Appendix C Section 4(f) Evaluation

1.1 Introduction

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. Code 327.

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code, Section 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that "the Secretary [of Transportation] may approve a transportation program or project…requiring the use of 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) only if:

(1) there is no prudent and feasible alternative to using that land; and

(2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs that use lands protected by section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

1.2 Description of Proposed Project

Caltrans proposes to replace the deteriorating rock parapet walls at seven locations on US Highway 50 (US 50) in El Dorado County from Robbins Run Sidehill (Post Mile 67.1) to Rockwall Sidehill 2 (Post Mile 67.6) by constructing modified Type 736 concrete barriers on Portland cement concrete slabs. The proposed project will also include lining or replacement of existing cross culverts within the project limits, digging out and replacing areas of loose and damaged asphalt concrete pavement and placing a 3-inch asphalt overlay on the highway.

The project also proposes to improve water quality by rehabilitating and upgrading existing drainage inlets to comply with the National Pollutant Discharge Elimination System (NPDES) Permit requirements (See Section 2.2.1 Water Quality and Storm Water Runoff section of the IS/EA for more information regarding NPDES requirements). Other alternatives considered for this analysis include repair of the existing rock parapet walls and the no-build alternative. These alternatives are discussed in further detail in section 1.5.

Purpose and Need for Proposed Project

The primary purpose of this project is to improve safety along the section of US 50 known as Upper Meyers Grade at Echo Summit. The secondary purpose of this project is to improve drainage features within the project limits.

The rock parapet walls along this section of roadway, that were built to act as a barrier to prevent vehicles from driving off the highway and down a steep cliff, have severely deteriorated over the years requiring an excessive degree of maintenance and do not meet current state and federal safety standards.

The National Cooperative Highway Research Program (NCHRP) standards and the current load and resistance factor design (LRPD) standards specified by the American Association of State Highway and Transportation Officials (AASHTO) require all traffic railings be able to withstand 54,000 pounds of force and be at least 32 inches in height. The existing rock wall parapets are approximately 18 inches tall and do not meet the strength requirement. It is Caltrans conclusion that the current rock wall parapet/barrier rail is unsafe and that there is nothing short of replacement to make it safe according to current standards.

In addition, the drainage systems within the project limits are in poor condition and in need of repair. All 13 culverts located within the proposed project area are corroded or damaged.

1.3 Description of Section 4(f) Property

Upper Meyers Grade was determined eligible for listing in the National Register of Historic Places under Criterion C at the state level of significance (pursuant to NHRP) for its engineering and aesthetic qualities (period of significance: 1939). The property is an outstanding example of the Department of Public Works, Division of Highway's careful design and engineering in an effort to meld a roadway into the natural beauty of the terrain and in mind of the spectacular views that would be afforded to the driving public. The effort resulted in the construction of numerous retaining walls, rock wall parapets, and a viaduct made of local granite, which allows full function of the facility while minimizing construction impacts to a recreational / scenic route. This was a challenging engineering feat with impressive results.

Upper Meyers Grade is a one-mile segment of US 50 from Post mile (PM) 66.8 to 67.8. The contributing elements of this property include the roadway, the Echo Sidehill Viaduct (Bridge #25 0044), rock parapet walls, and masonry retaining walls.

The property is located on land owned by the United States Dept of Agriculture/ Forest Service Lake Tahoe Basin Management Unit (LTBMU). Caltrans operates the highway under a DOT Easement.

The highway at this location is a two-lane road that occupies the original roadbed. The road has very narrow shoulders, with turnouts on the eastbound side only.

At post mile 67.3 the road is carried on the Echo Summit Sidehill Viaduct, a three-span concrete girder sidehill viaduct constructed in 1939. The bridge is 113 feet long and 24 feet wide, with masonry/rock parapets, abutments, and retaining wall. Due to the difficult nature of the terrain, the road has not been widened or modified in any substantive way since it was built.

At eight locations (including at the viaduct, which is not included in the current proposed project scope of work) along the one-mile section of highway, masonry retaining walls topped with low rock parapets support the highway on the downhill side. The retaining wall is constructed of roughly shaped blocks of granite rock of varying size, some showing drill marks from the splitting process, laid in random

coursing. In places the walls incorporate boulders or protruding bedrock. No work on the rock retaining wall is included in the scope of the proposed project.

The rock wall parapets are laid in level coursing and vary slightly in appearance from the retaining walls below, presenting a more rustic surface, and are lighter colored granite. The parapet blocks vary in length and every fourth or fifth block is a deeper "through stone" connecting the top two rows. Metal beam guardrails mounted on steel posts fill the space between masonry sections to provide a continuous barrier on the downhill side of the highway. The railings originally installed in the 1950s have been replaced as needed.

1.4 Impacts on Section 4(f) Property

In order to bring the facility into conformance with current safety standards (see section 1.2 of this analysis for more information regarding safety standards), Caltrans proposes to replace the rock parapet walls, which are important aesthetic features of the property, with modified Type 736 concrete barriers. This replacement would result in the "physical destruction of …part of the property," " rehabilitation…that is not consistent with Secretary's Standards for the Treatment of Historic Properties," and "change of…physical features within the property's setting that contribute to its historic significance." Removing the original rock parapets will diminish the property's integrity of design, materials, workmanship, and feeling and would have an adverse effect on the character- defining features of the property. The State Historic Preservation Officer (SHPO) has concurred with this finding of adverse effect in October 2007.

The section 4(f) statute (23 CFR 774.13(a)(1)) does not restrict the restoration, rehabilitation, or maintenance of transportation facilities that are on or eligible for the National Register when such work will not adversely affect the historic qualities of the facility that caused it to be on or eligible for the National Register. As noted in Section 1.3, the rock parapet walls are a contributing element to the historic qualities of the Upper Meyers Grade which is US 50. The replacement of the rock parapet walls will have an adverse effect on the National Register eligible Upper Meyers Grade, and therefore, constitute a "use" of a Section 4(f) property.

Since the removal of the original rock parapets is the action by which an adverse effect would occur, all other alternatives considered for this analysis (repair, no-build alternatives) would also have an adverse effect on Upper Meyers Grade. If the

parapet walls were to be repaired using the original materials, including similar mortar, an adverse effect would not occur. See section 1.5 for more details regarding these alternatives.

The work proposed on all of the aforementioned alternatives, considered for this analysis, will not have an effect on other contributing elements of Upper Meyers Grade.

1.5 Avoidance Alternatives

An avoidance alternative is prudent and feasible if it avoids using the Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the Section 4(f) property to the preservation purpose of the Section 4(f) statute.

An avoidance alternative is not feasible if it cannot be built as a matter of sound engineering judgment. 23 CFR 774.17, Definitions, Feasible and Prudent Avoidance Alternative (23 CFR 774.17) sets forth six factors to consider when determining whether an alternative is prudent:

1. Compromises the project so that it is unreasonable given the purpose and need;
2. Results in unacceptable safety or operational problems;
3. After reasonable mitigation, still causes:
   - Severe social, economic, or environmental impacts;
   - Severe disruption to established communities;
   - Severe environmental justice impacts; or
   - Severe impacts to other federally protected resources;
4. Results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
5. Causes other unique problems or unusual factors; or
6. Involves multiple factors listed above that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

The following alternatives were considered in this analysis:

1. Repair Existing Parapet: Due to the extensive damage that has occurred to the rock wall parapets (see photos in Appendix H) from errant drivers as well as avalanches and rock falls over the years, repairing the parapets presents many challenges. Large sections of many of the parapets are currently missing. The first challenge is that due to the historic significance of the parapets as well as the aesthetic importance of the area, repairs would need to be made in kind in order to avoid an adverse effect on a 4(f) resource (as described in Section 1.4). This would involve recovery of the original rock, which has fallen down a steep cliff, and repairing the wall with original type mortar. Recovery of the original rock presents a unique problem as the rocks have fallen off a steep cliff over many years and would be difficult if not impossible to retrieve. The repair activities would potentially pose a safety issue for someone to rappel down the wall to recover the rock and these activities would require lane closures, which may also pose a safety risk to workers and traveling public. If the parapets were repaired without recovering the original materials, this could still be considered an adverse effect to the historic resource and a Memorandum of Agreement would be necessary to address these effects.

   This alternative is feasible; as it can be built but this alternative would not meet the purpose and need of the project, which is to improve safety because using the original material would not meet the current Highway Safety Standards. Therefore, this alternative is is not a prudent alternative as it meets the conditions 1, 2 and 5 set forth in 23 CFR 774.17.

2. Replace Rock Wall Parapets with materials similar to original construction:

   If the rock wall parapets were to be replaced in kind with the exact materials (coarsely carved granite rocks and mortar similar to those used in original construction), the purpose and need of the project “to improve safety” would not be met as the current parapets do not meet current safety standards due to the existing height and strength capabilities. Due to the historic significance of the parapets as well as the aesthetic importance of the area, repairs would need to be made in kind in order to avoid an adverse effect on a 4(f) resource. If the rock wall parapets were not replaced with original, recovered, material an adverse effect would still likely occur and a Memorandum of Agreement

would need to be implemented to obtain agreement from SHPO and LTBMU on the types and color of materials used.

This alternative is feasible, as it can be built but this alternative would not meet the purpose and need of the project, which is to improve safety. Therefore, this alternative is not a prudent alternative as it meets the conditions 1 and 2 set forth in 23 CFR 774.17.

3. No-build/Do Nothing Alternative: The no-build alternative would involve leaving the existing rock parapets in their present condition. Due to the age and current condition of the existing rock parapet walls, not doing anything to repair or replace them would mean that the wall will continue to deteriorate and could lead to "demolition by neglect". Therefore, the no-build alternative would lead to an adverse effect and is not an alternative that would completely avoid the "use" or impact to the protected Section 4(f) resource.

   The no-build alternative would not meet the purpose and need of the project, which is to improve safety. Therefore, this alternative is not prudent as it meets the conditions 1 and 2 set forth in 23 CFR 774.17.

1.6 Measures to Minimize Harm

A Memorandum of Agreement between the California Department of Transportation, the California State Historic Preservation Officer, and the United States Forest Service (MOA), regarding the proposed project was executed on July 15, 2008. The MOA includes stipulations on the treatment of historic properties that shall be carried out by Caltrans in order to reduce the projects effect on the property. The MOA is included in Appendix G of the IS/EA prepared for this proposed project.

Caltrans proposes to install modified Type 736 barriers that simulate the appearance of the original rock parapets. A photo simulation is included in (Appendix H). The construction contractor shall create a form liner taken from a cast mold of the intact portions of the existing rock wall parapets for use in replicating the existing parapet features onto the new parapets. The concrete barrier will mimic the existing rock parapets in color as well as texture, by using concrete dyes and stains. In keeping with the standard plan for Type 736 barriers, the inboard side will be battered to narrow slightly at the top. The outboard side will be vertical and flush with the existing surface of the rock retaining wall. In order to achieve safety standards, the

relief of the textured concrete surface will be limited to 5/8 of an inch and the height of the wall will be approximately three feet. As agreed upon in the MOA, signatory parties shall have the opportunity to review and approve the sample/prototype wall prior to final placement.

Currently, the proposed project calls for lining the existing culverts; however, should culvert replacement be deemed necessary, Caltrans will avoid additional impacts to the property by conducting the work in a manner consistent with the Secretary of Interior Standards. The culverts protrude through the rock retaining wall, which is a character-defining feature of Upper Meyers Grade. Replacing the culverts would not alter the original purpose, historic character, or distinctive features of the property and therefore, would not result in an adverse effect or constitute a use of a 4(f) resource. The metal culverts would be replaced (if needed) in kind with 24 inch corrugated metal pipe and the Contractor would be required to rebuild the retaining wall using the original granite blocks (that are currently in place) to restore its original appearance.

1.7 Coordination

SHPO consultation began with the submittal of a Historic Property Survey Report (HPSR) and supporting technical studies in July 2007. The SHPO concurred with the eligibility determinations in August 2007. The rock parapet walls were determined to be contributing elements to Upper Meyers Grade, a National Register eligible property.

Caltrans applied the Criteria of Adverse Effect in accordance with Stipulation X.A of the PA and 36 CFR Part 800.5(a)(1) and has determined that the proposed project will have an Adverse Effect on Upper Meyers Grade, a National Register eligible property, and requested concurrence from the SHPO with this finding, pursuant to stipulation X.C.1. in September 2007. SHPO provided concurrence with this determination by letter dated October 24, 2007.

Caltrans entered into a Memorandum of Agreement (MOA) with SHPO and the US Forest Service Lake Tahoe Basin Management Unit (LTBMU) for the treatment of an adverse effect on a historic property found eligible for the National Register of Historic Places. This MOA was executed in July 2008 and is included in Appendix G of the IS/EA prepared for the proposed project.

Caltrans provided copies of the draft Section 4(f) Evaluation, appended to the Draft Environmental Assessment, to the Department of Interior (DOI) on April 30, 2009 (see Appendix F for copy of letter). Caltrans received no comments from DOI within 60 days of the confirmed delivery date of May 1, 2009.

1.8 Least Harm Analysis

If there is no prudent and feasible alternative to avoid harm to the Section 4(f) property, then only the alternative that causes the least overall harm in light of the statute's preservation purpose can be chosen. The least overall harm is determined by balancing the:

1. Ability to mitigate adverse impacts to each Section 4(f) resource

    a. Replacement of Rock Wall Parapets (proposed build alternative): The adverse effect of replacing the rock wall parapets will be mitigated by replacing the walls with materials and techniques that will mimic the original wall in texture and color.

    b. Repair of Rock Wall Parapets: If the parapets were repaired in kind with the original materials, no mitigation would be required. Due to the inherent difficulty of recovery of the fallen rocks, it is likely that new materials would be needed. If newer materials are used for repair, the possibility of an adverse effect still exists.

    c. No-build alternative: No mitigation would be required under this alternative; however, in time, this alternative may lead to an adverse effect due to "demolition by neglect".

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features:

    a. Replacement of Rock Wall Parapets (proposed build alternative): After mitigation, an adverse effect to the original property will still exist.

    b. Repair of Rock Wall Parapets: If repairs were implemented with original materials, it likely that there would not be an adverse effect to the property. However, it is likely that new materials would be needed which would likely result in an adverse effect.

c. No-build alternative: Leaving the rock wall parapets in their current condition would not create an immediate adverse effect that would require mitigation. In time, the parapets will continue to deteriorate and may lead to "demolition by neglect".

3. Relative significance of each Section 4(f) property:

   Upper Meyers Grade (described in Section 1.3 is) is the only identified Section 4(f) resource within the proposed project limits. Upper Meyers Grade was determined eligible for listing in the National Register of Historic Places under Criterion C at the state level of significance (pursuant to NHRP) for its engineering and aesthetic qualities (period of significance: 1939). The property is an outstanding example of the Department of Public Works, Division of Highway's careful design and engineering in an effort to meld a roadway into the natural beauty of the terrain and in mind of the spectacular views that would be afforded to the driving public.

4. Views of the officials with jurisdiction over each Section 4(f) property:

   SHPO and USFS /LTBMU concur with the proposal to replace the existing rock wall parapets and measures to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need:

   a. Replacement of Rock Wall Parapets (proposed build alternative): This alternative meets the Purpose and Need of the proposed project to improve safety.

   b. Repair of Rock Wall Parapets: This alternative does not meet the Purpose and Need of the project, as repairing the parapets would not bring the wall to current safety standards.

   c. No-build alternative: This alternative does not meet the Purpose and Need of the project, due to the continued deterioration of the rock wall parapets.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f):

There are no other adverse impacts to non 4(f) resources.

7. Substantial differences in costs among alternatives:

   Replacement of the Rock Wall Parapets would incur the greatest immediate cost for construction of the project. However, continued maintenance and repair would incur substantial unknown and speculative costs over time. The no-build alternative would incur the least construction cost yet also may result in unknown future expenses.

1.9 Concluding Statement

Based on the above considerations, there is no feasible and prudent alternative to the use/adverse effect to Upper Meyers Grade and the proposed action includes all possible planning to minimize harm to the rock wall parapets, which are contributing elements of Upper Meyers Grade. All possible planning was included in the process to formulate the MOA. The MOA and coordination and consultation letters are included in Appendices F and G of the IS/EA prepared for the proposed project.

Appendix D Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

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August 25, 2009

TITLE VI
POLICY STATEMENT

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RANDELL H. IWASAKI
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