

CALIFORNIA DEPARTMENT OF TRANSPORTATION

RECORD OF DECISION

FERGUSON SLIDE PERMANENT RESTORATION PROJECT

On State Route 140 from 8 miles east of Briceburg to 7.6 miles west of El Portal in Mariposa County, California

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 USC 327.

A. Decision

Caltrans, as the federal lead agency for this undertaking, has selected Alternative R for the Ferguson Slide Permanent Restoration Project. The California Department of Transportation's (Caltrans) Final Environmental Impact Statement (Final EIS) for the subject project, dated January 28, 2014, identified this alternative as the preferred alternative (Final EIS, Section 2.1.4, pages 25-26).

The Final EIS was prepared pursuant to the National Environmental Policy Act (NEPA). The Final EIS considered potential construction and operational impacts to the natural and human environment that would result from a No Build alternative and two build alternatives. Identification of the preferred alternative was based on environmental impacts, funding availability and community input and acceptance. Caltrans based its decision on the Final EIS and supporting studies, as well as comments received from the public and agencies. With the adoption of this Record of Decision (ROD), Caltrans will proceed with the knowledge that the project has been approved.

Selected Alternative

Alternative R proposes to construct a rockshed (cut and cover tunnel) through the talus of the slide along the existing alignment. The rockshed will be 760 feet long, providing two 12 ft. wide lanes, two 8 ft wide shoulders and a 4 ft. wide emergency egress walkway on the river side. The rockshed will be a reinforced concrete box structure, open to views of the river, supported on concrete piles and anchored with tie-backs into the west canyon wall. Retaining walls will be required on the approach ends of the structure to retain cuts that will be necessary for construction as well as to retain backfill material that will be placed on top of the structure to provide protection from future slides and rock falls. The total current construction capital cost of this alternative is estimated to be \$77,800,000. The current right of way capital cost is \$671, 273 for environmental mitigation and permits.

This alternative will be constructed in two stages. Stage 1 will be to remove and dispose of the slide talus to allow access to the original pre-slide cut slope in order to perform geotechnical investigations and data collection for detailed design of the foundation for the rockshed. This phase also includes installation of a cable anchor drapery system to cover the toe of the slide and exposed slopes above the excavation to allow removal of the slide debris down to the grade of the existing roadway. Stage 2 will be construction

of the rockshed, removal and restoration of areas previously disturbed during construction of the temporary bridges and detour.

B. Alternatives Considered

Build Alternative R (Rockshed/Tunnel)

This is the selected alternative described under "Decision."

Build Alternative T-3 (Tunnel under Slide Realignment)

Alternative T-3 proposed to realign the highway approximately 300 ft. to the west of the existing route under the slide. The tunnel would be 2,200 ft. long, providing two 12 ft. lanes, two 8 ft. shoulders and two 4 ft. emergency walkways. The shoulder width on the inside of the curves through the tunnel would require 3 ft. of additional width to accommodate stopping sight distance. The total current construction capital cost of this alternative is estimated to be \$225.7 million. The current right of way capital cost is \$671,273 for environmental mitigation and permits.

No-Build Alternative

Under this alternative, no work would be performed to address the indefinite closure of the section of State Route 140. The temporary bypass will remain a one-way detour vulnerable to future slide activity. The No-Build Alternative would leave State Route 140 damaged and blocked by the Ferguson rockslide, and it would leave temporary bridges in place to function as State Route 140. The temporary bridges could be significantly impacted during a 20-year or greater flood event. In addition, the traffic signals controlling the single-lane access through the detour would remain in operation. Full access would not be restored; therefore, the No-Build alternative would not satisfy the purpose of and need for the project.

Alternatives Considered and Eliminated

This section includes all alternatives that were considered during the project development process but were eliminated before the draft environmental document was circulated to the public. Information on when and why alternatives were eliminated from consideration is included. Some alternatives were considered in early planning documents and eliminated by the project development team, while other alternatives were studied in-depth and removed by Caltrans and the participating agencies just prior to the circulation of the draft environmental document.

Alternative E (Slide Removal)

Alternative E proposed to remove the debris from the rockslide and restore State Route 140 on the existing alignment. This alternative was considered during the initial alternatives development process and withdrawn by the project development team for the following reasons:

- The rockslide would have to be removed from the top down, which would require building a 30-foot-wide, two-lane road on either side of the rockslide to the top of the rockslide. Approximately nine (9) acres of Limestone salamander habitat would be impacted. Direct adverse effect to the outstandingly remarkable value of Wildlife.

- The rockslide contains about 800,000 cubic yards of rock material. Removing, transporting and disposing of this material would take 200 trips each day for up to 300 working days, using the typical 15-ton-capacity mining trucks.
- There is a potential that once the rockslide material was removed, additional material upslope could begin to slide down, endangering drivers and recreational users and potentially closing the highway again.
- Based on the geology and stability of the canyon and the massiveness of the slide, removal is not considered a viable long term solution.

Alternative S-2 (Modified Viaduct Realignment)

Alternative S-2 proposed multiple bridge types to span the Merced River and that would physically fit within the alignment of the canyon. A total of five bridge types were studied by Caltrans, which included tied-arch, slant-leg, steel-through truss, suspension, and cable stay. This alternative and its variations were considered during the alternatives development process for a November 2010 Draft Environmental Impact Report/Environmental Impact Statement.

The steel-through truss, suspension, and cable stay were determined non-viable by the project development team for the following reasons:

- The topography of the Merced River canyon requires bridge spans to be placed on curved alignments. These bridge types do not allow for curves in the length of their span.
- The confines of the Merced River canyon would not accommodate these bridges and the approaches that would be required to meet current Caltrans design standards.
- This alternative would have a direct and adverse effect to the Merced Wild and Scenic River's outstandingly remarkable values of Recreation and Cultural/Historic.
- This alternative would have a permanent use of 0.05 to 0.07 acre of the Merced River/Incline Road Section 4(f) property, which is prohibited if there is a prudent and feasible alternative that avoids the use.

The tied-arch (S2-V1) and slant-leg (S2-V2) bridges were considered during the environmental study process and were presented as viable alternatives in the November 2010 Draft Environmental Impact Report/Environmental Impact Statement. They were removed from further consideration by Caltrans and the participating agencies for the following reasons:

- This alternative would have a direct and adverse effect to the Merced Wild and Scenic River's outstandingly remarkable values of Recreation and Cultural/Historic.
- This alternative would have a permanent use of 0.05 to 0.07 acre of the Merced River/Incline Road Section 4(f) property, which is prohibited if there is a prudent and feasible alternative that avoids the use.

Alternative T-2 (Western Tunnel Realignment)

Alternative T-2 proposed to realign the highway south of the Ferguson rockslide by tunneling one mile through the mountain from the existing State Route 140 alignment. This alternative was considered during the alternatives development process for the November 2010 Draft Environmental Impact

Report/Environmental Impact Statement, but was rejected by the project development team for the following reasons:

- This alternative is estimated to cost \$528 million (2013 dollars). This alternative is economically infeasible.
- This alternative would take up to 7 years to build.
- This alternative would require the transport and disposal of about 500,000 cubic yards of excavated material to a disposal site outside of the project area. This equates to about 200 trips a day for 180 working days, using the typical 15-ton-capacity mining trucks.
- A tunnel of this size would require 3-foot-in-diameter emergency exits placed throughout the entire length of the tunnel to provide vertical access to the top of the mountain from the tunnel. These vertical emergency exits would require one to climb up to 2,000 feet in elevation to exit the tunnel. Engineering, construction, and maintenance of these exits would be economically infeasible.
- Direct but not adverse effect to the outstandingly remarkable value of Wildlife.

Alternative A (At-grade Realignment)

Alternative A proposed to realign the highway to the northeast, spanning the Merced River with two at-grade concrete bridges. State Route 140 would bypass the rockslide on a half-mile of Incline Road and then span the river to meet with the existing alignment. This alternative was considered during the alternatives development process for the November 2010 Draft Environmental Impact Report/Environmental Impact Statement, but was rejected by the project development team for the following reasons:

- The design speed of this roadway alignment would be 25 miles per hour at the bridge entrances and exits, which is non-standard and poses a safety concern for motorists.
- A substantial side-hill excavation into a one-half mile section of the northern canyon wall would be required.
- Prolonged closures of the temporary detour would be necessary, denying access to Yosemite National Park via State Route 140.
- The conversion of a half-mile of Incline Road into the state highway would restrict trail use activities to the shoulders of the road, which is prohibited if there is a feasible alternative that avoids the use.
- This alternative would have a permanent use of 3 acres of the Merced River/Incline Road Section 4(f) property.
- An ongoing slide-monitoring program would have to be established due to the potential of future rockslides affecting the at-grade bridges.
- At-grade bridges would be more vulnerable to a future rockslide.
- The at-grade bridges would be built at a level below a 20-year flood event, posing a longitudinal encroachment.

Alternative C (Open-cut Realignment)

Alternative C proposed to realign the highway to the northeast. It would span the Merced River with a concrete bridge bypassing the rockslide, cut through the mountain across the river from the rockslide, and then span back across the river where it would meet the existing alignment. This alternative was considered during the environmental study process and was presented as a viable alternative in both the November 2007 Initial Study/Environmental Assessment and the November 2010 Draft Environmental Impact Report/Environmental Impact Statement. The alternative was removed from further consideration by Caltrans and the participating agencies for the following reasons:

- This alternative would have a direct, immitigable effect to the free flow of the Merced Wild and Scenic River. Under the National Wild and Scenic Rivers Act, any development affecting the free-flowing condition of a Wild and Scenic River would require a congressional waiver.
- This alternative would have a direct and adverse effect to the Merced Wild and Scenic River's outstandingly remarkable values of Recreation and Cultural/Historic, and a direct but not adverse effect to the outstandingly remarkable value of Wildlife.
- This alternative would have a permanent use of 0.02 acre of the Merced River/Incline Road Section 4(f) property, which is prohibited if there is a prudent and feasible alternative that avoids the use.

Alternative T (Tunnel Realignment)

Alternative T proposed a similar realignment to Alternative C, spanning the Merced River twice with concrete bridges. Instead of a cut through the mountain on the north side of the river, this alternative featured a 700-foot tunnel through the mountain. This alternative was considered during the environmental study process and was presented as a viable alternative in both the November 2007 Initial Study/Environmental Assessment and the November 2010 Draft Environmental Impact Report/Environmental Impact Statement. The alternative was removed from further consideration by Caltrans and the participating agencies for the following reasons:

- This alternative would have a direct, immitigable effect to the free flow of the Merced Wild and Scenic River. Under the National Wild and Scenic Rivers Act, any development affecting the free-flowing condition of a Wild and Scenic River would require a congressional waiver.
- This alternative would have a direct and adverse effect to the Merced Wild and Scenic River's outstandingly remarkable values of Recreation and Cultural/Historic, a direct but not adverse effect to the outstandingly remarkable value of Wildlife, and short-term impacts to Recreation and Geology.
- This alternative would have a permanent use of 0.02 acre of the Merced River/Incline Road Section 4(f) property, which is prohibited if there is a prudent and feasible alternative that avoids the use.

Alternative S (Viaduct Realignment).

Alternative S proposed to realign the highway to the northeast, spanning the Merced River with a bridge, following the edge of the hillside on the north side of the river with a viaduct and retaining wall then spanning back across the river to meet the existing alignment. This alternative was considered during the environmental study process and was presented as a viable alternative in both the November 2007 Initial Study/Environmental Assessment and the November 2010 Draft Environmental Impact

Report/Environmental Impact Statement. The alternative was removed from further consideration by Caltrans and the participating agencies for the following reasons:

- This alternative would have a direct, immitigable effect to the free flow of the Merced Wild and Scenic River. Under the National Wild and Scenic Rivers Act, any development affecting the free-flowing condition of a Wild and Scenic River would require a congressional waiver.
- This alternative would have a direct and adverse effect to the Merced Wild and Scenic River's outstandingly remarkable values of Recreation and Cultural/Historic, and a direct but not adverse effect to the outstandingly remarkable value of Wildlife.
- This alternative would have a permanent use of 0.03 acre of the Merced River/Incline Road Section 4(f) property, which is prohibited if there is a prudent and feasible alternative that avoids the use.

Basis for the Decision

The selection of Alternative R is based on discussion and input from federal, state, and local agencies, interested parties, and individuals during the public involvement process. A comparative evaluation of the alternatives was made using criteria reflecting the project purpose and need; environmental impacts; engineering and traffic flow parameters; and comments received during the Draft EIS public review periods.

Potential environmental effects, cost, and the degree to which they meet the project purpose and need are used to evaluate the proposed project alternatives. The two proposed build alternatives would restore full access between the communities of Mariposa and El Portal on State Route 140, as well as to Yosemite National Park and other recreational opportunities. Both build alternatives are consistent with the Mariposa County General Plan, the Sierra National Forest Land and Resource Management Plan, and the South Fork and Merced Wild and Scenic River Implementation Plan. The build alternatives would maintain access through the project area for all types of emergency vehicles whereas the No-Build Alternative currently provides short-term access for emergency vehicles. The No-Build Alternative's eventual failure and removal of the temporary bridges from the environment would cut off emergency access through the area in the long term. The No-Build Alternative is inconsistent with the Mariposa County General Plan and the purpose and need of the project.

Alternative R is predicted to reduce scenic quality in the area to moderately low, a more substantial visual impact than Alternative T-3. Alternative T-3 would improve the project area's visual and aesthetic quality. The No-Build Alternative imposes a short-term visual quality of moderately high with the temporary bridges in place. With the removal of the temporary structures, the surrounding landscape would be restored to its naturally high visual quality.

Construction activities associated with the build alternatives would cause short-term impacts to surface water quality and could potentially create long-term surface water impacts through storm water runoff. The temporary structures of the No-Build Alternative would create only short-term storm water runoff impacts since the bridges would eventually be removed. Also, either build alternative, if built, could result in a similar chance of dispersing non-native weed species in the area. Potential hazardous waste and materials exposures are similar in all of the alternatives in that they present the possibility of exposure to elevated levels of arsenic along Incline Road due to soil disturbance.

The build alternatives would have some impact on the Merced River, which is designated as a Wild and Scenic River. Alternatives R and T-3 would not place structures within the free-flowing boundaries of the river, but they both would affect the outstandingly remarkable value of wildlife in the area by removing a portion of limestone salamander habitat, resulting in the potential take of limestone salamanders.

Alternative R would remove a little more than 2 acres of salamander habitat, while Alternative T-3 would remove a bit less than half an acre. Incline Road would be restored to its previous condition, removing the temporary use of the Section 4(f) property.

The No-Build Alternative would have short-term impacts on the free flow of the river if the water level exceeds the ordinary high water mark. The temporary structures would eventually be removed from the banks of the river, eliminating the impact to the river. The No-Build Alternative would not affect the limestone salamander during this alternative's temporary lifespan or upon its removal. Incline Road would be restored to its previous condition, removing the temporary use of the Section 4(f) property.

The No-Build Alternative has the greatest potential of all the Alternatives to alter the character defining qualities of the Merced River Cultural Landscape (MRCL) by eventually closing Highway 140. By closing Highway 140, this alternative would majorly affect the historic function of Highway 140 as the embodiment of the millennia-old living system transportation corridor between the San Joaquin and Yosemite Valleys.

There would be a significant amount of rock removed for both build alternatives through cutting, blasting and drilling. Sediment from construction operations could cause short-term impacts to water quality. Alternative R would remove 80,000 cubic yards of the rockslide talus, requiring 200 truck loads per day for 30 working days. Alternative T-3 would remove 292,000 cubic yards of rock, requiring 200 truck loads per day for 105 working days. The build alternatives have the potential to cause minor rockfall in cut areas and also offer possible exposure to future slides. For the No-Build Alternative, the removal of the temporary bridges would restore the geology of the project area back to its natural contours.

Impacts from construction of the build alternatives would be temporary and would require minimal closures of the highway as traffic would be maintained throughout construction on the current temporary detour. Closure of the detour is not expected, though if needed would be no more than 10 to 15 minutes to move equipment in and out of the construction area.

Blasting and drilling activities would be used to build the rockshed or tunnel, and excess rock material would need to be hauled off to a disposal site outside the project area. Trucks removing excess material would use the detour traffic light cycle to enter the roadway. Trucks would most likely travel on State Route 140 through the town of Mariposa to reach disposal destinations. Haul loads would be required to be within the legal amount for the route. Any damage to the state route would be addressed by Caltrans.

Both build alternatives would include restoring Incline Road for use by bicyclists and pedestrians. The No-Build Alternative would eventually eliminate through traffic at the project site; at that time, Incline Road would be restored, but would be accessible only from the east side of the Ferguson rockslide. Currently, the temporary detour places short-term impacts on bicyclists and pedestrians because Incline Road is used as a vehicular route with no shoulders.

The build alternatives would have impacts on natural communities, although the magnitude of those impacts varies. Alternative R would remove around 2 acres of oak woodlands. Alternative T-3 would remove under a half acre. The No-Build Alternative would not have any impacts on natural communities.

Both build alternatives would have some effect on special-status plant species habitat, including copper moss, Tompkins sedge, Mariposa clarkia, and smallflower monkeyflower. Alternative R would remove more than an acre of smallflower monkeyflower habitat and slightly more than 2 acres of habitat for Mariposa clarkia and Tompkins sedge. Alternative T-3 would remove 0.25 acre of smallflower monkeyflower habitat and 0.45 acre of habitat for Mariposa clarkia and Tompkins sedge. Alternative T-3 would also affect one to two patches of copper moss.

The build alternatives would potentially affect some bat habitat and the habitat of the state fully protected ringtail, at least temporarily, due to ground disturbance related to construction. In addition, Alternatives R and T-3 would both remove potential habitat for the state fully protected limestone salamander.

Both build alternatives and the No-Build Alternative would include mitigation for impacts generated from the installation of the temporary bridges and detour road. These impacts include:

- Removal of 13 trees (8 oak trees, 1 upland tree, 4 riparian trees dominated by California ash and red willow)
- Impact to two Tompkin's sedge plants

The estimated costs of the build alternatives range between \$77.8 million for Alternative R and \$225.7 million for Alternative T-3.

After comparing and weighing the benefits and impacts of all of the feasible alternatives, as summarized in Table 2.1 and Section 2.1.3 of the Final EIS, Caltrans has identified Alternative R (Rockshed/Tunnel) as the preferred alternative for the Ferguson Slide Permanent Restoration Project. Caltrans has made the final determination of the project's impact on the environment based on the comments and concerns expressed during the public review period and the results of the engineering and environmental technical analysis.

The preferred alternative has been selected as the best choice for achieving the project's purpose to reopen and restore full highway access between Mariposa and El Portal via State Route 140. Both build alternatives would have mitigable impacts to the same environmental resources, with Alternative R having a slightly higher disturbance footprint based on the proposed structure being constructed on and above ground level, compared to Alternative T-3 being constructed underground. The ability to construct Alternative R approximately one year sooner than Alternative T-3 at approximately one-third the cost is seen as a benefit to the State of California, Yosemite National Park and the communities in Mariposa County who rely heavily on this transportation corridor to serve tourism and residents of the area.

The No-Build Alternative would leave State Route 140 damaged and blocked by the Ferguson rockslide. With the No-Build Alternative, the temporary detour would continue to function as State Route 140. Either general wear or damage from flooding in a high water year would eventually require the removal of the bridges, supporting structures, and the detour pavement, leading to the permanent closure of State Route 140 at the section damaged by the rockslide.

C. Section 4(f)

One Section 4(f) resource has been identified within the project area. The resource is the recreational portion of the Merced Wild and Scenic River, which includes the bed and bank of the river; Incline Road, which is used as a recreational trail; and the area between the north side of the river and Incline Road.

The Merced River is designated as a federal Wild and Scenic River to protect the largely undeveloped river from further development to preserve the wild, scenic, and recreational characteristics. The segment of the Merced River that flows through the project area is classified as recreational because of the presence of the highway and Incline Road and the recreational activities that the river supports. This 5.5-mile segment extends from the confluence of the South Fork Merced River to the northwest boundary of the Sierra and the southeast boundary of the Stanislaus National Forests. The river here is free flowing; the slopes alongside it are sparsely vegetated, making the river highly visible to the traveling public. Whitewater rafting, fishing, hiking and picnicking are popular activities along this part of the Merced River.

The portion of Incline Road that parallels the Merced River within the project area is considered to be a recreational trail that the public can use and access via State Route 140. Hiking and biking are popular activities on the trail, with occasional equestrian riders using it as well. The U.S. Forest Service owns and maintains Incline Road for its use as a recreational trail. The recreational aspect of Incline Road contributes to the Wild and Scenic River's outstandingly remarkable value of recreation.

Alternatives R and T-3 avoid permanent use of the Section 4(f) resource. With the implementation of minimization measures during construction and the restoration of Incline Road to its previous condition, the build alternatives would not adversely affect the recreational activities of the Section 4(f) resource.

The project would not adversely affect the activities, features, or attributes of the Merced River and because of the avoidance and minimization measures listed in Section 3.1.1.3 of the Final EIS, Caltrans requested that the Forest Service concur with a Section 4(f) *de minimis* finding for the build alternatives. Following public circulation of the draft environmental document, Caltrans summarized the results of the public review process with regard to Section 4(f) impacts in a letter prepared to the Forest Service on November 19, 2013. The Forest Service provided concurrence with the *de minimis* finding for the Merced River on November 22, 2013. Copies of the correspondence with the Forest Service regarding the *de minimis* Section 4(f) findings can be found at the end of Appendix B of the Final EIS.

D. Measures to Minimize Harm

The Ferguson Slide Permanent Restoration Project includes minimization and mitigation, including standard construction contract specifications and best management practices to reduce the minor impacts associated with the project. This information is included in Appendix E, Minimization and/or Mitigation Summary, of the Final EIS. Where applicable, minimization and mitigation measures are found under each environmental impact heading in Chapter 3. These mitigation measures are incorporated into this record of decision by reference. The more substantial impacts associated with the project are described below. The minimization and mitigation measures for these impacts are also discussed in Chapter 3 of the Final EIS and in Appendix E.

Human Environment:

Wild and Scenic Rivers (Wildlife) – Suitable limestone salamander habitat and the presence of this species occur on the southern slope next to the existing State Route 140. Completion of the preferred alternative would directly remove 2.10 acres of limestone salamander habitat and likely cause a take of the species, resulting in short-term effect from construction. Long-term indirect effect of habitat fragmentation may also result from habitat isolation.

Measures: The preferred alternative, Alternative R, would require a 2081 Incidental Take Permit from the California Department of Fish and Wildlife. Under normal circumstances, this permit would not be issued because the limestone salamander is a fully protected species. Assembly Bill 1973 was passed in July 2012 to amend Section 5050 and add to Section 2081.9 of the California Fish and Game Code to allow a one-time-only authorization by the California Department of Fish and Wildlife to issue a 2081 permit to Caltrans for the purpose of this project. The project must begin construction on or before January 1, 2016, which is when the authorization ends.

A construction window will be established to prevent construction-related activities from occurring on the southern slope during the salamander's active season, December through March. Environmentally sensitive area fencing in the form of 5-foot orange plastic mesh as well as salamander protection fencing in the form of 24-inch sheet metal would be erected if construction-related activities must be pursued next to limestone salamander habitat and during this species' active season.

Alternative R will require off-site compensatory mitigation for impacts to the limestone salamander at an approximately 3 to 1 ratio as part of the 2081 permit.

Wild and Scenic Rivers (Cultural and Historical Landscape) – The historic and prehistoric sites within the project area along with the ethnographic features are part of the unique historic context of the Merced River Canyon. Little change has occurred to the setting of the canyon since the construction of the historic railroad and highway. The preferred alternative would not physically affect the historic or prehistoric resources in the canyon, but would introduce a structural element next to the Merced River, altering the setting of the canyon. The preferred alternative would remove the temporary bridges and pavement along Incline Road (the former Yosemite Valley Railroad grade) after construction. The resulting effect to the outstandingly remarkable value of cultural and historical landscape would be a minimal long-term effect. Because State Route 140 is part of the historical landscape, any impacts would be reduced by the continuation of the historical function of the transportation system.

Measures: Although the bedrock mortar sites are situated away from the location of construction activities, they will be protected during construction by designating the sites as environmentally sensitive areas. Before construction, a professionally qualified staff archaeologist will oversee the placement of environmentally sensitive area fencing around each site. A Native American monitor will also be present during establishment of the fencing. During construction, the archaeologist and a Caltrans construction liaison will regularly inspect the fencing to ensure that it is intact and the protected sites are undisturbed.

Alternative R will remove the existing detour pavement from the Yosemite Valley Railroad grade (Incline Road) and restore it to its previous condition.

Visual/Aesthetics:

For the approaching driver, the 760-foot-long rockshed/tunnel, Alternative R, along with its entrance walls would be a new element in the landscape. As the driver passes through the rockshed/tunnel, views of the outside scenery would be partially blocked. The blocking of the outside scenery and the view of an exposed rockshed/tunnel wall by approaching drivers would decrease the visual quality from moderately high to moderate.

For river users and especially rafters, the 15- to 20-foot-high rockshed/tunnel walls would be very noticeable as the river flows toward and then passes by the roadway alignment. The benefit is that there would be no bridges to block views over the river. The visual quality would be reduced to moderately low.

For trail users, views of the rockshed/tunnel wall would be very similar to that of the river user, except that certain trees or other vegetation may obscure some portions of the wall. Given the presence of the exposed rockshed/tunnel wall, the visual quality would drop from moderately high to moderately low.

Measures: With implementation of avoidance, minimization, and/or mitigation measures, the visual impacts of the preferred alternative, Alternative R, will be reduced and will not result in substantial changes in scenic quality. The measures will further avoid affecting the designation of State Route 140 as a Scenic Highway. The following measures apply to the preferred alternative and would maintain the visual quality of the area if the project were built:

- Provide a landscape architect during construction as needed to oversee tree and native vegetation preservation, structural aesthetic applications, and replanting the project area.
- Round toes and tops of slopes to create a more natural appearance.
- Create a natural appearance to any rock outcropping exposed by construction and stain it to give a weathered look.
- Roughen new slopes to create the look of age.
- Apply erosion control to all disturbed slopes except rock outcroppings and prevent runoff into the river.
- Remove existing roadway paving, barriers, and other elements associated with unused portions of State Route 140.
- Where possible, salvage, stockpile, and replace topsoil and duff containing seeds and organic matter from affected areas. Where possible exposed slopes would receive a minimum of 4 inches of topsoil.
- Replace or add plant materials in specific areas, such as the tunnel entrances and removed temporary bridge footings, to visually mitigate for structure heights and cut slopes. Planting ratios shall be a minimum of 1:1, and species mix shall be developed in consultation with the U.S. Forest Service.
- Replant using native species and create natural-appearing patterns.
- Implement a minimum three-year plant establishment period during which supplemental irrigation would be provided to new plants where horticulturally appropriate.

- Restore Incline Road to its previous condition by removing all pavement and temporary bridge abutments.
- Design all visible exterior and interior portions of the rockshed or tunnel to be visually compatible with the natural setting of the State Route 140 corridor.
- Provide texture or pattern to tunnel entrances, and/or exposed walls or visible to drivers and recreational users of the river canyon.
- Use colors on structures that blend into the surroundings.
- Use darkened metal elements or non-reflective surfaces for guardrails and posts.
- Bury culverts when possible, and add color or texture to any exposed sections to fit the landscape.

Geology/Soils/Seismic/Topography:

The natural slopes above the preferred alternative, Alternative R, could produce rockfall. Alternative R would remove approximately 80,000 cubic yards of the rockslide talus.

For Alternative R, the bedrock may be cut and excavated by using blasting equipment such as hydraulic splitters and hoe rams. The cut and fill slopes for Alternative R would not be erosive because the bedrock exposed during excavation is made of hard phyllite and chert.

Caltrans' standard practice is to design all structures for seismicity by establishing a Maximum Credible Earthquake. The maximum credible earthquake is established by using correlations between fault lengths, displacement, and area and earthquake magnitudes. Earthquake acceleration for a particular site is also analyzed by comparing three parameters: the maximum credible earthquake, the peak historical acceleration, and the distance from the site to the fault. The Silver Lake fault would produce the highest earthquake acceleration at the project area, and that acceleration is not considered very strong. Alternatives R may be built within or next to topographic features adjacent to the Ferguson rockslide that may be dormant rockslides. Groundwater could be encountered during the blasting and drilling of the rockshed for Alternatives R.

Measures: With use of the blasting equipment mentioned above, the rock material being excavated will be controlled to prevent the spread of rock material, limit ground vibrations, and limit noise. The entrances for Alternatives R will be built at least 150 feet away (in both directions) from the flanks of the rockslide. Placing the entrances at these locations would provide adequate distance for more rockfall debris to accumulate without spilling onto the highway and blocking the rockshed. When the entrances are built, the slopes would be cut at a 1:4 ratio. A catchment area at-grade, rockfall barriers, or a combination of the two will be required for the preferred alternative to protect the roadway from the possibility of falling rock.

Biological Resources:

Threatened and Endangered Species

Merced Clarkia - Alternatives R will cut into the slope on the south side of the river where unconfirmed observations of Merced clarkia have been made. Although no confirmed sightings were made, the project area is considered potential habitat. Alternatives R will affect 2.10 acres of habitat.

Limestone Salamander - Alternatives R will remove 2.10 acres of limestone salamander habitat and may result in a take of the salamanders as defined in the California Endangered Species Act. Take could result from changes in above- and below-ground hydrology and blasting and excavating activities.

Measures:

Merced Clarkia – Although this plant was not observed during surveys, pre-construction surveys will be done in the appropriate bloom period within the year before construction to provide updated data. If the Merced clarkia is observed, environmentally sensitive area fencing will be placed around the population to protect it to the maximum extent possible. The California Department of Fish and Wildlife will be notified if the plant is observed. If the plants cannot be completely avoided, Caltrans will request a Section 2081 Incidental Take Permit.

Limestone Salamander - A construction work window will be established during initial ground disturbance activities to prevent construction-related activities from occurring on the southern slope during the salamander's active season, which is defined as December through March. Environmentally sensitive area fencing in the form of 5-foot orange plastic mesh as well as salamander exclusion (protection) fencing in the form of 24-inch sheet metal would be erected if construction-related activities were to occur next to limestone salamander habitat and during their active season.

Alternatives R will require a 2081 Incidental Take Permit from the California Department of Fish and Wildlife. Under normal circumstances, the California Department of Fish and Wildlife would not have the ability to issue a 2081 Incidental Take Permit for impacts to a fully protected species. However, Assembly Bill (AB) 1973 amended Section 5050 and Section 2081.9 of California Fish and Game Code to allow a one-time only authorization by the California Department of Fish and Wildlife to issue a 2081 Incidental Take Permit to Caltrans for the purposes of this project. AB 1973 was passed by the Assembly and Senate, and signed by the Governor on July 12, 2012.

Alternatives R will require off-site compensatory mitigation at approximately a 3 to 1 ratio as part of the 2081 Incidental Take Permit. Caltrans will purchase property that will have specific habitat elements indicative of limestone salamander presence. The parcel will likely be near the existing Limestone Salamander Ecological Reserve that is currently owned and managed by the California Department of Fish and Wildlife. Ownership and management could go to the California Department of Fish and Wildlife or to a non-profit land management organization such as the Sierra Foothill Conservancy. An endowment will also be required to cover the initial costs of management as well as long-term and recurring costs, and will accompany the property to be managed according to requirements in the 2081 Incidental Take Permit. The details of the plan will be proposed to California Department of Fish and Wildlife for review and approval in the 2081 Incidental Take Permit application.

E. Monitoring or Enforcement Program

An Environmental Commitment Record (ECR) has been prepared for the selected alternative in accordance with 23 CFR 635.309(j). The ECR identifies responsible parties and provides guidance for implementation and reporting for all mitigation measures described in Chapter 3 of the Final EIS. The ECR is summarized and located in Appendix E of the Final EIS.

Caltrans will be responsible for implementing and reporting the status of the mitigation measures in the ECR. Caltrans will also be responsible for construction management and oversight, and assuring that mitigation measures are fully implemented by designated and qualified personnel, which may include specialty contractors.

All mitigation monitoring report forms will be completed by those responsible for implementation, and verified by those responsible for monitoring and approval. Duplicate copies of certified forms will also be retained in the District 6 project file for this undertaking.

F. Comments on Final EIS

The Final EIS was circulated to governmental agencies, organizations and the public on January 28, 2014, and its "Notice of Availability" was published in the February 9, 2014 EPA Federal Register. The Final EIS 30-day availability period ended on March 10, 2014. No comments were received on the Final EIS.

G. Conclusion

Based on a careful consideration of all the social, economic, and environmental evaluations contained in the Final EIS, the input received from other agencies, organizations, and the public, and the factors and project commitments outlined above, it is the decision of the California Department of Transportation, as the federal lead agency for this undertaking, to select Alternative R as described in the Final EIS. This alternative was identified as the preferred alternative in the Caltrans Final EIS, approved January 28, 2014. All practical measures to minimize environmental harm have been adopted and will be incorporated into this decision.

Record of Decision Approval

April 1, 2014

Date

Amarjeet S. Benipal

AMARJEET S. BENIPAL

Acting District 10 Director

California Department of Transportation

CEQA and NEPA Lead Agency