources, Water Data Library, http://www.water.ca.gov/waterdatalibrary/

4. Physical Setting

The physical setting of the project site and the surrounding area was reviewed to provide climate, topography and drainage, geology and seismicity characteristics to aid in preliminary project design and construction planning. The following is a discussion of our review:

4.1 Climate

According to the Western Regional Climate Center for the time period between 1988 and 2010, the average annual precipitation at the Lee Vining Station is about 14.50 inches. The majority of this precipitation (over 60 percent) falls between November and May. The average annual snowfall is 70.5 inches with the majority of the snowfall occurring between November and March. Average annual snow depth is one-inch. A maximum average for snow depth of 7-inches occurs during January. The annual maximum temperature is approximately 61.50 F and the average annual minimum temperature is 35.30 F. The station recorded the highest average daily maximum of 84.30 F in July and the lowest average daily minimum of 19.6° F in January.

4.2 Topography & Drainage

According to the USGS topographic map of the Mount Dana and Lee Vining 7.5 minute quadrangles (1994), the project site lies at an elevation of about 6500 feet above mean sea level as indicated by a bench mark to the east of the site. The overall topography is relatively flat-lying around Mono Lake but became moderately to very steep towards the west in the Sierra Nevada. The map indicates that Mono Lake lies to the east of the project site, and the town of Lee Vining is to the south of the project location. The National Forest Scenic Area Boundary lies to the south of the project. A copy of the topographic map is included as Figure 8. Regional drainage is to the east, towards Mono Lake.

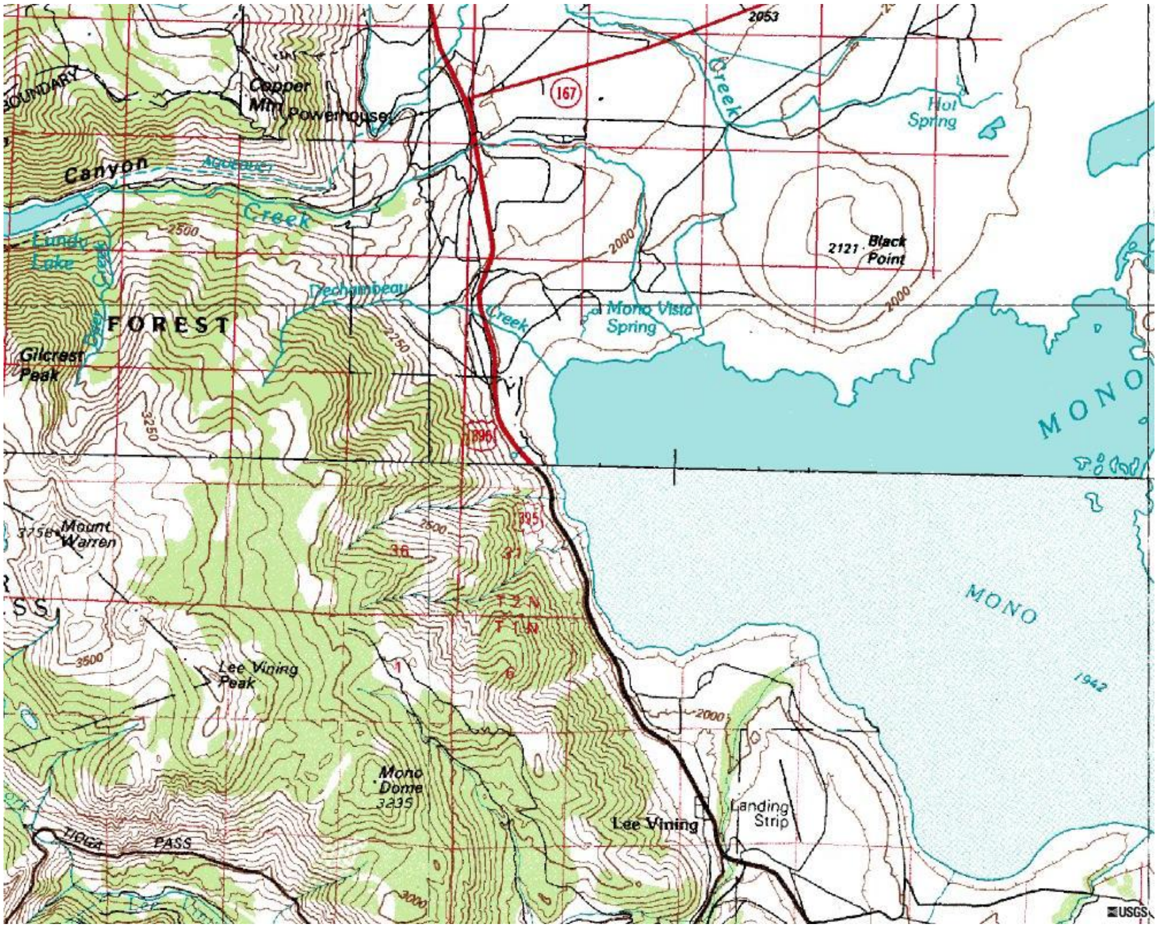

Figure 8: A portion of the Topographic Maps of the Mount Dana and Lee Vining Quadrangles, USGS, 1994.

4.3 Man-made and Natural Features of Engineering and Construction Significance

Mono Lake and its associated tufa towers are considered a natural resource that cannot be disturbed.

4.4 Regional Geology and Seismicity

The project site lies at the interface between the Sierra Nevada Geomorphic province and the Basin and Range Geomorphic province. The Sierra Nevada Geomorphic Province is dominated by granitic rocks of Mesozoic age that intruded the overlying sedimentary deposits, and pushed up the existing Sierra Nevada Mountain Range through a series of orogenic mountain building events. The area is tectonically in a compressional regime.

The Basin and Range Geomorphic Province is typified by tectonic extension, creating a topography of linear, parallel, ridges and valleys, termed horsts and grabens.

According to the Geologic map of the Long Valley Caldera, Mono-Inyo Craters Volcanic Chain and Vicinity, Eastern California (USGS, 1989) the site is underlain by Quaternary lake deposits (Qlt). A section from this map showing the project location is attached as Figure 9.

The map shows the Lee Vining Fault trends parallel to the Highway. According to Caltrans ARS online, the fault has been renamed to the Mono Lake Fault. The Mono Lake Fault is a normal fault with a maximum moment magnitude (MMax) of 6.6.

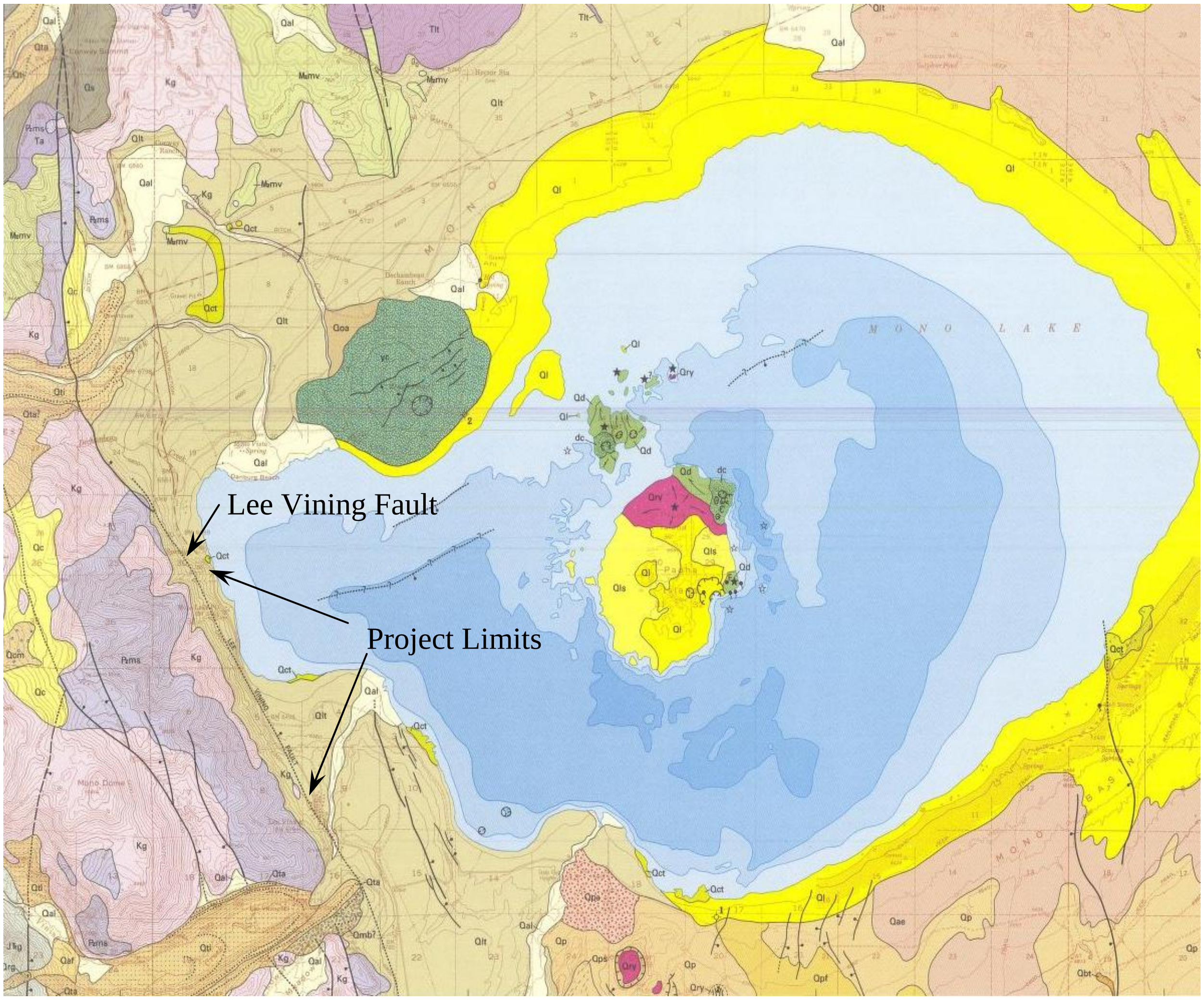

Figure 9: A portion of the "Geologic Map of Long Valley Caldera, Mono-Inyo Craters Volcanic Chain and Vicinity, Eastern California".

SURFICIAL DEPOSITS

Alluvial, lacustrine, and hot-spring deposits

Qal **Younger alluvium (Holocene)**—Unconsolidated silt, sand, and gravel deposited by actively aggrading streams; includes meadow and marsh deposits

Qt **Talus (Holocene)**—Angular rock debris forming steep cones and ramparts mainly at base of cliffs

Qc **Colluvium (Holocene)**—Loose heterogeneous detritus and soil accumulated by slopewash and other mass-wasting processes; locally includes reworked Holocene pumice and ash-fall deposits

Qls **Landslide deposits (Holocene)**—Restricted to Paoha Island in Mono Lake; lacustrine sediments affected by landslide and earth flow, caused by uplift during emplacement of subjacent rhyolite cryptodome

Qaf **Alluvial fan deposits (Holocene and Pleistocene)**—Coarse sand and gravel forming fans and moderately steep alluvial cones

Qae **Aeolian deposits (Holocene and Pleistocene)**—Dune and windblown deposits composed predominantly of sand, ash, and fine pumice clasts; formed mainly by aeolian redeposition of ash and pumice lapilli from unconsolidated parts of the Bishop Tuff and pyroclastic deposits of Mono-Inyo Craters; occur mainly around southeastern and northeastern shores of Mono Lake and in northern parts of Cowtrack and Glass Mountain quadrangles

Ql **Lacustrine sediments (Holocene and Pleistocene)**—Light-grayish-tan to buff, thin-bedded silts and clays containing numerous interbeds of white diatomite and basaltic, quartz-latitic, and rhyolitic ash, mainly from local sources; occur in Long Valley as deposits of Pleistocene Long Valley Lake (Mayo, 1934) and on Paoha Island as deposits of Pleistocene Mono Lake (Lake Russell), where they underlie Wilson Creek Formation of Lajoie (1968, 1969); also includes lake-bottom oozes recently exposed along receding shoreline of Mono Lake. Also includes lake beds of uncertain age in Adobe Valley. Long Valley deposits attain as much as 300 m thickness in drill holes and are estimated to range in age from about 700 ka to 100–50 ka; Paoha Island deposits are about 100 m thick and are estimated to range in age from at least 170 ka to about 25 ka (Lajoie, 1968)

Qoa **Older alluvium (Pleistocene)**—Stream deposits undergoing erosion and dissection; includes most late Pleistocene glacial outwash and related periglacial sediments

Qlt **Lake terrace deposits (Pleistocene)**—Lake terrace gravels, deltaic deposits, and interbedded fluvial and lacustrine sediments surrounding Mono Lake; as mapped, includes Wilson Creek Formation of Lajoie (1968, 1969); approximately coeval with Wisconsin age glaciations; maximum exposed thickness 70 m in Rush Creek

Qct **Travertine and calcareous tufa (Pleistocene)**—Travertine hot-spring deposits, commonly located on faults, and calcareous tufa, deposited mainly along former shorelines of Pleistocene Long Valley Lake and around shores of Mono Lake

Intermediate to mafic rocks

Qd, dc **Dacite (Holocene)**—Sparsely porphyritic dacite to rhyodacite lava flows and cinder cones (dc) on Poaha and Negit islands, typically containing small phenocrysts of plagioclase and hypersthene, and less commonly hornblende and biotite; paleoshoreline and tephra studies (Stine, 1984) suggest ages that range from about 2,000 yr B.P. to possibly less than 220 yr B.P.

Qyb, yc **Younger basalt (Holocene and Pleistocene)**—Dark scoriaceous trachybasalt flows and associated cinder cones (yc) containing conspicuous plagioclase and olivine phenocrysts; includes Red Cones, two cinder cones and associated lava flows that postdate Tioga glaciation, and nonglaciated flows near Pumice Butte in Devils Postpile quadrangle; also includes Black Point, a terraced cinder cone on northwest shore of Mono Lake in Bodie quadrangle, formed by subaqueous eruptions about 13,000 yr B.P. during a higher stand of lake (Lajoie, 1968)

Qry **Younger domes and flows (Holocene)**—Aphyric rhyolite, predominantly glassy, varying widely in texture from dense obsidian to finely vesicular pumice; ages range from about 3,000 to 550 yr B.P. (Wood, 1977; Sieh and Bursik, 1986); includes chemically similar 1,350-yr-B.P. Wilson Butte in Inyo Craters chain and also sparsely porphyritic, low-silica, pyroxene rhyolite in Mono Lake; individual dome flows attain maximum thickness of 200 m and 4 km length

Tlt **Latite welded tuff (Miocene)**—Gray to black vitrophyric welded tuff with conspicuous eutaxitic texture; contains sanidine, plagioclase, biotite, augite, and occasionally hornblende phenocrysts; K-Ar ages range from 11.9 to 11.1 Ma (Gilbert and others, 1968); probable source is north of map area

Ta **Andesite (Miocene)**—Trachyandesitic flows, tuffs, and breccias in northern parts of Cowtrack Mountain and Glass Mountain quadrangles; undated but considered Miocene in age based on stratigraphic relations (Gilbert and others, 1968; Krauskopf and Bateman, 1977)

METAMORPHIC ROCKS

Mzmv **Metavolcanic rocks (Mesozoic)**—Metamorphosed volcanic rocks of Ritter Range roof pendant, mainly in Mount Morrison, Devils Postpile, and Mono Craters quadrangles (Rinehart and Ross, 1964; Huber and Rinehart, 1965; Kistler, 1966a, 1966b; Fiske and Tobisch, 1978; Kistler and Swanson, 1981); Triassic, Jurassic, and Cretaceous in age

Pzms **Metasedimentary rocks (Paleozoic)**—Metamorphosed sedimentary rocks in the Benton Range, Casa Diablo Mountain quadrangle (Rinehart and Ross, 1957), in the Mount Morrison roof pendant, Mount Morrison quadrangle, (Rinehart and Ross, 1964), and in Gull Lake roof pendant, Mono Craters quadrangle (Kistler, 1966a, b; Kistler and Nokleberg, 1979); Ordovician, Silurian, Mississippian(?), Pennsylvanian(?), and Permian(?) in age

PLUTONIC ROCKS

Kg **Granodiorite (Cretaceous)**—Mainly rocks mapped as "quartz monzonite similar to the Cathedral Peak Granite" in Mt. Morrison and Devils Postpile quadrangles (Rinehart and Ross, 1964; Huber and Rinehart, 1965), Round Valley Peak Granodiorite in Mount Morrison quadrangle (Rinehart and Ross, 1964) and equivalent rock formerly mapped as granodiorite or Rock Creek in Casa Diablo Mountain quadrangle (Rinehart and Ross, 1957), Mount Givens Granodiorite, and granodiorite of Fish and King creeks in Devils Postpile quadrangle (Huber and Rinehart, 1965); includes other small granitic masses of probable Cretaceous age: albite granite of McGee Mountain, quartz monzonite of Hilton Creek, granodiorite of Red Mountain, as well as other small unnamed felsic and dioritic bodies in the Mount Morrison and Casa Diablo Mountain quadrangles (Rinehart and Ross, 1957, 1964); also includes quartz monzonite of Aeolian Buttes (Kistler, 1966b) and granite of June Lake (R.W. Kistler, oral commun., 1987) in Mono Craters quadrangle

Jg **Granitic rocks (Jurassic)**—Consists of rocks mapped as granite of Casa Diablo Mountain in Casa Diablo Mountain, Glass Mountain, and Cowtrack Mountain quadrangles (Rinehart and Ross, 1957; Krauskopf and Bateman, 1977)

JTrg **Granodioritic, dioritic, and gabbroic rocks, undivided (Jurassic and Triassic)**—Mainly Triassic rocks mapped as quartz monzonite of Wheeler Crest and granodiorite of Benton Range in Casa Diablo Mountain and Glass Mountain quadrangles (Ross and Rinehart, 1957; Krauskopf and Bateman, 1977) and as Wheeler Crest Quartz Monzonite in Mount Morrison and Devis Postpile quadrangles (Rinehart and Ross, 1964; Huber and Rinehart, 1965); also includes quartz monzonite of Deer Spring in Casa Diablo Mountain quadrangle (Rinehart and Ross, 1957) and quartz monzonite of Lee Vining Canyon in Mono Craters quadrangle (Kistler, 1966b), also probably Triassic in age; also includes small masses of Triassic diorite and gabbro, as well as Jurassic aplite dikes and small intrusions in Glass Mountain and Cowtrack Mountain quadrangles (Krauskopf and Bateman, 1977)

Figure 10: A portion of the legend from the "Geologic Map of Long Valley Caldera, Mono-Inyo Craters Volcanic Chain and Vicinity, Eastern California".

4.5 Soil Survey

The online Web Soil Survey, http://websoilsurvey.nrcs.usda.gov, was utilized to provide a soil and erodability of the soils located at the Lee Vining rock fall project locations. The following Table and Figure describe the soil units observed at the site. There were two soil surveys utilized to provide soil classifications at the site, one, the "Soil Survey of Benton-Owens Valley Area, Parts of Inyo and Mono Counties" and two, the "Soil Survey of the Inyo National Forest, Western Part, California".

Figure 11: Map denoting the soil units described in the online Web Soil Survey http://websoilsurvey.nrcs.usda.gov.

Map Unit Symbol	Map Unit Name	Erodability	USC soil classification
108	Alamedawell-Orecart complex	Slight	SM
175	Cryoborolls bouldery- Cryoborolls-Rock outcrop complex	Moderate	SM
181	Dechambeau very gravelly-Dechambeau complex	Slight	GC-GM
240	Lithic Xeric Torriorthents- Xeric Torriorthents-Rock outcrop complex	moderate	SC-SM
350	Watterson gravelly loamy sand	Slight	GM
146	Lakash-Brantel families complex	Slight	SM
175bo	Cryoborolls boulder-Cryoborolls-Rock outcrop complex	Moderate	SM
240bo	Lithic Xeric Torriorthents- Xeric Torriorthents-Rock outcrop complex	Moderate	SC-SM
347	Nanamkin family-Rock outcrop complex	Severe	SM
380	Vitrandic Torriothents, ashy-Vitrandic-Haplodurids	Slight	SP-SM
W	Water	N/A	N/A

Table 1: Summary of the map units described in the Web Soil Survey.

5. Exploration

5.1 Drilling and Sampling

Due to limited access for drilling equipment and presumed rippability of the rock, no drilling or subsurface sampling was performed.

5.2 Geologic Mapping

The local geology consist of Quaternary lake terrace deposits (Qlt) as depicted on the "Geologic Map of Long Valley Caldera, Mono-Inyo Craters Volcanic Chain and Vicinity, eastern California (USGS, 1989, Figures 9 and 10). The fine-grained deposits are interfacied with talus on the western side of the lake. The facies are mixed in this area due to the juxtaposition of the Sierra Nevada mountains with Mono Lake.

5.3 Geophysical Studies

No geophysical surveys were performed.

5.4 Instrumentation

No instrumentation was installed at the site.

6. Geotechnical Testing

6.1 In Situ Testing

No in-situ testing was performed.

6.2 Laboratory Testing

No laboratory testing was performed.

6.3 Corrosion

The web soil survey indicates the embankment and cut slope materials adjacent to Mono Lake are highly corrosive. It also indicates the embankment and cut slope materials along the project alignment south of Mono Lake have a low corrosivity.

7. Geotechnical Conditions

7.1 Site Geology

7.1.1 Lithology

According to the "Geologic Map of the Long Valley Caldera, Mono-Inyo Craters Volcanic Chain and Vicinity, Eastern California" (USGS, 1989), the primary geologic lithology encountered at the site consists of Quaternary Lake Terrace Deposits (Qlt). These deposits are Pleistocene in age and consist of lake terrace gravels, deltaic deposits and interbedded stream and lake deposits surrounding Mono Lake.

Travertine and calcareous tufa (Qct) is situated in localized areas in the project alignment. The tufa is coincident in age with the lake deposits (Pleistocene) and were created by bacteria precipitating calcium carbonate through their life processes. The tufa is considered an environmental and educational resource.

Paleozoic metasedimentary rocks (Pzms) are present in the hills to the west of Mono Lake. These were originally sedimentary deposits that have been metamorphosed through high heat and pressure from the intrusion of the underlying granitic rocks.

Cretaceous granodiorite is locally present in the hills to the west of Mono Lake.

7.1.2 Structure

Due to the interbedding of the lake and stream deposits, there is very little structure to the deposits contained in the cut slopes.

7.1.3 Natural Slope Stability

All of the slopes along the project alignment appeared globally stable. The natural slopes above the cut slopes have had rock fall. The rock fall from the natural slopes appears to be a small contributor compared to the rock fall generated from the cut slopes.

The cut slopes appear globally stable. The cut slopes within the project alignment are locally unstable, generating rock fall.

7.2 Soil and Ground Water Conditions

According to the online Web Soil Survey (Section 4.5), the soils at the site are primarily sands, silty sands and gravels.

7.3 Water

7.3.1 Surface Water

According to the climate information presented in Section 4, average annual rainfall is about 14 inches. The average annual snow depth is 1-inch. The average maximum snow depth is 7-inches in January. Mono Lake is situated to the east of the project alignment.

7.3.1.1 Scour

Scour is not applicable.

7.3.1.2 Erosion

Based on the Web Soil Survey and site reconnaissance, the materials at the site vary from slightly erodible to severely erodible.

7.3.2 Ground Water

According to the Department of Water resources well **01S26E03C001M** south of the Town of Lee Vining, the groundwater has fluctuated between 33-feet and 119-feet below ground surface. The last groundwater reading of 100.6-feet below ground surface was performed in 1984.

The groundwater surface at the project site can be presumed to be that of the surface elevation of Mono Lake.

7.4 Project Site Seismicity

7.4.1 Ground Motions

Ground motion was not evaluated based on the scope of the project.

7.4.2 Ground Rupture

Ground rupture was not evaluated based on the scope of the project.

8.Geotechnical Analysis and Design

8.1 Dynamic Analysis

Dynamic Analysis was not performed due to the scope of the project.

8.2 Cuts and Excavations

8.2.1 Stability

Slopes 1 through 3 are recommended to be cut at 1.5:1 (h:v)or flatter. These new cuts will be globally and locally stable.

The "Rockfall Hazard Rating System" (RHRS) was employed on this project to rate the potential for rock fall for the six slopes relative to each other. The following table summarizes the results of the evaluation. As anticipated, Slope 6 has the highest rating, primarily due to the lack of site distance.

Location	Postmile	Slope Length	Vertical Slope Height	RHRS Rating
1	52.39/52.43	212	37	92
2	52.50/52.54	211	36	87
3	52.93/52.98	264	35	69
4	53.05/53.23	1000	22-85	190
5	53.30/53.49	750	116	262
6	53.59/53.66	370	58	567

Table 2: Summary of the Rockfall Hazard Rating System (RHRS) for slopes 1 through 6.

8.2.2 Rippability

All of the material encountered should be rippable with conventional equipment.

8.2.3 Grading Factors

For excavation purposes on slopes 1 through 3, the excavation factor should be 1.1 to 1.2.

8.3 Embankments

New embankments are not proposed for this project.

8.4 Earth Retaining Systems

No retaining walls are proposed for this project.

8.4.1 Rock Fall Mitigation

Slope 4 is recommended to be draped with Double Twisted Wire Mesh (DTWM) secured to the slope with a cable infrastructure anchored to the slope with grouted cable anchors.

Slope 5 is recommended to have a rock fall attenuator system installed with approximate ten-foot steel posts, placed approximately twenty-feet on center, suspending a drapery consisting of cable net under DTWM.

Slope 6 is also recommended to have a rock fall attenuator system installed with approximate ten-foot steel posts, placed approximately twenty-feet on center, suspending a drapery consisting of cable net under DTWM.

Details of the DTWM and attenuator systems are contained in the Recommendations, Section 12.

8.5 Minor Structure Foundations

It is anticipated that the DTWM drapery on Slope 4 will be held in place by a perimeter cable anchor system consisting of grouted steel cables in a three-inch diameter hole.

The steel posts for the attenuator systems on Slopes 5 and 6 will need concrete foundations consisting of 2-foot by 2-foot by 2-foot spread footings. The top of the footing will remain exposed.

It is anticipated that boulder lashing may be needed on up to ten boulders in Slope 6. The cable lashing will be held in place by cable anchors similar to the perimeter anchor system for Slope 4.

9. Material Sources

It is our understanding that fill will not be needed for this project; any fill that is not structural backfill may be utilized from cutting Slopes 1 through 3.

10. Material Disposal

If the material cut from Slopes 1 through 3 is not utilized for the project it must be disposed of. Excess material generated from the project will need to be disposed of by the contractor at a commercial disposal facility.

11. Construction Considerations

1. All earthworks shall follow Section 19 of Caltrans Standard Specifications.
2. Difficult drilling conditions and caving are expected while drilling the cable anchors and excavation of the spread footings for the steel posts.

12. Recommendations and Specifications

Slope 1

Due to the relatively low generation of rock fall on this slope corresponding to the low RHRS number of 92, as well as a reasonable upslope catchment area, we feel that the proposed 1.5:1 (h:v) cut slopes are constructible. Excavation should be performed according to the 2006 Cal Ttrans Standard Specifications.

Slope 2

Due to the presence of an avalanche shoot at the top of the cut slope, it is not recommended to construct a structure at this location. The most feasible alternative for rock fall mitigation would be to grade the slope at a new ratio of 1.5:1 (h:v) or flatter. Excavation should be performed according to the 2006 Cal Ttrans Standard Specifications.

Slope 3

Slope 3 had the lowest RHRS number for all of the slopes analyzed. Due to the presence of a fifteen-foot unpaved shoulder and a close upslope catchment area, we recommend to grade the slope at a new ratio of 1.5:1 (h:v) or flatter. Excavation should be performed according to the 2006 Cal Ttrans Standard Specifications.

Slope 4

The average size of the rocks falling from this location is typically less than 3-feet in diameter. The use of Double Twisted Wire Mesh (DTWM) drapery would be applicable at this location. Hand scaling and light grading can be performed prior to the mesh being draped on the slope to provide a more uniform surface especially the block of soil and rock at the southerly portion of the slope. The DTWM is anchored along the top. A seed bearing mat and erosion control fabric can be placed beneath the DTWM. If such a system is anticipated Geotechincal Design can aid in the design.

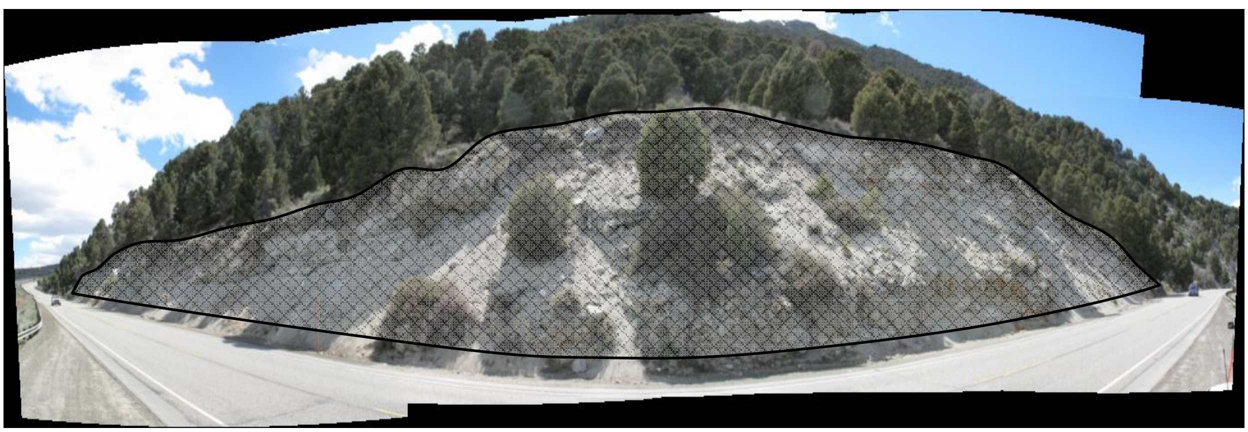

Figure 12: Depiction of the DTWM drapery for Slope 4 which can provide an indication of the vegetation that will need to be removed and/or trimmed.

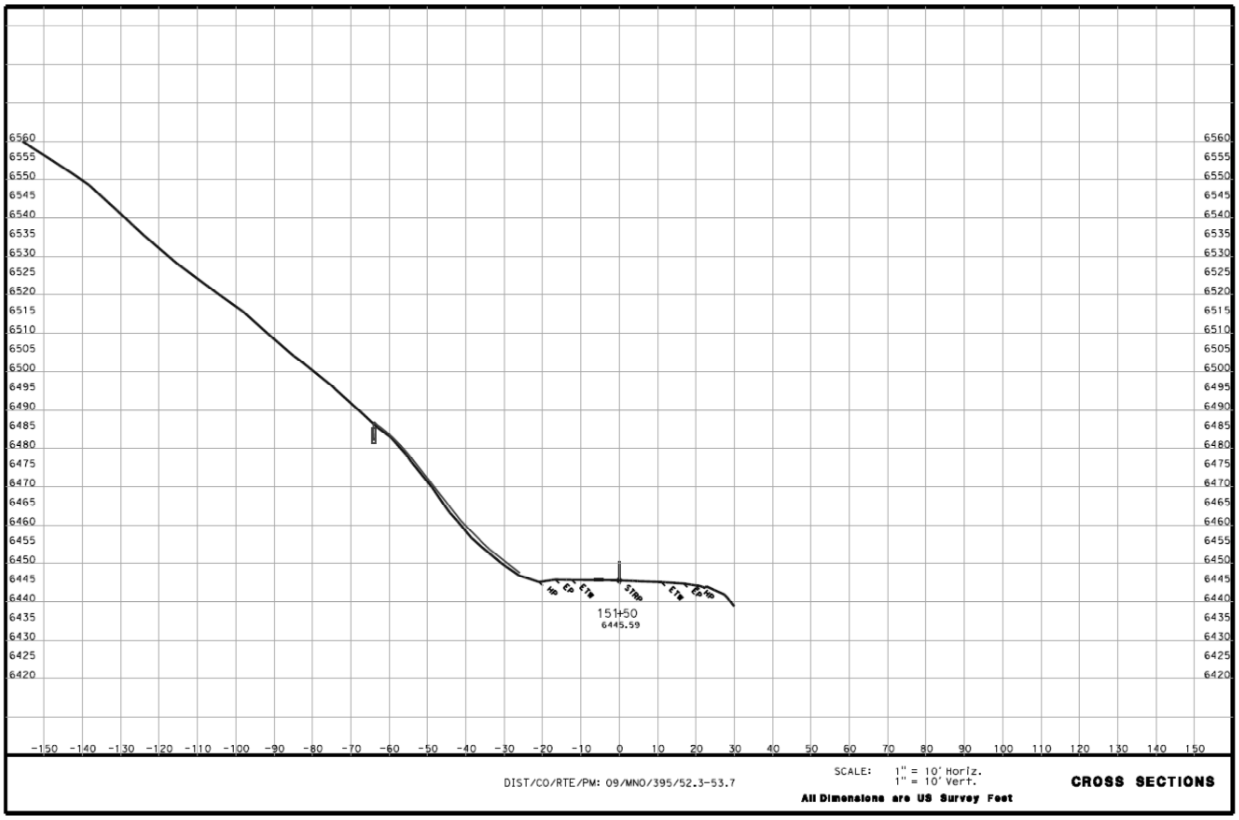

Figure 13: Cross Section of the drapery for Slope 4.

Slope 5

Slope 5 has a relatively high RHRS rating, no upslope catchment area, and narrow shoulder widths. A drapery system is the most feasible option for mitigating rock fall generated from the slope. Due to the presence of large (greater than 4-foot) boulders in the cut slope material, and the potential for material to be released above the existing cut slope, the recommended system is an attenuator style system with cable net underlying DTWM (Figure 14). The system would span the large debris shoot in order to contain the material. The steel posts would be approximately ten-feet in height and spaced approximately twenty-feet on center.

Figure 14: Depiction of the attenuator system for Slope 5 which can provide an indication of the vegetation that will need to be removed and/or trimmed.

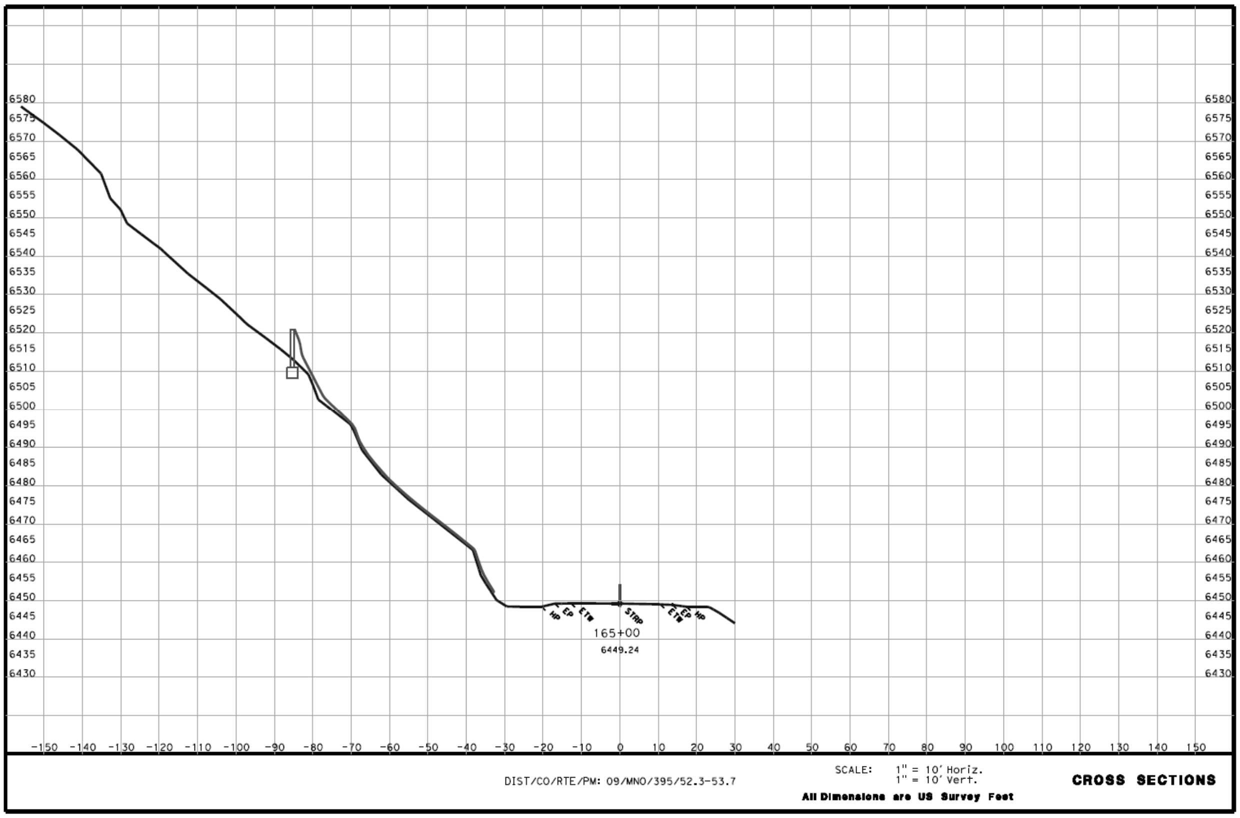

Figure 15: Cross section of the attenuator system for Slope 5.

Slope 6

Slope 6 has the highest RHRS rating of 567, primarily due to the lack of decision sight distance. There is very little shoulder (4-foot on either side). Due to the presence of large (greater than 4-foot) boulders in the cut slope material, and the potential for material to be released above the existing cut slope, the recommended system is an attenuator style system with cable net underlying DTWM (Figure 16). The upper posts should be approximately ten-feet in height and spaced approximately twenty-feet on center.

Figure 16: Depiction of the attenuator system for Slope 6 which can provide an indication of the vegetation that will need to be removed and/or trimmed.

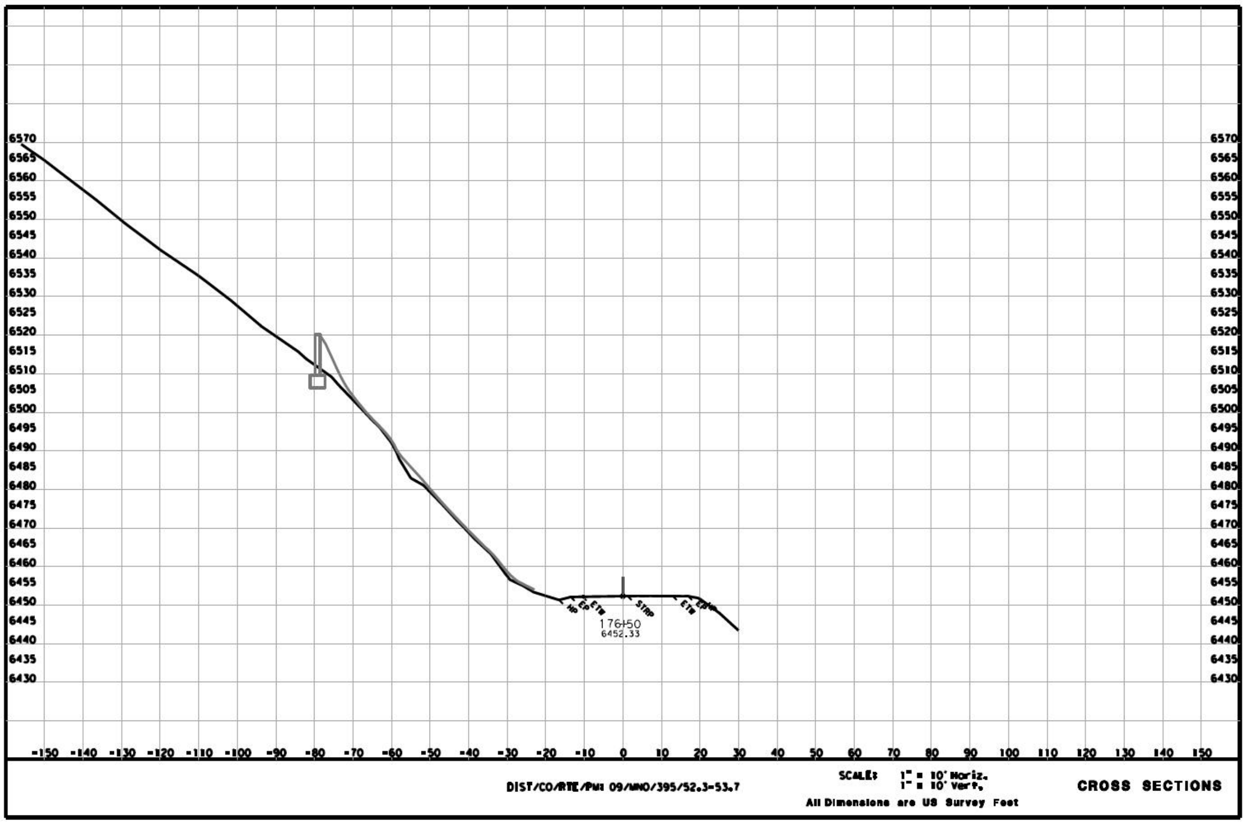

Figure 17: Cross section of the attenuator system for Slope 6.

Alternatively, to aid in the revegetation effort for slopes 5 and 6, an anchored mesh consisting of cable net backed by DTWM may be utilized. A seed bearing mat and erosion control fabric can be placed beneath the anchored cable net. If such a system is anticipated Geotechincal Design can aid in the design. Light hand scaling and grading may be necessary to bring the anchored mesh in conformance with the slope face. Likewise, Caltrans personnel will need to maintain close working conditions with the contractor to maintain tolerances that allow for revegetation.

Project Information

Standard Special Provision S5-280, “Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

Data and information attached with the project plans are:

None

Data and information included in the Information Handout provided to the bidders and contractors are:

Geotechnical Design Report for EA 09-33501, dated March 15, 2012.

Data and information available for inspection at the District Office:

None.

Data and information available for inspection at the Transportation Laboratory are:

None.

Attachment I

Dist-County-Route: 09 – MNO – 395
Post Mile Limits: **52.3 / 53.7**
Project Type: Rockfall Safety Project
Project ID (or EA): 09-33500
Program Identification: SHOPP / 201.015
Phase: ☐ PID ☒ PA/ED ☐ PS&E

Caltrans®

Regional Water Quality Control Board(s): Lahonton (6)

Is the Project required to consider Treatment BMPs?	Yes ☐	No ☒
If yes, can Treatment BMPs be incorporated into the project?	Yes ☐	No ☐

If No, a Technical Data Report must be submitted to the RWQCB at least 30 days prior to the projects RTL date. List RTL Date: **09/01/2014**

Total Disturbed Soil Area (DSA): 5.5 Acres **Risk Level: 2**

Estimated: Construction Start Date: 07/01/2015 Construction Completion Date: 10/01/2015

Notification of Construction (NOC) Date to be submitted: 06/01/2015

Erosivity Waiver	Yes ☐	Date:________	No ☒
Notification of ADL reuse (if Yes, provide date)	Yes ☐	Date:________	No ☒
Separate Dewatering Permit (if yes, permit number)	Yes ☐	Permit #________	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.

6-13-13
Cory S. Freeman, Registered Project Engineer Date

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

Cedrik Zemitis 6/19/13
Cedrik Zemitis, Project Manager Date

6-20-13
Ron Kaiser, Designated Maintenance Representative Date

6-21-13
BRAD COLE, *Designated Landscape Architect Representative* Date

Rebecca Eastman 6-18-2013
[Stamp Required for PS&E only) *Rebecca Eastman, District Design SW Coordinator or Designee* Date

Attachment J

State of California | Business, Transportation and Housing Agency

TRAFFIC MANAGEMENT PLAN CHECKLIST

District / EA: 09-335000
Date Prepared: May 18, 2012
Prepared By: Cory Freeman

Co.-Rte-KP: Mno-395-52.3/53.7

Description: Lee Vining Rockfall Project

	Included in Project	Under Dvlpmnt	Not required	Not Applicable	COMMENTS
1.0 Public Information					
1.1 Brochures and Mailers		x			rest stops, local visitor centers in YNP, LV
1.2 Media Releases (& minority media sources)		x			newspapers, radio
1.3 Paid Advertising			x		
1.4 Public Information Center			x		
1.5 Public Meetings/Speakers Bureau		x			as needed
1.6 Telephone Hotline			x		
1.7 Visual Information (videos, slide, shows			x		
1.8 Total Facility Closure			x		
1.9 Local cable TV and News		x			press release to local media
1.10 Traveler Information Systems (Internet)		x			by PIO
1.11 Internet		x			D9 Website
2.0 Motorist Information Strategies					
2.1 Electronic Message Signs		x			PCMS during construction
2.2 Changeable Message Signs		x			in Bishop, Bridgeport, Topaz
2.3 Extinguishable Signs			x		
2.4 Ground Mounted Signs		x			Construction Area Signs
2.5 Commercial Traffic Signs			x		
2.6 Highway Advisory Radio (fixed and mobile)			x		
2.7 Planned Lane Closure Web Site		x			D9 Website
2.8 Caltrans Highway Information Network (CHIN)		x			Notice at begin CON
2.9 Radar Speed Message Sign			x		
3.0 Incident Management					
3.1 Call Boxes				x	
3.2 Construction or Maintenance Zone Enhance Enforcement Program - COZEEP or MAZEEP				x	
3.3 Freeway Service Patrol				x	
3.4 Traffic Surveillance Stations (loop detectors and CCTV)				x	signalized one-way traffic control
3.5 911 Cellular Calls		x			inspectors & Resident Engineer
3.6 Transportation Management Center				x	
3.7 Traffic Control Officers				x	
3.8 CHP Officer in TMC during construction				x	
3.9 Traffic Management Teams				x	
3.10 On-site Traffic Advisor		x			Resident Engineer
3.11 CHP Helicopter				x	
3.12 Upgraded Equipment				x	

	Included in Project	Under Dvlpmnt	Not required	Not Applicable	COMMENTS
4.0 Construction Strategies					
4.1 Incentive/Disincentive Clauses			X		
4.2 Ramp Metering				X	
4.3 Lane Rental				X	
4.4 Off peak/Night/Weekend Work			X		
4.5 Planned Lane/Ramp Closures		X			24hr signalized Reversible One-lane
4.6 Project Phasing			X		
4.7 Temporary Traffic Screens			X		
4.8 Total Facility Closure			X		
4.9 Truck Traffic Restrictions			X		
4.10 Variables Lanes			X		
4.11 Extended Weekend Closures			X		
4.12 Reduced Speed Zones		X			
4.13 Coordination with adjacent construction		X			
4.14 Traffic Control Improvements			X		
4.15 Contingency Plans	X				To be required by SSP's
4.15.1 Material Plant on standby			X		
4.15.2 Extra Critical Equipment on site			X		
4.15.3 Material Testing Plan			X		
4.15.4 Alternate Material on site (In case of failure or major delays)			X		
4.15.5 Emergency Detour Plan			X		
4.15.6 Emergency Notification Plan		X			Notification to RE
4.15.7 Weather Conditions Plan		X			
4.15.8 Emergency Funding Plan			X		
4.15.9 Delay Timing and Documentation Plan		X			20 min. max delay
4.15.10 Late Closure Reopening Notification (Policy & Plan)			X		
4.15.11 Traffic Inspector on site		X			Resident Engineer
5.0 Demand Management					
5.1 HOV Lanes/Ramps				X	
5.2 Park-and-Ride Lots				X	
5.3 Parking Management/Pricing				X	
5.4 Rideshare Incentives				X	
5.5 Rideshare Marketing				X	
5.6 Transit, Train, or Light-Rail Incentives				X	
5.7 Transit Service Improvements				X	
5.8 Variable Work Hours				X	
5.9 Telecommute				X	
5.10 Ramp Metering				X	
6.0 Alternate Route Strategies					
6.1 Ramp Closures				X	
6.2 Street Improvements				X	
6.3 Reversible Lanes		X			
6.4 Temporary Lanes or Shoulders Use		X			
6.5 Freeway to freeway connector closures				X	

7.0 Other Strategies

	Included in Project	Under Dvlpmnt	Not required	Not Applicable	COMMENTS
7.1 Application of new technology				x	
7.2 Innovative products				x	
7.3 Improved specifications			x		
7.4 Staff Training/Development			x		
7.5 Upgraded Equipment			x		

Peer Review Committee:

This TMP has been reviewed by the following PEER Committee Members:

	Name	Tele/Fax	Representing	Signature
1-	Brian Wesling	(760) 872-0630	Design	
2-	~~Rob Sanchez~~ Tim Shultz	~~(760) 872-0656~~ (760) 872-5211	~~South Construction Area~~ North Construction Area	

Approved by:

DONNA HOLLAND
PEER COMMITTEE CHAIR

Attachment K

District 9

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

RISK REGISTER CERTIFICATION (ACCOUNTABILITY CHECKPOINTS)

Form PM-001/CR (Rev. 1/8/2013)

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

Project Information

District – EA/EFIS	09-33500/(0900020002)
Project Description	Mitigate Mono Lake Rockfall
Project Risk Manager (Same as PM for Risk Level 1&2 Projects)	Cedrik Zemitis
Cedrik Zemetis, Project Manager (PM)	

PA&ED (Required)

CHRISTINE COX-KOVACEVICH Chief, Central Region Environmental	for C. Cox-Kovacevich	Date: 6-27-13
BRIAN EVERSON Chief, Central Region Project Development		Date: 6-27-13
BRYAN WINZENREAD Deputy District Director, Program/Project Management		Date: 6/27/13

Prior to PS&E (Required)

CRAIG HOLSTE District 9 Division Chief, Maintenance and Operations	N/A	Date:
MARK DER MATOIAN Chief, Central Region Construction	N/A	Date:
DONALD E. GREBE Acting Chief, Central Region Right of Way	N/A	Date:
CHRISTINE COX-KOVACEVICH Chief, Central Region Environmental	N/A	Date:
BRIAN EVERSON Chief, Central Region Project Development	N/A	Date:
BRYAN WINZENREAD Deputy District Director, Program/Project Management	N/A	Date:
Cedrik Zemitis Project Manager	N/A	Date:

Central Region Project Management Support Unit - *Caltrans Improves Mobility*

Thursday, May 30, 2013, 08:13 AM

Project 1/1

Risk Register Report

Project 09-33500_ / Risk ID 894

CO - RTE - PM	MNO - 395 - 52.3 / 53.7
Project Manager	Zemitis, Cedrik
Project Name	Lee Vining Rockfall Safety Project
Location Desc	IN MONO COUNTY NEAR LEE VINING FROM 0.4 MILE NORTH OF NATIONAL FOREST VISITOR CENTER ROAD TO 0.7 MILE NORTH OF PICNIC GROUNDS ROAD
Work Desc	MITIGATE MONO LAKE ROCKFALL

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
07/12/2012	Brian Wesling	Design,DES	Active	Threat		Cost
Strategy	**Probability**	**Impact**	**Impact ($)**	**Impact (days)**	**Owner**	**Phase**
Accept	Very Low	High	200000	40	Environmental	Construction

Description	Though no adverse impacts have been identified, there are three special-status species of wildlife, the willow flycatcher, the long-eared owl, and yellow warbler, which may have the potential to undergo disturbance-related impacts from the proposed construction activities. All three species have the potential to inhabit the riparian willow habitat located in three places on the east side of the highway across from slopes 3, 4, and 6; though none of these species were observed during the field surveys conducted for the NES. Because of the potential for these three species to be present during the proposed construction activities the following minimization measures are proposed: o Preconstruction surveys and monitoring would be required for the areas across from slopes 3, 4, and 6 to determine if nesting birds were in the area. o Construction personnel and equipment would not be allowed to enter these three willow habitat locations located across from slopes 3, 4, and 6. o Applicable contract language as found in the Biological Resources, section 14-6 of the 2010 Standard Specifications, would be included in the contract documents. Should nesting birds be found, construction activities would not be allowed to start or would need to be suspended at slopes 3, 4, and 6 until subsequent surveys indicate that nesting birds are no longer present. Should special-status plant species be found they would need to be protected as directed in the contract language. Detailed information regarding these issues can be found in the Natural Environment Study dated June 2012. Though no special-status plant species were located during field surveys, there does exist the possibility that some could be present within the project footprint. Because the possibility exists pre-construction botanical surveys of the project impact areas will be required. Applicable contract language as found in the Biological Resources, section 14-6 of the 2010 Standard Specifications, would be included in the contract documents.
Trigger	during the preconstruction survey or during construction a nest is found belonging to a migratory or special status bird.
Response	We cannot prevent birds from nesting. Biologists believe that this risk will likely not trigger but if it did, the RW delay (time and cost) would be significant.
Common Risks	Environmental:Project causes an unanticipated barrier to wildlife
Other Risks	

Project 09-33500_ / Risk ID 793

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/13/2007	Cedrik Zemitis	Design	Active	Threat		Scope
Strategy	**Probability**	**Impact**	**Impact ($)**	**Impact (days)**	**Owner**	**Phase**
Avoid	Low	Low	0	0	Design Manager	PID

Description	Construction requirements for sensitive work not included in PS&E SSP’s
Trigger	Requirements not included in SSP's
Response	Early communication and identification of special requirements
Common Risks	Construction:Delay in demo due to sensitive habitat require. or other reasons
Other Risks	

Project 09-33500_ / Risk ID 792

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/13/2007	Cedrik Zemitis	Design	Active	Threat		Cost
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Avoid	Low	Low	0	0	Design Manager	PID

Description	No contractor available for the specialty work required (netting/scaling)
Trigger	Contractor Pool for this type of work not available
Response	Early solicitation and providing information to bidders
Common Risks	External:Labor shortage or strike
Other Risks	

Project 09-33500_ / Risk ID 791

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/13/2007	Cedrik Zemitis	Design	Active	Threat		Cost
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Accept	Low	Moderate	0	0	Design Manager	PID

Description	No staging area available
Trigger	No staging area available
Response	Accept this risk by incorporating into project design
Common Risks	Construction:Insufficient or limited construction or staging areas
Other Risks	

Project 09-33500_ / Risk ID 790

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
10/26/2009	Cedrik Zemitis	PPM	Active	Threat		Scope
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Avoid	Moderate	Very High	0	0	Project Manager	PID

Description	USFS does not support project
Trigger	Opposition to project
Response	Early outreach, communication, and coordination with USFS
Common Risks	External:Political factors or support for project changes
Other Risks	

Project 09-33500_ / Risk ID 789

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/13/2007	Cedrik Zemitis	PPM	Active	Threat		Scope
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Avoid	Moderate	Very High	0	0	Project Manager	PID

Description	Mono County does not support project.
Trigger	Opposition to project
Response	Early outreach, communication, and coordination with Mono County
Common Risks	External:Political factors or support for project changes

Other Risks	

Project 09-33500_ / Risk ID 788

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/13/2007	Cedrik Zemitis	PPM	Active	Threat		Scope
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Avoid	Moderate	Very High	0	0	Project Manager	PID

Description	Opposition to stop project
Trigger	Opposition to project
Response	Early outreach, communication, and coordination with agencies and opposition groups
Common Risks	External:Local communities pose objections
Other Risks	

Project 09-33500_ / Risk ID 787

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/13/2007	Cedrik Zemitis	Environmental	Active	Threat		Scope
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Accept	Moderate	High	0	0	Environmental Manager	PID

Description	Cannot remove or workaround Tufa
Trigger	Environmental identifies that Tufa rock cannot be disturbed
Response	Early identification of Tufa disturbance requirements. Acceptance through eliminate Alternative I, Phase II
Common Risks	Environmental:New alternatives required to avoid or minimize impact
Other Risks	

Project 09-33500_ / Risk ID 785

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/13/2007	Cedrik Zemitis	Environmental	Active	Threat		Cost
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Accept	Moderate	Moderate	0	0	Environmental Manager	PID

Description	Biological mitigation required
Trigger	Biological impacts identified require mitigation
Response	Early identification of biological mitigation requirements
Common Risks	Environmental:Acquisition, creation or restoration of on or off-site mitigation
Other Risks	

Project 09-33500_ / Risk ID 784

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
10/26/2009	Cedrik Zemitis	Environmental	Active	Threat		Scope
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Avoid	Moderate	Very High	0	0	Landscape Architect	PID

Description	Visual impacts cannot be addressed adequately
Trigger	Agency or other Stakeholders identify visual impacts not satisfactorily addressed

Response	Early communication and presenting visual simulations
Common Risks	Engineering Services:Unforeseen aesthetic requirements
Other Risks	

Project 09-33500_ / Risk ID 783

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/13/2007	Cedrik Zemitis	Environmental	Active	Threat		Cost
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Accept	Very Low	High	0	0	Environmental Manager	PID

Description	Cultural work required
Trigger	Cultural site identified
Response	Early coordination with SHPO
Common Risks	Environmental:Historic site, endang. species, riparian, wetlands, pub. park
Other Risks	

Project 09-33500_ / Risk ID 782

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/13/2007	Cedrik Zemitis	Design	Active	Threat		Scope
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Accept	Low	Very Low	0	0	Design Manager	PID

Description	1 ½ :1 and 2:1 slopes cannot be constructed
Trigger	Geotechnical Report & Design suggests proposed slopes would still be unstable
Response	Eliminate Alternative I, Phase II
Common Risks	Design:Unexpected geotechnical or groundwater issues
Other Risks	

Project 09-33500_ / Risk ID 781

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/13/2007	Cedrik Zemitis	Environmental	Active	Threat		Scope
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Avoid	Low	High	0	0	Landscape Architect	PID

Description	Opposition groups do not accept re-vegetation plans
Trigger	Opposition does not believe revegetation and visual plans
Response	Early communication and evidence of previous successful revegetation attempts
Common Risks	Engineering Services:Unforeseen aesthetic requirements
Other Risks	

Project 09-33500_ / Risk ID 780

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/12/2009	Cedrik Zemitis	Environmental	Active	Threat		Cost
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Avoid	Moderate	Moderate	0	0	Environmental Manager	PID

Description	If the Rockfall Netting affects the wildlife, other alternative materials would be required to alleviate rockfall. A delay may impact cost. Probability of occurrence is a 3 and impact to cost would be Moderate.
Trigger	Determination that rockfall netting affects wildlife.
Response	Find alternative material that does not affect wildlife. Early identification and communication of netting's impact to wildlife with resource agencies
Common Risks	Environmental:Project causes an unanticipated barrier to wildlife
Other Risks	

Project 09-33500_ / Risk ID 779

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/12/2009	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Mitigate	Low	High	0	0	Environmental Manager	PID

Description	If an Endangered Species were identified during biological survey, a biological opinion would be required. There would be an impact to both schedule and cost. Probability of occurrence is a 2; the impacts to the schedule and costs would be High.
Trigger	Endangered Species identified during the biological survey
Response	Conduct biological survey, as required. Early species identification and early coordination with Fish and Wildlife Services.
Common Risks	Environmental:Historic site, endang. species, riparian, wetlands, pub. park
Other Risks	

Project 09-33500_ / Risk ID 738

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/12/2009	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Accept	Low	Moderate	0	0	Environmental Manager	PID

Description	If 404, 401, and 1600 permits are required, there would be an impact to both schedule and cost. Probability of occurrence is a 2; the impacts to the schedule and the cost would be Moderate.
Trigger	Certain permits (404, 401, 1600) are required
Response	Determine as soon as possible if these permits are required
Common Risks	Environmental:Unforeseen formal NEPA/Env0Env consultation is required
Other Risks	

Project 09-33500_ / Risk ID 737

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/12/2009	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Accept	Moderate	Low	0	0	Environmental Manager	PID

Description	If the snow has not melted by March 1, a delay may impact the schedule. Probability of occurrence is a 3 and impact on the schedule would be Low.
Trigger	Snow has not melted by March 1
Response	Commence environmental studies as soon as the snow melts

Common Risks	Environmental:Historic site, endang. species, riparian, wetlands, pub. park
Other Risks	

Project 09-33500_ / Risk ID 736

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/12/2009	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Avoid	High	High	0	0	Environmental Manager	PID

Description	If the local community groups do not accept the re-vegetation plans, a delay may impact the schedule. Probability of occurrence is a 4 and the impact on the schedule would be High.
Trigger	Local community groups do not accept the re-vegetation plans
Response	Involve community groups early in the process to ensure acceptance of re-vegetation plans.
Common Risks	Environmental:Unforeseen formal NEPA/Env0Env consultation is required
Other Risks	

Project 09-33500_ / Risk ID 735

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/12/2009	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Avoid	Moderate	Moderate	0	0	Environmental Manager	PID

Description	If lengthy, unanticipated external reviews were to occur, a delay may impact the schedule. Probability of occurrence is a 3 and the impact on the schedule would be Moderate.
Trigger	Long, unanticipated external reviews
Response	Ensure that external reviews are known early on
Common Risks	Environmental:Unforeseen formal NEPA/Env0Env consultation is required
Other Risks	

Project 09-33500_ / Risk ID 734

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/12/2009	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Mitigate	Moderate	Moderate	0	0	Design Manager	PID

Description	If the Earthwork is not balanced (Borrow/Disposal site clearance), a delay may impact the schedule. Probability of occurrence is a 3 and impact to the schedule would be Moderate.
Trigger	Earthwork is not balanced
Response	Try to design the project with balanced earthwork.
Common Risks	Environmental:Environmental clearance for staging or borrow sites required
Other Risks	

Project 09-33500_ / Risk ID 732

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/12/2009	Cedrik Zemitis	Environmental	Active	Threat		Cost
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Avoid	Low	High	0	0	Environmental Manager	PID

Description	If Wetland impact were identified during survey, there would be an impact to both schedule and cost. Probability of occurrence is a 2; the impacts to the schedule and the cost would be High.
Trigger	Wetland impact identified during survey
Response	Rescope to avoid wetland impact or mitigate
Common Risks	Environmental:Historic site, endang. species, riparian, wetlands, pub. park
Other Risks	

Project 09-33500_ / Risk ID 731

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/12/2009	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Accept	Moderate	High	0	0	Environmental Manager	PID

Description	If the Willow Flycatcher were impacted then a Fish & Game 2081 permit would be required. There would be a corresponding impact to both schedule and cost. Probability of occurrence is a 3; the impacts to the schedule and cost would be High.
Trigger	Willow Flycatcher impacted
Response	Work closely with Fish & Game to expedite the 2081 permit to the extent feasible.
Common Risks	Environmental:Historic site, endang. species, riparian, wetlands, pub. park
Other Risks	

Project 09-33500_ / Risk ID 729

Date Identified	Entered By	Functional Unit	Status	Factor	Priority	Type
03/12/2009	Cedrik Zemitis	Environmental	Active	Threat		Schedule
Strategy	Probability	Impact	Impact ($)	Impact (days)	Owner	Phase
Mitigate	Moderate	High	0	0	Environmental Manager	PID

Description	If the State Park and USFS do not support the project, there will be a 4(f) impact to the project that may impact the schedule. Probability of occurrence is a 3 and impact on the schedule is High.
Trigger	State Park and USFS do not support the project
Response	Work closely with State Park/USFS to gain support for the project
Common Risks	Environmental:Unforeseen formal NEPA/Env0Env consultation is required
Other Risks	