Appendix B Section 4(f) Evaluation

Replacement of the Spanish Creek Bridge (Bridge No. 09-0015) on State Route 70 in Plumas County near Keddie

Submitted Pursuant to 49 U.S.C. 303

INTRODUCTION

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C 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."

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.

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project requiring 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 which use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

DESCRIPTION OF PROPOSED PROJECT

The California Department of Transportation (Caltrans) proposes to replace the Spanish Creek Bridge (Bridge No. 09-0015) on State Route (SR) 70 in Plumas County, post mile 35.3, near the community of Keddie. SR 70 is a two-lane conventional highway that connects SR 99 near Sacramento in Sutter County and U.S. 395 in southeastern Lassen County. The new bridge would be constructed parallel to the existing bridge and the roadway would be realigned to conform to the new bridge. Two build alternatives and a No Build alternative were developed to address the purpose and need of the project. A third build alternative was considered for the project; however, it would only delay the need for eventual replacement of the bridge. Since this eliminated alternative offered potential to avoid and/or minimize harm to the Spanish Creek Bridge and the Feather River Highway Historic District, it is included in the discussion below. The alternatives considered are as follows:

- Alternative A entails construction of a new bridge, parallel to and immediately west of the existing bridge, and seismically retrofitting the existing bridge. The seismic retrofit would consist of strengthening the bridge foundations and superstructure to withstand seismic forces. The existing bridge would remain in place for pedestrian and bicycle access. Motorized traffic would be limited to the new bridge;

- Alternative B involves construction of a new bridge, parallel to and immediately west of the existing bridge, and removal of the existing bridge. Alternative C (eliminated alternative) would rehabilitate the existing bridge. The rehabilitation project would consist of strengthening to withstand seismic loads and accommodate large truck permit loads. The work would include foundation strengthening, strengthening of the steel superstructure members, deck replacement, bearing replacement, bridge rail replacement, and spot painting. It is estimated that the rehabilitation alternative would extend the structure's life up to 25 years before another rehabilitation project would be necessary. This alternative would not address the fatigued steel or the lack of shoulders;

- .Alternative D is the "No Build" alternative, which assumes the existing bridge would be maintained and substantial improvements would not be made.

The purpose of the project is to provide a road crossing that meets modern highway design standards and accommodates interregional transportation needs. The existing Spanish Creek Bridge was constructed in 1932 and is at or near the end of its service life. The bridge exhibits signs of significant structural fatigue, does not comply with modern seismic standards, lacks standard shoulder width, and cannot accommodate some large permit loads due to lane width and structural limitations for weight loading.

Based on an evaluation of environmental impacts, consideration of public input, and approval of the Final EIR/EA, Caltrans has identified Alternative B (Build New Bridge and Remove Existing Bridge) as the preferred alternative. Additional description of the project and alternatives, including those alternatives that were eliminated, are found in Chapter 1 of the Spanish Creek Bridge EIR/EA.

LIST AND DESCRIPTION OF SECTION 4(f) PROPERTIES

The locations of properties evaluated relative to Section 4(f) are shown in Figure 1.

The Spanish Creek Bridge: The Spanish Creek Bridge (Bridge No. 09-0015) [Figure 2] is a riveted steel Warren deck truss carried on tall K-truss tower piers. It is approximately 600 feet in length, 23 feet wide between curbs, and approximately 140 feet above Spanish Creek. The bridge was designed by the Bridge Department of

the California Division of Highways and was constructed in 1932. It is eligible for inclusion in the National Register of Historic Places (National Register) and is a contributing element of the Feather River Highway Historic District, which is also eligible. The bridge was determined individually eligible for the National Register on January 9, 1986, under the Historic Truss Bridges in California Thematic Determination of Eligibility under Criterion A. The Spanish Creek Bridge is significant primarily as a historical transportation link, serving one of the major crossings on SR 70. The bridge has capacity and structural deficiencies and is approaching the end of its useful life. The bridge is located on SR 70 in Plumas County near the community of Keddie. It is owned by Caltrans and is located on an easement through Plumas National Forest land.

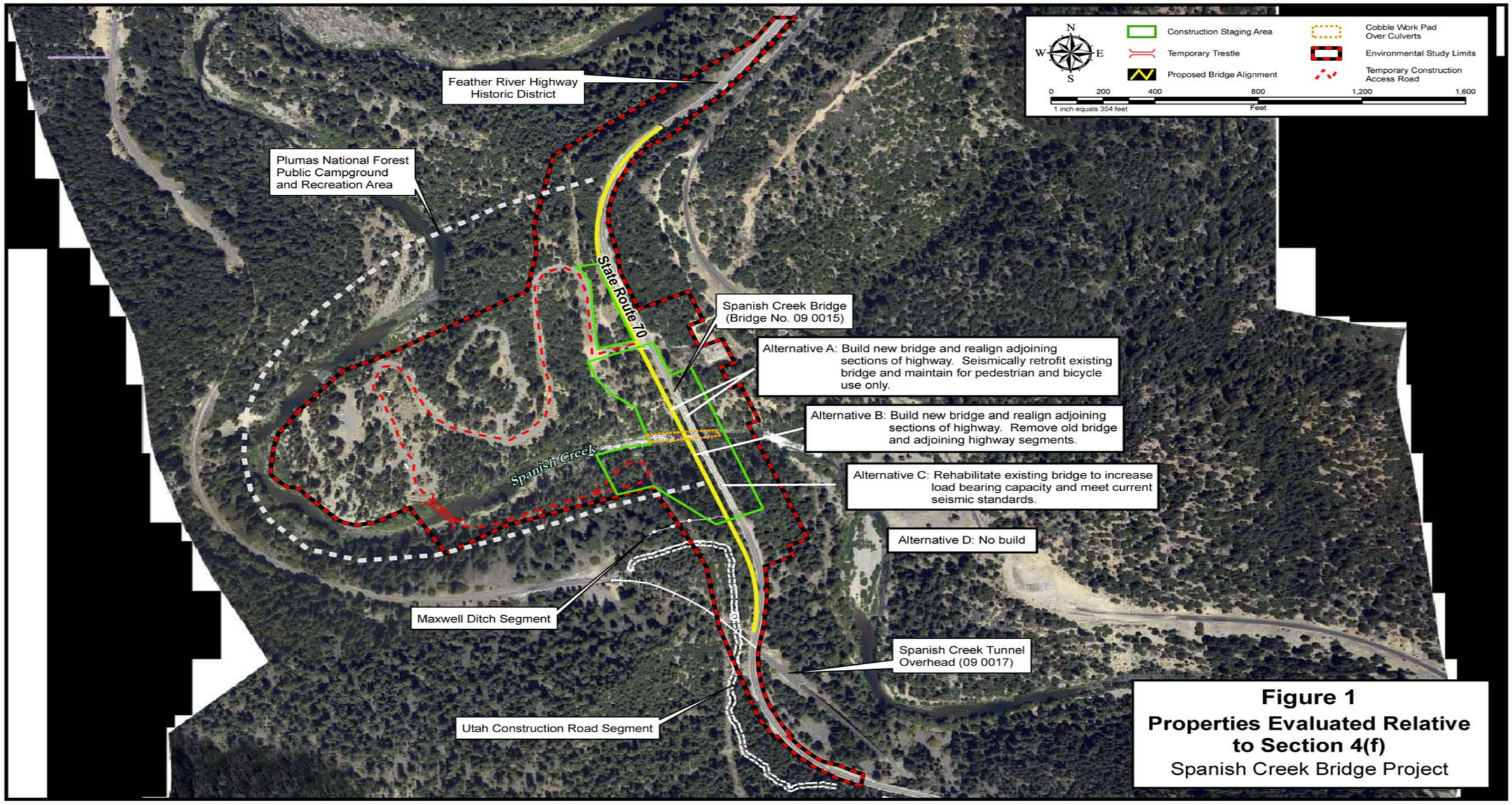

Figure 1
Properties Evaluated Relative to Section 4(f)
Spanish Creek Bridge Project

Figure 2 - Spanish Creek Bridge (Bridge No. 09-0015)

Feather River Highway Historic District: The section of SR 70 from Jarbo Gap in Butte County to Keddie in Plumas County, a distance of 48 miles, is a historic highway district (Figure 3). The highway was constructed between March 1928 and August 1937. It was determined eligible for the National Register in April 1987. It is also a National Scenic Byway. Scenic and historic features include rock masonry walls, water fountains, steel truss bridges, tunnels, various railroad features, rock formations, waterfalls, remnants of resorts, mining and timber mills, hydroelectric facilities, and the North Fork Feather River and its tributaries. The annual average daily traffic (Annual ADT) on this section of highway in the vicinity of the Spanish Creek Bridge is approximately 3,000 vehicles.[4]

[4] Annual ADT is the total traffic volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Very few locations in California are actually counted continuously. Traffic counting is generally performed by electronic counting instruments moved from location to location throughout the state in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables, which may be present.

Figure 3 – Feather River Highway Historic District

Plumas National Forest Recreation Area: The Plumas National Forest recreation area, which includes the Spanish Creek Campground (recreation area), is located on the west side of SR 70 adjacent to the Spanish Creek Bridge within Plumas National Forest (PNF) [Figure 4]. The recreation area as defined by PNF is approximately 46 acres. The Spanish Creek Campground was developed to replace two PNF campgrounds damaged during a major flood in 1986. The flood destroyed 39 campsites within the Belden and Indian Jim campgrounds, which were located adjacent to SR 70 within the base floodplain of the North Fork Feather River. Due to previous flooding problems, PNF decided to abandon these sites and find a better location to re-establish a campground. According to a Finding of No Significant Impact approved by PNF on February 23, 1987, the Spanish Creek site was selected for the following reasons: "It is located out of the floodplain; it is close to Quincy (7 miles); there are no fully developed campgrounds in the area; it provides easy access to Bucks Lake and Lakes Basin Recreation Areas and the Bucks Lake Wilderness; other PNF developed campgrounds are at or near capacity; fishing access; centrally located in the County; generates recreation dollars to the local communities; provides a site for use by local organizations such as Boy Scouts, Girl Scouts, etc., access to a wildlife refuge; will replace lost campsites from the flooded campgrounds; close to power and water sources; availability of an area for an Incident Command Base, if needed; and uncrowded camping units. "

Figure 4 – Plumas National Forest recreation area (Spanish Creek Campground)

The original proposal was to provide bathrooms with showers and flush toilets at the new campground, but these improvements have not yet been made due to funding shortfalls. The existing facility is open May through September and has 20 campsites, vault toilets, and potable water. A campground host is present and reservations are accepted. Day use parking is located in the lower reach of the campground near the creek.

PNF considers the recreation area, which includes the Spanish Creek Campground, a significant resource relative to Section 4(f) because of its desirable attributes, high use potential, and the fact that there are no other improved public camping facilities in the area. The improved campground has been in use since 2004. According to PNF's records, during the 2004, 2005, and 2006 campground seasons, the number of campsites used within the Spanish Creek Campground was 935, 1,519, and 2,182 respectively. Seventy-six campground reservations were made during 2006, the first year the campground reservation system was in place.

Maxwell Ditch Segment: The Maxwell Ditch (CA-PLU-2794H) [Figure 5] was constructed by the Maxwell Ditch and Mine Company for hydraulic gold mining and appears to have been in operation from 1872 to 1884. Only a short segment of

earthen ditch is located within the project limits on PNF land adjacent to SR 70. The ditch segment begins near the southbound shoulder of SR 70 and extends westerly approximately 300 feet. It is approximately 7 feet wide by 1.5 feet deep. The outer berm of the downhill slope is 3 feet wide.

Figure 5 - Maxwell Ditch Segment

The segment of ditch within the project limits is a mundane linear trough that is physically separated from the balance of the ditch by the highway and railroad on its eastern end and a landslide on its western end. The physical characteristics of the ditch have been affected by years of landslides and natural erosion leaving its alignment as the only indicator of what the ditch may have been like during its years of operation. The Maxwell Ditch segment will be assumed eligible for the National Register and will be treated as such for purposes of the proposed project.

Utah Construction Road Segment: The Utah Construction Road (Figure 6) was a wagon road used for construction of the Western Pacific Railroad. The road extends through California, Nevada, and Utah from a point near Oroville to Salt Lake City. This approximately one-mile long segment of the Utah Construction Road is isolated from the remains of the original road by highway and railroad construction on the eastern end and a long landslide on its western end. Natural erosion has also taken

a heavy toll. This road segment has also been subject to the effects of modern machinery associated with residential construction, logging, and perhaps firefighting. The width of this remaining segment is as little as two feet (due to highway construction) to as much as twelve feet (widened by modern power equipment). The road segment within the project limits is located on PNF and Union Pacific Railroad property adjacent to SR 70. The Utah Construction Road segment will be assumed eligible for the National Register and will be treated as such for purposes of the proposed project.

Figure 6 – Utah Construction Road Segment

IMPACTS TO THE SPANISH CREEK BRIDGE (BRIDGE NO. 09-0015)

Alternative A (Build new bridge and seismic retrofit existing bridge)

Alternative A would lessen the historical integrity of the Spanish Creek Bridge in the qualities of setting, feeling, and association by placing a new, distracting structure near the historic bridge. This new bridge, even if it were a design type used during the period of significance of the historic bridge, would constitute an element that did not exist within the viewscape of the historic bridge during its period of significance. Alternative A would retain the historic bridge for purposes other than “an important

link in a major transportation system," the role under which the historic bridge was determined sufficiently significant to justify a determination of eligibility for the National Register. Thus, Alternative A would result in a use of the historic bridge.

Alternative B (Build new bridge and remove existing bridge)

Alternative B entails construction of a new bridge and removal of the historic bridge from this location entirely, requiring mitigation of the loss. Removal, then, would constitute an adverse effect and use of the historic bridge.

Alternative C (Rehabilitate Bridge)

Alternative C would rehabilitate the existing bridge through strengthening against seismic events (commonly referred to as "seismic retrofit") and increasing load capacity to allow passage by permit loads. This work would include strengthening the concrete foundations and steel structural members, replacement of the bearings, bridge deck and railing, and application of new paint. The Spanish Creek Bridge is but one of seven major bridges within the Feather River Highway Historic District. During the period of 2003 to 2006, Caltrans initiated a project to seismically retrofit and strengthen (rehabilitate) five of those bridges. The project included engineered plans which minimzed physical modifications to the bridges, including the use of like materials and limiting changes to the physical attributes of the structure to the extent possible. This resulted in a determination of no adverse effect under a Programmatic Agreement between the SHPO, FHWA, the Advisory Council on Historic Preservation, and Caltrans relative to the seismic retrofit of bridges. Therefore, given that Caltrans has successfully designed and implemented prior bridge rehabilitation projects and avoided an adverse effect or use of the historic bridges, it would seem reasonable that the currently proposed bridge rehabilitation project could be designed to avoid harm or use of the Spanish Creek Bridge.

Alternative D (No Build)

Alternative D would entail that the existing bridge would be maintained and substantial improvements would not be made, thereby avoiding an immediate use of the Spanish Creek Bridge.

AVOIDANCE ALTERNATIVES FOR THE SPANISH CREEK BRIDGE

An avoidance alternative must be prudent and feasible to be considered for implementation. An alternative is feasible if it can be constructed based on accepted engineering principles. The following six-factor test was applied pursuant to 23 CFR 774.117 in determining whether an alternative would be 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 construction, maintenance, or operational costs of an extraordinary magnitude;

    - Consider factors such as: the percentage difference in the costs of the alternatives; how the cost difference relates to the total cost of similar transportation projects in the applicant's annual budget; and the extent to which the increased cost for the project would adversely impact the applicants' ability to fund other transportation projects.

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.

<u>Alternative A (Build New Bridge and Seismic Retrofit Existing Bridge)</u>

Alternative A entails construction of a new bridge immediately adjacent to the existing bridge. Alternative A would not avoid use of the old bridge by virtue of the alteration to the viewscape from the historic bridge and by alteration of the purpose for which the bridge itself is utilized, both of which are crucial to its historic integrity.

<u>Alternative B (Build New Bridge and Remove Existing Bridge)</u>

Alternative B entails removal of the existing bridge; therefore, it would not avoid use of the Spanish Creek Bridge.

Alternative C (Rehabilitate Existing Bridge)

Alternative C is feasible to implement and would avoid use of the Spanish Creek Bridge, however it is not a prudent avoidance alternative because it falls within factors 1 and 2 of the six-factor test. Implementation of Alternative C would not be a reasonable course of action because it would not fully address the project purpose and need (Factor 1) and it would result in unacceptable safety and operational problems (Factor 2).

The rehabilitation project would not entirely address fatigue cracks and distortion in the steel members, which are present throughout the structure due to its age. The bridge is near the end of its fatigue service life and is currently classified as fracture critical. It is estimated that Alternative C would extend the service life of the structure up to 25 years, after which time a major rehabilitation project may be necessary.

In addition, the rehabilitation would not address the nonstandard width of the existing bridge deck. Rehabilitation and maintenance of the existing structure would require extra safety precautions due to the narrow width of the deck.

Alternative D (No Build)

Alternative D would avoid use of the Spanish Creek Bridge and is feasible to implement, but is not a prudent avoidance alternative because it falls within factors number 1 and 2 of the six-factor test. Implementation of Alternative D would not be a reasonable course of action because it would not address the project purpose and need (Factor 1) and it would result in unacceptable safety and operational problems (Factor 2). This alternative would not address fatigue cracks and distortion in the steel members, which are present throughout the structure due to its age. Calculations show that the bridge is at or near the end of its fatigue service life. The bridge is currently classified as fracture critical. Also, it would not address the width and weight deficiencies of the existing bridge. Restrictions on permit loads would continue; thus, transportation needs of the public, industry, and emergency response personnel would not be met. Also, maintenance of the existing structure would require extra safety precautions due to the narrow width of the existing bridge deck.

MEASURES TO MINIMIZE HARM TO THE SPANISH CREEK BRIDGE

Alternative A (Build New Bridge and Retrofit Existing Bridge)

Although the Spanish Creek Bridge would remain in place with Alternative A, alterations to the bridge and its surroundings could affect the historic integrity of the bridge, constituting a use of the bridge. In addition, this alternative also proposes retaining the historic bridge for purposes other than "an important link in a major transportation system," the role under which the historic bridge was determined sufficiently significant to justify a determination of eligibility for the National Register.

Caltrans has entered into an MOA with the SHPO to resolve adverse effects to historic properties resulting from the project. Under the terms of the MOA Caltrans would prepare a permanent record of the Spanish Creek Bridge in accordance with Historic American Engineering Record (HAER) procedures and guidelines. Some of that record will be made immediately available to the traveling public through an interpretive display that is also called for by the MOA.

Alternative B (Build New Bridge and Remove Existing Bridge)

With Alternative B, the following measures are proposed to mitigate the loss of the Spanish Creek Bridge:

Caltrans has entered into an MOA with the SHPO to resolve adverse effects to historic properties resulting from the project. Under the terms of the MOA Caltrans would prepare a permanent record of the Spanish Creek Bridge in accordance with HAER procedures and guidelines. Some of that record will be made immediately available to the traveling public through an interpretive display that is also called for by the MOA.

Alternative C (Rehabilitate Bridge)

Alternative C would be designed to strengthen the bridge while minimizing physical alteration of the bridge's appearance. Although the basic rehabilitation project would only forestall a subsequent rehabilitation effort or complete bridge replacement, it would minimize harm to the structure's integrity and eligibility to the National Register.

Alternative D (No Build)

With Alternative D the existing bridge would be maintained and substantial improvements would not be made. Therefore, no measures to minimize harm would be required as this Alternative avoids an immediate use of the historic bridge.

COORDINATION RELATIVE TO THE SPANISH CREEK BRIDGE

SHPO consultation began with the submittal of a Historic Property Survey Report (HPSR) and supporting technical studies in December 2005. The SHPO concurred with the eligibility determinations by letters dated February 9, 2006 and May 3, 2006. The Spanish Creek Bridge was determined individually eligible for the National Register on January 9, 1986, as one component of the Historic Truss Bridges of California Thematic Determination of Eligibility under Criterion A. This bridge is significant primarily as a historical transportation link, serving one of the major crossings on SR 70. It also is a contributive element of the Feather River Highway Historic District.

Caltrans found that the proposed bridge replacement project would have an adverse effect upon the Spanish Creek Bridge. The Finding of Effect report was submitted to the SHPO on October 30, 2006. The SHPO issued a letter on May 7, 2007 concurring with Caltrans findings.

Caltrans provided copies of the draft Section 4(f) Evaluation, appended to the draft Environmental Assessment, to the Department of the Interior (DOI) during the public circulation period. One paper copy and 12 copies on compact disc were forwarded to the DOI on January 3, 2007 for review and comment pursuant to 23 CFR 771.135(i). Comments on the draft Section 4(f) Evaluation were requested by the close of the public review period, February 23, 2007. The DOI issued a letter on April 18, 2007 with the following recommendations: “Since SR-70 transits considerable area within Plumas National Forest, it may be desirable to contact their staff to determine if they may have any concerns.” And “To avoid or minimize affecting this contributing element [Spanish Creek Bridge] to the Historic District, consultation with the State Historic Preservation Office should be completed prior to selecting a final design or finalizing commitments for measures to minimize harm.” The letter also indicated that no responses or comments had been received from any other Department of the Interior bureaus or offices. A copy of the letter is contained in Appendix F of the EIR/EA.

In order to address the adverse effect of the project, Caltrans entered into a MOA with the SHPO in accordance with 36 CFR 800 (Section 106) on July 28, 2008.

LEAST HARM ANALYSIS AND CONCLUDING STATEMENT REGARDING THE SPANISH CREEK BRIDGE

The least harm analysis is based on a comparison of each project alternative in relation to the following factors:

1. Ability to mitigate adverse impacts to each Section 4(f) resource;
2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features;
3. Relative significance of each Section 4(f) resource;
4. Views of the officials with jurisdiction over each Section 4(f) property;
5. Degree to which each alternative meets the purpose and need;
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
7. Substantial differences in costs among alternatives.

Alternative A (Build New Bridge and Seismic Retrofit Existing Bridge)

1. Ability to mitigate adverse impacts to each Section 4(f) resource: Mitigation would consist of HAER recordation and installation of an informational kiosk in the vicinity of the bridge with interpretive information pertaining to the Spanish Creek Bridge.
2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features. Although the existing bridge would remain in place, the setting would be changed considerably due to the introduction of a new structure in close proximity to the historic bridge and change in function of the existing bridge Further, this new bridge, even if it were a design type used during the period of significance of the historic bridge, would constitute an element that did not exist within the viewscape of the historic bridge during its period of significance. As a result, the historic integrity of the Spanish Creek Bridge could be affected in the qualities of setting, feeling, and association.
3. Relative significance of each Section 4(f) resource: The Spanish Creek Bridge was determined eligible for the National Register on January 9, 1986, under the Historic Truss Bridges in California Thematic Determination of Eligibility under Criterion A as an important link in a major transportation system at the statewide level of significance in the area of transportation. The Spanish Creek Bridge is a contributing element of the Feather River Highway Historic District, which is eligible for listing in the National Register under Register Criteria A and C at the statewide level of significance in the areas of architecture, engineering and transportation.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative A satisfies the project purpose and need in that it provides a new bridge, but does not address the fact that the existing bridge is fracture critical. The historic bridge would require continued maintenance, including painting and the replacement or strengthening of steel members in the future.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project would result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost to construct Alternative A is reported in the 2003 Project Scope Summary Report as $29.2 million versus $21.3 million for Alternative B and $10.5 million for Alternative C. In addition, with Alternative A, the existing (historic) bridge would remain in place, requiring ongoing maintenance costs for the painted finish and future rehabilitation efforts to address the continued deterioration (fatigue) of the structural steel.

<u>Alternative B (Build New Bridge and Remove Existing Bridge)</u>

1. Ability to mitigate adverse impacts to each Section 4(f) resource: Mitigation consists of HAER recordation and installation of an informational kiosk in the vicinity of the bridge with interpretive information pertaining to the Spanish Creek Bridge.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: The bridge and adjoining sections of highway will no longer exist with this alternative.

3. Relative significance of each Section 4(f) resource: The Spanish Creek Bridge was determined eligible for the National Register on January 9, 1986, under the Historic Truss Bridges in California Thematic Determination of Eligibility under Criterion A as an important link in a major transportation system at the statewide level of significance in the area of transportation. The Spanish Creek Bridge is a contributing

element of the Feather River Highway Historic District, which is eligible for listing in the National Register under Register Criteria A and C at the statewide level of significance in the areas of architecture, engineering and transportation.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative B best meets the project purpose and need because it provides a low maintenance structure that meets modern transportation needs.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost of Alternative B is reported in the 2003 Project Scope Summary Report as $21.3 million versus $29.2 million for Alternative A and $10.5 million for Alternative C. The existing bridge would be removed thereby eliminating the need for additional maintenance and a future project to address the deteriorating structural steel.

<u>Alternative C Rehabilitate Existing Bridge</u>

1. Ability to mitigate adverse impacts to each Section 4(f) resource: To avoid a use of the bridge, it would be necessary to incorporate design measures which utilize like materials and minimize physical alterations of the bridge to the extent possible, i.e., use design features similar to those utilized for the previous rehabilitation of the five other major bridges within the Feather River Highway Historic District. Although efforts would be made to minimize alterations, the historical integrity of the Spanish Creek Bridge may still be lost in the process.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: Although efforts would be made to minimize alterations, the historical integrity of the Spanish Creek Bridge may

still be lost in the process. The rehabilitation effort would prolong the bridge's life by an estimated 25 years. Additional modifications would be necessary in the future. In time, it would be necessary to replace essentially all of the steel within the structure. Future rehabilitation efforts would face the same problems as the currently proposed project with respect to temporary construction access and staging, e.g., access through the campground, vegetation clearing, and construction of temporary access roads.

3. Relative significance of each Section 4(f) resource: The Spanish Creek Bridge was determined eligible for the National Register on January 9, 1986, under the Historic Truss Bridges in California Thematic Determination of Eligibility under Criterion A as an important link in a major transportation system at the statewide level of significance in the area of transportation. The Spanish Creek Bridge is a contributing element of the Feather River Highway Historic District, which is eligible for listing in the National Register under Register Criteria A and C at the statewide level of significance in the areas of architecture, engineering and transportation.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: This alternative does not meet the project purpose and need because it does not replace the fatigued steel in its entirety. In addition, it does not address the width limitations of the existing bridge.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost of Alternative C is reported in the 2003 Project Scope Summary Report as $10.5 million versus $29.2 million for Alternative A and $21.3 million for Alternative B. Alternative C would prolong the structure's life for approximately 25 years. At that point, another rehabilitation effort would be necessary to repair and replace other fatigued structural members.

Alternative D (No Build).

1. Ability to mitigate adverse impacts to each Section 4(f) resource: An immediate adverse effect or use of Section 4(f) resources would be avoided with the No Build Alternative.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: There would be no harm to the Spanish Creek Bridge.

3. Relative significance of each Section 4(f) resource: The Spanish Creek Bridge was determined eligible for the National Register on January 9, 1986, under the Historic Truss Bridges in California Thematic Determination of Eligibility under Criterion A as an important link in a major transportation system at the statewide level of significance in the area of transportation. The Spanish Creek Bridge is a contributing element of the Feather River Highway Historic District, which is eligible for listing in the National Register under Register Criteria A and C at the statewide level of significance in the areas of architecture, engineering and transportation.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative D is the “No Build” alternative, which does not address the project purpose and need. Under this alternative, the existing bridge would be maintained and substantial repairs or improvements would not be made. The structural integrity of the bridge would continue to deteriorate and oversize vehicle permit loads would continue to be limited due to the width and weight capacity of the bridge. Maintenance costs would increase, weight loads of vehicles could be further restricted in the future, and eventually the bridge would need to be closed to traffic.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): Restrictions would remain on vehicle loads due to weight and width limitations of the existing bridge. This could result in potential social and economic impacts due to restrictions on commercial and emergency response equipment, e.g., railroad and utility repair equipment, and fire suppression equipment, in the future.

7. Substantial differences in costs among alternatives: Alternative D would incur costs for maintenance of the steel paint finish and periodic inspections of the steel superstructure. In addition, this alternative would only delay the eventual rehabilitation or replacement of the bridge.

In summary, Alternative A would meet the project purpose and need by providing a new modern bridge. However, even though the existing bridge would remain in place, the eligibility of the historic bridge would be adversely affected. In addition, Alternative A would still require additional maintenance of the existing Spanish Creek Bridge.

Alternative B provides a modern, low maintenance bridge that will accommodate regional transportation needs. Removal of the existing bridge will eliminate the costs associated with maintenance or subsequent rehabilitation work on the historic structure and the necessity to utilize the PNF public recreation area and campground for construction access and staging. In addition, it will enable timely improvement of the highway system and proper documentation of the historic bridge through HAER recordation while the bridge is relatively unaltered.

Alternative C does not satisfy the project purpose and need because it would not replace the fatigued steel in its entirety. Successive rehabilitation efforts or future bridge replacement would be necessary. In addition, Alternative C would not address the lack of standard width shoulders.

Alternative D would avoid an immediate use of the Spanish Creek Bridge. However, this alternative does not meet the project purpose and need because it does not address the fact that the bridge's steel superstructure is fracture critical and the bridge is unable to accommodate oversize vehicle permit loads. Restrictions on permit loads would continue. Transportation needs of the public, industry, and emergency response personnel would not be met. Also, maintenance of the existing structure would require extra safety precautions due to the narrow width of the existing bridge deck.

Based on the above considerations, there is no feasible and prudent alternative to the replacement of the Spanish Creek Bridge; and the proposed action includes all possible planning to minimize harm to the Spanish Creek Bridge resulting from such use and causes the least overall harm in light of the statute's preservation purpose.

IMPACTS TO THE FEATHER RIVER HIGHWAY HISTORIC DISTRICT

Alternative A (Build new bridge and seismic retrofit existing bridge)

Alternative A would lessen the historical integrity of the Feather River Highway Historic District in the qualities of design, materials, workmanship, setting, feeling, and association (six of seven qualities of integrity defined for the National Register) by placing a new, distracting structure near the historic bridge, altering some cuts and fills associated with the highway, and changing the alignment, albeit slightly, from that of the 1928 – 1937 period of significance. Even if the new bridge were of a design type used during the period of significance of the historic bridge, it would constitute an element that did not exist within the footprint of the historic district during its period of significance. Determined eligible for listing in the National Register within the areas of engineering, architecture, and transportation, the Feather River Highway Historic District would suffer a reduction of its significance in the areas of engineering (alterations to the Spanish Creek Bridge and the highway) and architecture (alterations to the highway alignment). Such lessened integrity and significance for National Register purposes would constitute a use of the historic district.

Alternative B (Build new bridge and remove existing bridge)

Removal of the historic bridge constitutes an adverse effect upon the Feather River Highway Historic District due to a lessening of significance in the areas of engineering and architecture and similar lessening of the historical integrity of the historic district. The new bridge will constitute the insertion of an intrusive element into the historic district, and the removal of the historic bridge will represent the loss of a contributing element to the significance of the Feather River Highway Historic District. All seven of the qualities of integrity considered by the National Register will be affected in adverse ways. Therefore, an adverse effect and use of the historic district will result.

Alternative C (Rehabilitate existing bridge)

The Spanish Creek Bridge is but one of seven major bridges within the Feather River Highway Historic District. During the period of 2003 to 2006, Caltrans initiated a project to seismically retrofit and strengthen (rehabilitate) five of those bridges. Modest modifications resulted in a determination of no adverse effect under a Programmatic Agreement between the SHPO, FHWA, the Advisory Council on Historic Preservation, and Caltrans relative to the seismic retrofit of bridges. The previous project included engineered plans which minimized physical modifications to the bridges, including the use of like materials and limiting changes to the physical

attributes of the structure to the extent possible, thereby avoiding an adverse effect or use of the Feather River Highway Historic District. Therefore, given that Caltrans has successfully designed and implemented prior bridge rehabilitation projects and avoided an adverse effect or use of the highway historic district, it would seem that the currently proposed bridge rehabilitation project could be designed to avoid a use of the Feather River Highway Historic District.

Alternative D (No Build)

Alternative D would entail that the existing bridge would be maintained and substantial improvements would not be made, thereby avoiding an immediate use of the Feather River Highway Historic District.

AVOIDANCE ALTERNATIVES FOR THE FEATHER RIVER HIGHWAY HISTORIC DISTRICT

An avoidance alternative must be prudent and feasible to be considered for implementation. An alternative is feasible if it can be constructed based on accepted engineering principles. The following six-factor test was applied pursuant to 23 CFR 774.117 in determining whether an alternative would be 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 construction, maintenance, or operational costs of an extraordinary magnitude;
    - Consider factors such as: the percentage difference in the costs of the alternatives; how the cost difference relates to the total cost of similar transportation projects in the applicant's annual budget; and the extent to which the increased cost for the project would

adversely impact the applicants' ability to fund other transportation projects.

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.

Alternative A (Build new bridge and seismic retrofit existing bridge)

Alternative A would impose a new bridge immediately adjacent to the new bridge and realign the highway. The new bridge would not be associated with the historic period of the Feather River Highway Historic District. As a result, the district's historical integrity would be degraded by altering the functional description of the historic bridge, thereby limiting or removing entirely its role as a contributing element to the historical significance of the Feather River Highway Historic District. Alternative A does not avoid a use of the historic district.

Alternative B (Build new bridge and remove existing bridge)

Alternative B will impose a new bridge not associated with the historic period of the Feather River Highway Historic District, removal of the Spanish Creek Bridge and realignment of the highway. Therefore, the district's historical integrity would be degraded by removing this historic bridge, thereby removing entirely its role as a contributing element to the historical significance of the Feather River Highway Historic District. Alternative B does not avoid an adverse effect or use of the historic district.

Alternative C (Rehabilitate existing bridge)

Alternative C is feasible to implement and would avoid use of the Feather River Highway Historic District; however, it is not a prudent avoidance alternative because it falls within factors 1 and 2 of the six-factor test. Implementation of Alternative C would not be a reasonable course of action because it would not fully address the project purpose and need (Factor 1) and it would result in unacceptable safety and operational problems (Factor 2).

The bridge rehabilitation alternative would not entirely address fatigue cracks and distortion in the steel members, which are present throughout the structure due to its age. The bridge is near the end of its fatigue service life and is currently classified as fracture critical. It is estimated that Alternative C would extend the service life of the structure up to 25 years, after which time another major rehabilitation project would be necessary.

In addition, the rehabilitation would not address the nonstandard width of the existing bridge deck. Rehabilitation and maintenance of the existing structure would require extra safety precautions due to the narrow width of the deck.

Alternative D (No Build)

Alternative D would avoid use of the Feather River Highway Historic District and is feasible to implement, but would not be a prudent avoidance alternative because it falls within factors number 1 and 2. Implementation of Alternative D would not be a reasonable course of action because it would not address the project purpose and need (Factor 1) and it would result in unacceptable safety and operational problems (Factor 2). This alternative would not address fatigue cracks and distortion in the steel members, which are present throughout the structure due to its age. Calculations show that the bridge is at or near the end of its fatigue service life. The bridge is currently classified as fracture critical. Also, it would not eliminate the width and weight limit issues. Restrictions on permit loads would continue; therefore, transportation needs of the public, industry, and emergency response personnel would not be met. In addition, maintenance of the existing structure would require extra safety precautions due to the narrow width of the existing bridge deck.

MEASURES TO MINIMIZE HARM TO THE FEATHER RIVER HIGHWAY HISTORIC DISTRICT

Alternative A (Build new bridge and seismic retrofit existing bridge)

Alternative A would impose a new bridge not associated with the historic period of the Feather River Highway Historic District. Therefore, the district's historical integrity would be lessened to some degree. Caltrans has entered into an MOA with the SHPO to resolve adverse effects to historic properties resulting from the project. Under the terms of the MOA Caltrans would prepare a permanent record of the Spanish Creek Bridge, which is a contributing element of the Feather River Highway Historic District, in accordance with Historic American Engineering Record (HAER) procedures and guidelines. Some of that record will be made immediately available to the traveling public through an interpretive display that is also called for by the MOA.

Alternative B (Build new bridge and remove existing bridge)

Alternative B will impose a new bridge not associated with the historic period of the Feather River Highway Historic District. Therefore, the district's historical integrity will be lessened to some degree. Caltrans has entered into an MOA with the SHPO to resolve adverse effects to historic properties resulting from the project. Under the

terms of the MOA Caltrans will prepare a permanent record of the Spanish Creek Bridge, which is a contributing element of the Feather River Highway Historic District, in accordance with Historic American Engineering Record (HAER) procedures and guidelines. Some of that record will be made immediately available to the traveling public through an interpretive display that is also called for by the MOA.

Alternative C (Rehabilitate existing bridge)

The bridge rehabilitation effort would be designed to minimize substantial alteration of the bridge's appearance. . Although the basic rehabilitation project would only forestall a more significant rehabilitation effort or complete bridge replacement, it would minimize harm to the integrity of the Feather River Highway Historic District.

Alternative D (No build)

With Alternative D, the existing bridge would be maintained and substantial improvements will not be made. Therefore, no measures to minimize harm would be required as this Alternative avoids an immediate use of the Feather River Highway Historic District.

COORDINATION RELATIVE TO THE FEATHER RIVER HIGHWAY HISTORIC DISTRICT

SHPO consultation began with the submittal of an HPSR and supporting technical studies in December 2005. The Feather River Highway Historic District was determined eligible for the National Register through the consensus process on April 16, 1987 under Criteria A and C. The SHPO concurred with the eligibility determinations in letters dated February 9, 2006 and May 3, 2006.

Caltrans found that the proposed bridge replacement project would have an adverse effect upon the Feather River Highway Historic District due to the potential removal of the Spanish Creek Bridge, a contributive element of the historic district, and the realignment that would result from construction of a new bridge. The Finding of Effects report was submitted to the SHPO on October 30, 2006. The SHPO issued a letter concurring with Caltrans findings on May 7, 2007.

Caltrans provided copies of the draft Section 4(f) Evaluation, appended to the draft Environmental Assessment, to the DOI during the public circulation period. One paper copy and 12 copies on compact disc were forwarded to the DOI on January 3, 2007 for review and comment pursuant to 23 CFR 771.135(i). Comments on the draft Section 4(f) Evaluation were requested by the close of the public review period, February 23, 2007. The DOI issued a letter on April 18, 2007 with the following recommendations: "since SR-70 transits considerable area within Plumas National

Forest, it may be desirable to contact their staff to determine if they may have any concerns." And "To avoid or minimize affecting this contributing element [Spanish Creek Bridge] to the Historic District, consultation with the State Historic Preservation Office should be completed prior to selecting a final design or finalizing commitments for measures to minimize harm." The letter also indicated that no responses or comments had been received from any other Department of the Interior bureaus or offices.

In order to address the adverse effect of the project, Caltrans entered into a MOA with the SHPO in accordance with 36 CFR 800 (Section 106) on July 28, 2008.

LEAST HARM ANALYSIS AND CONCLUDING STATEMENT REGARDING THE FEATHER RIVER HIGHWAY HISTORIC DISTRICT

The least harm analysis is based on a comparison of each project alternative in relation to the following factors:

1. Ability to mitigate adverse impacts to each Section 4(f) resource;
2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features;
3. Relative significance of each Section 4(f) resource;
4. Views of the officials with jurisdiction over each Section 4(f) property;
5. Degree to which each alternative meets the purpose and need;
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
7. Substantial differences in costs among alternatives.

<u>Alternative A (Build New Bridge and Seismic Retrofit Existing Bridge)</u>

1. Ability to mitigate adverse impacts to each Section 4(f) resource: Mitigation would consist of HAER recordation of the Spanish Creek Bridge, which is a contributing element of the Feather River Highway Historic District, and installation of an informational kiosk in the vicinity of the bridge with interpretive information pertaining to the Feather River Highway Historic District.
2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: Although the existing bridge would remain

in place, the setting would be changed considerably due to the shift in highway alignment, introduction of a new structure in close proximity to the historic bridge, and change in function of the existing bridge. Further, the new bridge, even if it were a design type used during the period of significance of the bridge, would constitute an element that did not exist within the viewscape of the historic bridge and historic district during its period of significance. As a result, the historic integrity of the Feather River Highway Historic District could be affected in the qualities of setting, feeling, and association.

3. Relative significance of each Section 4(f) resource: The Feather River Highway Historic District was determined eligible for listing in the National Register in April 1987 under Register Criteria A and C at the statewide level of significance in the areas of architecture, engineering, and transportation.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative A satisfies the project purpose and need, but does not address the fact that the existing bridge is fracture critical. The bridge would require continued maintenance and additional retrofit work on steel members in the future.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost to construct Alternative A is reported in the 2003 Project Scope Summary Report as $29.2 million versus $21.3 million for Alternative B and $10.5 million for Alternative C. In addition, with Alternative A, the existing (historic) bridge would remain in place, requiring ongoing maintenance costs for the painted finish and future rehabilitation efforts to address the continued deterioration (fatigue) of the structural steel.

Alternative B (Build New Bridge and Remove Existing Bridge)

1. Ability to mitigate adverse impacts to each Section 4(f) resource: Mitigation will consist of HAER recordation of the Spanish Creek Bridge, which is a contributing element of the Feather River Highway Historic District, and installation of an informational kiosk in the vicinity of the bridge with interpretive information pertaining to the Feather River Highway Historic District.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: The bridge and adjoining sections of highway will no longer exist with this alternative.

3. Relative significance of each Section 4(f) resource: The Feather River Highway Historic District was determined eligible for listing in the National Register in April 1987 under Register Criteria A and C at the statewide level of significance in the areas of architecture, engineering, and transportation.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative B best meets the project purpose and need because it will provide a low maintenance structure that meets regional transportation needs.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost of Alternative B is reported in the 2003 Project Scope Summary Report as $21.3 million versus $29.2 million for Alternative A and $10.5 million for Alternative C. The existing bridge would be removed thereby eliminating the need for additional maintenance and a future project to address the deteriorating structural steel.

Alternative C Rehabilitate Existing Bridge

1. Ability to mitigate adverse impacts to each Section 4(f) resource: To avoid a use of the historic district, it would be necessary to incorporate design measures which utilize like materials and minimize physical alterations of the bridge to the extent possible, i.e., use design features similar to those utilized for the previous rehabilitation of the five other major bridges within the Feather River Highway Historic District. Although efforts would be made to minimize alterations to the Spanish Creek Bridge, which is a contributing element of the Feather River Highway Historic District, the historic integrity of the Feather River Highway Historic District may still be still be lost in the process.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: Although efforts would be made to minimize alterations to the Spanish Creek Bridge, which is a contributing element of the Feather River Highway Historic District, the historic integrity of the Feather River Highway Historic District may still be still be lost in the process. It is estimated that a rehabilitation project would prolong the bridge's operational lifespan an estimated 25 years. Additional modifications would be necessary after that timeframe. Over time, it would be necessary to replace essentially all of the steel within the structure. Future rehabilitation efforts would face the same construction access and staging requirements as the currently proposed project, i.e., use of the public recreation area and Spanish Creek Campground.

3. Relative significance of each Section 4(f) resource: The Feather River Highway Historic District was determined eligible for listing in the National Register in April 1987 under Register Criteria A and C at the statewide level of significance in the areas of architecture, engineering, and transportation.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking. In addition, the SHPO concurs that Alternative A would result in an adverse effect to historic properties.

5. Degree to which each alternative meets the purpose and need: This alternative does not meet the project purpose and need because it does not replace the fatigued steel in its entirety. In addition, it does not address the width limitations of the existing bridge.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost of Alternative C is reported in the 2003 Project Scope Summary Report as $10.5 million versus $29.2 million for Alternative A and $21.3 million for Alternative B. Alternative C would prolong the structure's life for approximately 25 years, at which time, another rehabilitation effort would be necessary to repair and replace other fatigued structural members.

Alternative D (No Build)

1. Ability to mitigate adverse impacts to each Section 4(f) resource: An immediate adverse effect or use of Section 4(f) resources would be avoided with the No Build Alternative.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: There would be no harm to the Section 4(f) resource.

3. Relative significance of each Section 4(f) resource: The Feather River Highway Historic District was determined eligible for listing in the National Register in April 1987 under Register Criteria A and C at the statewide level of significance in the areas of architecture, engineering, and transportation.

4. Views of the officials with jurisdiction over each Section 4(f) property: There would be no use of Section 4(f) properties: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative D is the "No Build" alternative, which does not address the project purpose and need. Under this alternative, the existing bridge would be maintained and substantial improvements would not be made. The structural integrity of the bridge would continue to deteriorate and permit loads would continue to be limited due to the width and weight capacity of the bridge. Maintenance costs would increase, weight loads of vehicles could be further restricted in the future, and eventually the bridge would need to be closed to traffic.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): Restrictions would remain on vehicle loads due to weight and width limitations of the existing bridge. This could result in potential social and economic impacts due to restrictions on commercial and emergency response equipment, e.g., railroad and utility repair equipment, and fire suppression equipment, in the future.

7. Substantial differences in costs among alternatives: Alternative D would incur costs for maintenance of the steel paint finish and periodic inspections of the steel superstructure. In addition, this alternative would only delay the eventual rehabilitation or replacement of the bridge.

In summary, Alternative A meets the project purpose and need by providing a new modern bridge. However, even though the existing bridge would remain in place, the eligibility of the Feather River Highway Historic District would be adversely affected due to the realignment of a portion of the highway and the placement of a new bridge adjacent to the existing bridge. In addition, Alternative A would still require additional maintenance of the existing bridge.

Alternative B will provide a modern, low maintenance bridge that accommodates regional transportation needs. Removal of the existing bridge will eliminate costs associated with the maintenance or subsequent rehabilitation work on the historic structure and the necessity to utilize the PNF public recreation area and campground for construction access and staging. In addition, it will enable timely improvement of the highway system and proper documentation of the historic bridge, which is a contributing element of the Feather River Highway Historic District, through HAER recordation while the bridge is relatively unaltered.

Alternative C does not satisfy the project purpose and need because it would not replace the fatigued steel in its entirety. Successive rehabilitation efforts or future bridge replacement would be necessary. In addition, Alternative C would not address the lack of standard shoulders on the existing bridge.

Alternative D would avoid an immediate use of the Feather River Highway Historic District. However, this alternative does not meet the project purpose and need because it does not address the fact that the bridge's steel superstructure is fracture critical and the bridge is unable to accommodate oversize vehicle permit loads.

Based on the above considerations, there is no feasible and prudent alternative to the use of land from the Feather River Highway Historic District. The proposed action includes all possible planning to minimize harm to the Feather River Highway

Historic District resulting from such use and causes the least overall harm in light of the statute's preservation purpose.

IMPACTS TO THE PLUMAS NATIONAL FOREST RECREATION AREA

Implementation of Alternative A, B, or C, all of which entail major bridge construction, would result in a use of the recreation area, which includes the Spanish Creek Campground. The Spanish Creek Campground entrance, located near the northwest quadrant of the bridge, provides a paved access road into the campground and surrounding recreation area. The road leads into the campground and a cull de-sac at the northern bank of Spanish Creek approximately 950 feet downstream of the bridge. The topography on the opposite (south) side of the creek beyond the floodplain is level and wide enough to provide access northerly to the bridge site. The most cost effective and least environmentally damaging method of access would be to utilize the campground road and construct a creek crossing at the end of the campground road. The access road would be utilized for the transport of equipment, materials, and workers to and from the construction site. For maximum construction efficiency and to provide public and worker safety, the recreation area, including the Spanish Creek Campground, should be closed to the public for the duration of major construction operations. Construction staging areas would be developed below the existing and proposed bridges on each side of the creek. Another at-grade stream crossing would likely be constructed at the bridge site. Typical equipment and materials include large cranes, which would be left in place near the bridge(s), cement trucks, drill rigs, flatbed trucks with rebar, graders, bulldozers, loaders, and dump trucks. The access road would be used on a daily basis. For a complete project description, see Section 1.3 in the Final EIR/EA.

Such a long-term impact to the recreation area, including the Spanish Creek Campground (approximately three years) would be considered a "use" under Section 4(f) Guidelines.

Impacts that cannot be avoided include the following:

- The loss of campground revenue for a minimum of three years during which time the campground will be closed. This includes the loss of recreational day-use and camping opportunities, and rebuilding the patronage established since the Spanish Creek Campground opened in 2004;

- Adverse change in the setting of the recreation area, including the Spanish Creek Campground due to the removal of mature trees and alteration of the landscape to accommodate construction access and

staging. Construction scars and a reduction in the amount of mature vegetation will be notable to users of the recreation area and campground;

- Loss of approximately 1.7 acres at the entrance to the Spanish Creek Campground due to a permanent shift in the highway alignment to connect to the new bridge.

Alternative D (No Build)

Alternative D would not result in a use of the recreation area, which includes the Spanish Creek Campground.

AVOIDANCE ALTERNATIVES FOR THE PLUMAS NATIONAL FOREST RECREATION AREA

An avoidance alternative must be prudent and feasible to be considered for implementation. An alternative is feasible if it can be constructed based on accepted engineering principles. The following six-factor test was applied pursuant to 23 CFR 774.117 in determining whether an alternative would be 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 construction, maintenance, or operational costs of an extraordinary magnitude;
    - Consider factors such as: the percentage difference in the costs of the alternatives; how the cost difference relates to the total cost of similar transportation projects in the applicant's annual budget; and the extent to which the increased cost for the project would

adversely impact the applicants' ability to fund other transportation projects;

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.

All of the project alternatives, except Alternative D, would result in a use of the recreation area, which includes the Spanish Creek Campground. Based upon the following, Alternatives A, B, and C would not avoid use of the recreation area and Spanish Creek Campground. Alternatives A, B and C would require use of the recreation area and campground to gain access to the area beneath the bridge. Construction staging areas, from which cranes could operate, would be located at each corner of the bridge at highway elevation and beneath the bridge at stream elevation. The primary construction staging area would be situated beneath the bridge. Given the depth and required span of the highway crossing, construction from the highway elevation only, without a staging area below the bridge, is not an option. Because a crane is capable of performing only one task at a time, a crane working from highway elevation would be inefficient as the primary method of transferring equipment and materials to the area beneath the bridge. In addition, cranes typically used in this type of bridge construction (230 ton crane) would not have the reach and lifting capability needed to construct the bridge from above. A crane large enough to perform this work (835 ton crane) is not standard for this type of project and would limit the number of qualified contractors. In addition to the extra cost for the large crane, estimated at $2.2 million, additional expenses and time would be required for mobilization and set-up.

Substantial amounts of materials would be delivered to the construction staging area, including concrete, lumber, and reinforcing steel. In addition, equipment such as cranes, excavators, and concrete trucks would need to gain access to, and operate from, the main staging area beneath the bridge. Methods of accessing the area beneath the bridge are limited. Construction of a temporary access road from the highway elevation is not feasible due to steep terrain and limited area. Based on an assessment of potential access points at each corner of the bridge, it was determined that it would not be feasible to construct an access road with grades and turning radii necessary to accommodate various types of construction vehicles. Natural barriers include the steep terrain, railroad, highway, and Spanish Creek.

In addition, Alternatives A and B would require the acquisition of approximately 1.7 acres of land from the public recreation area to accommodate the shift in roadway alignment needed for the new bridge.

Alternative D (No Build)

Alternative D would avoid use of the recreation area, which includes the Spanish Creek Campground. However, this alternative does not address the project purpose and need. Alternative D would not be a prudent avoidance alternative because it falls within factors number 1 and 2. Implementation of Alternative D would not be a reasonable course of action because it would not address the project purpose and need (Factor 1) and it would result in unacceptable safety and operational problems (Factor 2). This alternative would not address fatigue cracks and distortion in the steel members, which are present throughout the structure due to its age. Calculations show that the bridge is at or near the end of its service life. The bridge is currently classified as fracture critical. Also, it would not eliminate the width and weight limit issues. Restrictions on permit loads would continue, therefore, transportation needs of the public, industry, and emergency response personnel would not be met. In addition, maintenance of the existing structure would require extra safety precautions due to the narrow width of the existing bridge deck.

MEASURES TO MINIMIZE HARM TO THE PLUMAS NATIONAL FOREST RECREATION AREA

Alternatives A, B, and C would each entail similar use of the Plumas National Forest Recreation Area, including the Spanish Creek Campground, for temporary construction access and staging. The following measures to minimize harm would be implemented regardless of the alternative selected:

- The recreation area, including the Spanish Creek Campground, would be closed during construction to protect the safety of the public;
- Construction storage and staging would occur only within those areas designated on the project plans;
- Mature trees adjacent to SR 70 near the entrance to the Spanish Creek Campground, will be preserved to the extent possible. Groups of trees that would not impose constraints for construction would be designated as ESA's and delineated with temporary fencing;
- Following construction, all disturbed areas within the recreation area would be stabilized with erosion control seeding. Pavement and infrastructure damaged as a result of Caltrans' project would be repaired;
- An informational sign would be installed at the campground entrance to inform the public about the bridge replacement or rehabilitation project;

- Compensation in the amount of $870,000 would be provided to PNF for use of the recreation area, including the Spanish Creek Campground, for a period of three years. PNF desires monetary compensation, which could be used to make improvements to the remaining recreation property. Caltrans and PNF agree that this compensation would make PNF whole and the amount of compensation is a reasonable public expenditure in light of the severity of the impacts to the qualifying Section 4(f) property.

Alternative D (No Build)

With Alternative D the existing bridge would be maintained and substantial improvements would not be made. Therefore, no measures to minimize harm would be required as this Alternative avoids a use of the recreation area, which includes the Spanish Creek Campground.

COORDINATION RELATIVE TO THE PLUMAS NATIONAL FOREST RECREATION AREA

Early coordination with PNF began in 2003 due to the proximity of public recreation land relative to the project and the need to acquire temporary and/or permanent right-of-way on public recreation land. Following is a summary of meetings between Caltrans and PNF during the project development process:

- March 21, 2003 and July 22, 2003, meetings were held at the PNF Mount Hough Ranger District Office (Mt. Hough) near Quincy. The meetings were attended by Caltrans and PNF staff. The purpose of the meetings was to present the project purpose and need, project schedule, and discuss responsibilities and coordination protocol for complying with the NEPA;

- July 20, 2004, meeting at Mt. Hough, attended by Caltrans and PNF. Major points covered in the meeting include the following: PNF considers the public recreation land, including the campground, a “significant” resource in terms of Section 4(f), anticipated level of NEPA compliance and agency roles (Caltrans is the lead agency and PNF is a cooperating agency), project scope and potential impacts relative to public recreation area, and possible measures to minimize impacts to recreation and campground activities;

- March 15, 2005, meeting at Spanish Creek Bridge (project site), attended by Caltrans and PNF. This meeting was to discuss construction access and staging needs, potential impacts to the public recreation area, including the Spanish Creek Campground, and measures to avoid and minimize impacts to the property. PNF would need to decide whether the recreation area,

including the campground, would be made available for temporary construction use and what restrictions would apply, e.g., duration of use, period of use by construction, and would the property remain open for public use or would it be closed for the duration of construction;

- March 22, 2005, meeting at Mt. Hough, attended by Caltrans, PNF and FHWA. Caltrans Structures Construction discussed the necessity of utilizing the campground access road and recreation area for construction access and staging. The discussion focused on whether the recreation area and campground should remain open, fully or partially, during construction or should it be closed. Also, discussed was Section 4(f) use and possible compensation. PNF indicated no interest in taking ownership of the Spanish Creek Bridge if a new bridge was constructed and the existing bridge was left in place. As a result of this meeting, PNF issued a letter on October 14, 2005 formally notifying Caltrans that PNF desires that the Spanish Creek Campground remain open during construction. The PNF District Ranger recommended: "We [PNF] shorten the campground operation from Memorial Day weekend to Labor Day weekend, and allow Caltrans controlled access through the campground while it is open. Controlled access could include traffic control and limited or no work during the weekends and definitely no work during the three major holiday weekends.";

- December 13, 2005, meeting at Mt. Hough, attended by Caltrans and PNF. The discussion focused on the construction process and measures to minimize impacts to the public recreation area and campground; compensation and post-construction restoration of the recreation land was also discussed;

- March 6, 2006, meeting at Mt. Hough, attended by Caltrans and PNF. The discussion focused on measures to minimize impacts to the public recreation area and campground during construction, post-construction restoration of the property, and compensatory mitigation;

- September 7, 2006, meeting at Mt. Hough, attended by Caltrans and PNF. The purpose of the meeting was to discuss proposed compensation for impacts to public recreation land and other Section 4(f) properties, and measures to minimize harm to public recreation lands during construction;

- April 12, 2007, meeting at Mt. Hough, attended by Caltrans and PNF. The purpose of the meeting was to discuss proposed compensation for impacts to public recreation land and other Section 4(f) properties, and measures to minimize harm to public recreation lands during construction. In addition, the

draft MOA to resolve adverse effects upon historic properties was delivered to PNF for their review. PNF is a concurring party to the MOA;

- September 12, 2007, meeting at Mt. Hough, attended by Caltrans and PNF. Discussed need for unanticipated overhead utility relocation; requested PNF's delineation of recreation area and campground boundary; and placement of interpretive mitigation feature on PNF land to resolve adverse effects to historic properties.

On February 27, 2008, PNF issued a letter to Caltrans confirming that the public recreation area, which includes the Spanish Creek Campground, is a significant resource in terms of Section 4(f). The letter also confirmed the following: the boundary of the recreation area and campground; the campground will be closed during the three year construction period; measures to minimize harm to the recreation area; impacts to the recreation area which cannot be avoided; and the desired monetary compensation to make PNF whole. A copy of the letter is attached to this Section 4(f) Evaluation.

LEAST HARM ANALYSIS AND CONCLUDING STATEMENT REGARDING THE PLUMAS NATIONAL FOREST RECREATION AREA

The least harm analysis is based on a comparison of each project alternative in relation to the following factors:

1. Ability to mitigate adverse impacts to each Section 4(f) resource;
2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features;
3. Relative significance of each Section 4(f) resource;
4. Views of the officials with jurisdiction over each Section 4(f) property;
5. Degree to which each alternative meets the purpose and need;
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
7. Substantial differences in costs among alternatives.

Alternative A (Build New Bridge and Seismic Retrofit Existing Bridge)

1. Ability to mitigate adverse impacts to each Section 4(f) resource: All adverse impacts will be mitigated. See measures described in the Measures to Minimize Harm for the PNF Recreation Area Section above.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: As set forth in the February 27, 2008 letter from PNF, implementation of the measures described therein will mitigate all harm as result of the project.

3. Relative significance of each Section 4(f) resource: PNF has confirmed that the public recreation area, which includes the Spanish Creek Campground, is a significant resource relative to Section 4(f).

4. Views of the officials with jurisdiction over each Section 4(f) property: PNF concurs with the need for a new bridge and that there are no prudent and feasible alternatives to the use of public recreation land.

5. Degree to which each alternative meets the purpose and need: Alternative A satisfies the project purpose and need, but does not address the fact that the existing bridge is fracture critical. The bridge would require continued maintenance and subsequent restoration work in the future to repair or replace steel members. The restoration work would require access and staging from within the public recreation area and campground.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost to construct Alternative A is reported in the 2003 Project Scope Summary Report as $29.2 million versus $21.3 million for Alternative B and $10.5 million for Alternative C. In addition, with Alternative A, the existing (historic) bridge would remain in place, requiring ongoing maintenance costs for the painted finish and future rehabilitation efforts to address the continued deterioration (fatigue) of the structural steel.

Alternative B (Build New Bridge and Remove Existing Bridge)

1. Ability to mitigate adverse impacts to each Section 4(f) resource: All adverse impacts will be mitigated. See measures described in the "Measures to Minimize Harm for the PNF Recreation Area" Section above.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: As set forth in the February 27, 2008 letter from PNF, implementation of the measures described therein will mitigate all harm as result of the project.

3. Relative significance of each Section 4(f) resource: PNF considers the public recreation area, which includes the Spanish Creek Campground, to be a significant resource relative to Section 4(f).

4. Views of the officials with jurisdiction over each Section 4(f) property: PNF concurs with the need for a new bridge and that there are no prudent and feasible alternatives to the use of the recreation area, which includes the Spanish Creek Campground.

5. Degree to which each alternative meets the purpose and need: Alternative B best meets the project purpose and need because it provides a low maintenance modern structure that meets regional transportation needs.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost of Alternative B is reported in the 2003 Project Scope Summary Report as $21.3 million versus $29.2 million for Alternative A and $10.5 million for Alternative C. The existing bridge would be removed thereby eliminating the need for additional maintenance and a future project to address the deteriorating structural steel.

Alternative C Rehabilitate Existing Bridge

1. Ability to mitigate adverse impacts to each Section 4(f) resource: Adverse impacts will be mitigated. See measures described in the "Measures to Minimize Harm for the PNF Recreation Area" Section above.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: As set forth in the February 27, 2008 letter from PNF, implementation of the measures described therein will mitigate all harm as result of the project.

3. Relative significance of each Section 4(f) resource: PNF considers the public recreation area, which includes the Spanish Creek Campground, to be a significant resource.

4. Views of the officials with jurisdiction over each Section 4(f) property: PNF concurs with the need for a new bridge and that there are no prudent and feasible alternatives to the use of public recreation land.

5. Degree to which each alternative meets the purpose and need: This alternative does not meet the project purpose and need because it does not replace the fatigued steel in its entirety. In addition, it does not address the width limitations of the existing bridge.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost of Alternative C is reported in the 2003 Project Scope Summary Report as $10.5 million versus $29.2 million for Alternative A and $21.3 million for Alternative B. Alternative C would prolong the structure's life for approximately 25 years. At that point, another rehabilitation effort would be necessary to repair and replace other fatigued structural members.

<u>Alternative D (No Build).</u>

1. Ability to mitigate adverse impacts to each Section 4(f) resource: An immediate adverse effect or use of Section 4(f) resources would be avoided with the No Build Alternative.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: There would be no harm to the Section 4(f) resource.

3. Relative significance of each Section 4(f) resource: PNF considers the public recreation area, which includes the Spanish Creek Campground, to be a significant resource.

4. Views of the officials with jurisdiction over each Section 4(f) property: PNF concurs with the need for a new bridge and that there are no prudent and feasible alternatives to the use of public recreation land.

5. Degree to which each alternative meets the purpose and need: Alternative D is the “No Build” alternative, which does not address the project purpose and need. Under this alternative, the existing bridge would be maintained and substantial improvements would not be made. The structural integrity of the bridge would continue to deteriorate and permit loads would continue to be limited due to the width and weight capacity of the bridge. Maintenance costs would increase, weight loads of vehicles could be further restricted in the future, and eventually the bridge would need to be closed to traffic.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): Restrictions would remain on vehicle loads due to weight and width limitations of the existing bridge. This could result in potential social and economic impacts due to restrictions on commercial and emergency response equipment, e.g., railroad and utility repair equipment, and fire suppression equipment, in the future.

7. Substantial differences in costs among alternatives: Alternative D would incur costs for maintenance of the steel paint finish and periodic inspections of the steel superstructure. In addition, this alternative would only delay the eventual rehabilitation or replacement of the bridge.

In summary, Alternative A meets the project purpose and need by providing a new modern bridge. Alternative A would still require additional maintenance of the existing Spanish Creek Bridge, and as a result, utilization of the recreation area, which includes the campground, for construction access and staging may be required.

Alternative B will provide a modern, low maintenance bridge that accommodates regional transportation needs. Removal of the existing bridge will eliminate costs associated with the maintenance or subsequent rehabilitation work on the historic structure and the necessity to utilize the PNF public recreation area and campground for construction access and staging. In addition, it will enable timely improvement of the highway system and proper documentation of the historic bridge through HAER recordation while the bridge is relatively unaltered.

Alternative C does not satisfy the project purpose and need because it would not replace the fatigued steel in its entirety. Successive rehabilitation efforts or future bridge replacement would be necessary, as well as the need for construction access and staging within the public recreation area and Spanish Creek Campground. In addition, Alternative C would not address the lack of standard shoulder width on the existing bridge.

Alternative D would avoid a use of the recreation area, which includes the Spanish Creek Campground. However, this alternative does not meet the project purpose and need because it does not address the fact that the bridge's steel superstructure is fracture critical and the bridge is unable to accommodate oversize vehicle permit loads.

Based on the above considerations, there is no feasible and prudent alternative to the use of land from the recreation area, which includes the Spanish Creek Campground, and the proposed action includes all possible planning to minimize harm to the recreation area, which includes the Spanish Creek Campground, resulting from such use and causes the least overall harm in light of the statute's preservation purpose.

IMPACTS TO THE MAXWELL DITCH SEGMENT

Alternative A (Build new bridge and seismic retrofit existing bridge)

Alternative A would require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This would remove some fifty feet from an isolated segment of a historic mining ditch known as the Maxwell Ditch. This isolated segment can be described as having a high degree of historical integrity in that it is clearly discernible as a ditch, albeit made shallow by the infusion of duff and earth due to natural erosion. The Maxwell Ditch segment will be assumed eligible for the National Register and will be treated as such for purposes of the proposed project. Impacts to the ditch segment would be to its integrity in the form of removal of that fifty foot length. Thus, a use of this isolated segment of the Maxwell Ditch would result.

Alternative B (Build new bridge and remove existing bridge)

Alternative B will require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This will remove some fifty feet from an isolated segment of a historic mining ditch known as the Maxwell Ditch. This isolated segment can be described as having a high degree of historical integrity in that it is clearly discernible as a ditch, albeit made shallow by the

infusion of duff and earth due to natural erosion The Maxwell Ditch segment will be assumed eligible for the National Register and will be treated as such for purposes of the proposed project. Impacts to the ditch segment will be to its integrity in the form of removal of that fifty foot length. Thus, a use of this isolated segment of the Maxwell Ditch will result.

Alternative C (Rehabilitate existing bridge)

Alternative C would require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This would remove some fifty feet from an isolated segment of a historic mining ditch known as the Maxwell Ditch. This isolated segment can be described as having a high degree of historical integrity in that it is clearly discernible as a ditch, albeit made shallow by the infusion of duff and earth due to natural erosion. The Maxwell Ditch segment will be assumed eligible for the National Register and will be treated as such for purposes of the proposed project. Impacts to the ditch segment would be to its integrity in the form of removal of that fifty foot length. Thus, a use of this isolated segment of the Maxwell Ditch would result.

Alternative D (No build)

Alternative D would not impact this isolated segment of the Maxwell Ditch, nor result in a use of the Maxwell Ditch.

AVOIDANCE ALTERNATIVES FOR THE MAXWELL DITCH SEGMENT

An avoidance alternative must be prudent and feasible to be considered for implementation. An alternative is feasible if it can be constructed based on accepted engineering principles. The following six-factor test was applied pursuant to 23 CFR 774.117 in determining whether an alternative would be 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 construction, maintenance, or operational costs of an extraordinary magnitude;

    - Consider factors such as: the percentage difference in the costs of the alternatives; how the cost difference relates to the total cost of similar transportation projects in the applicant's annual budget; and the extent to which the increased cost for the project would adversely impact the applicants' ability to fund other transportation projects.

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.

<u>Alternative A (Build New Bridge and Seismic Retrofit Existing Bridge)</u>

Alternative A would require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This would remove some fifty feet from an isolated segment of a historic mining ditch known as the Maxwell Ditch. Therefore, this alternative would not avoid the Maxwell Ditch.

<u>Alternative B (Build New Bridge and Remove Existing Bridge)</u>

Alternative B will require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This will remove some fifty feet from an isolated segment of a historic mining ditch known as the Maxwell Ditch. Therefore, this alternative would not avoid the Maxwell Ditch.

<u>Alternative C (Rehabilitate Existing Bridge)</u>

Alternative C would require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This would remove some fifty feet from an isolated segment of a historic mining ditch known as the Maxwell Ditch. Therefore, this alternative would not avoid the Maxwell Ditch.

<u>Alternative D (No Build)</u>

Alternative D would be feasible to implement, but would not be a prudent avoidance alternative because it falls within factor numbers 1 and 2. Implementation of

Alternative D would not be a reasonable course of action because it would not address the project purpose and need (Factor 1) and it would result in unacceptable safety and operational problems (Factor 2). This alternative would not address fatigue cracks and distortion in the steel members, which are present throughout the structure due to its age. Calculations show that the bridge is at or near the end of its service life. The bridge is currently classified as fracture critical. Also, it would not eliminate the width and weight limit issues. Restrictions on permit loads would continue, therefore, transportation needs of the public, industry, and emergency response personnel would not be met. In addition, maintenance of the existing structure would require extra safety precautions due to the narrow width of the existing bridge deck.

MEASURES TO MINIMIZE HARM TO THE MAXWELL DITCH SEGMENT

Alternative A (Build New Bridge and Seismic Retrofit Existing Bridge)

Caltrans has entered into an MOA with the SHPO to resolve adverse effects to historic properties resulting from the project. Under the terms of the MOA, a kiosk would be installed in the vicinity of the bridge with interpretive information pertaining to the Maxwell Ditch segment.

Alternative B (Build New Bridge and Remove Existing Bridge)

Caltrans has entered into an MOA with the SHPO to resolve adverse effects to historic properties resulting from the project. Under the terms of the MOA Caltrans a kiosk would be installed in the vicinity of the bridge with interpretive information pertaining to the Maxwell Ditch segment.

Alternative C (Rehabilitate Existing Bridge)

Caltrans has entered into an MOA with the SHPO to resolve adverse effects to historic properties resulting from the project. Under the terms of the MOA a kiosk would be installed in the vicinity of the bridge with interpretive information pertaining to the Maxwell Ditch segment.

Alternative D (No Build)

With Alternative D the existing bridge would be maintained and substantial improvements would not be made. Therefore, no measures to minimize harm would be required as this Alternative avoids an immediate use of the Maxwell Ditch segment.

COORDINATION RELATIVE TO THE MAXWELL DITCH SEGMENT

SHPO consultation began with the submittal of an HPSR and supporting technical studies in December 2005. The SHPO, in its letter of February 9, 2008, stated that it was not able to concur with Caltrans' determination that the Maxwell Ditch segment was ineligible for listing in the National Register based on the information provided. The SHPO recommended, based on lack of a more complete context for the ditch segment's relevance to the Maxwell Ditch, as a whole, that Caltrans assume National Register eligibility of the ditch segment. Caltrans subsequently acknowledged acceptance of SHPO's recommendation by signing SHPO's letter of May 3, 2006 (Appendix G).

Caltrans elected to consider that the proposed project would have an adverse effect on the Maxwell Ditch segment and therefore, considered the potential historic property in determining mitigation for the effects of the project.

Caltrans provided copies of the draft Section 4(f) Evaluation, appended to the draft Environmental Assessment, to the DOI during the public circulation period. One paper copy and 12 copies on compact disc were forwarded to the DOI on January 3, 2007 for review and comment pursuant to 23 CFR 771.135(i). Comments on the draft Section 4(f) Evaluation were requested by the close of the public review period, February 23, 2007. The DOI issued a letter on April 18, 2007 with the following recommendations: "Since SR-70 transits considerable area within Plumas National Forest, it may be desirable to contact their staff to determine if they may have any concerns. And "To avoid or minimize affecting this contributing element [Spanish Creek Bridge] to the Historic District, consultation with the State Historic Preservation Office should be completed prior to selecting a final design or finalizing commitments for measures to minimize harm." The letter also indicated that no responses or comments had been received from any other Department of the Interior bureaus or offices.

In order to address the adverse effect of the project, Caltrans entered into a MOA with the SHPO in accordance with 36 CFR 800 (Section 106) on July 28, 2008.

LEAST HARM ANALYSIS AND CONCLUDING STATEMENT REGARDING THE MAXWELL DITCH SEGMENT

The least harm analysis is based on a comparison of each project alternative in relation to the following factors:

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

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

3. Relative significance of each Section 4(f) resource;

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

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

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

7. Substantial differences in costs among alternatives.

Alternative A (Build New Bridge and Seismic Retrofit Existing Bridge)

1. Ability to mitigate adverse impacts to each Section 4(f) resource: Mitigation would consist of installation of an informational kiosk in the vicinity of the bridge with interpretive information pertaining to the Maxwell Ditch segment.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: Construction access and staging in the vicinity of the bridge abutments would remove an isolated segment of the Maxwell Ditch.

3. Relative significance of each Section 4(f) resource: The resource is a linear feature, which extends well beyond the physical limits of the bridge replacement project. The resource is presumed eligible for purposes of the bridge replacement project.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative A satisfies the project purpose and need, but does not address the fact that the existing bridge is fracture critical. The bridge would require continued maintenance and additional retrofit work on steel members in the future.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation

and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost to construct Alternative A is reported in the 2003 Project Scope Summary Report as $29.2 million versus $21.3 million for Alternative B and $10.5 million for Alternative C. In addition, with Alternative A, the existing (historic) bridge would remain in place, requiring ongoing maintenance costs for the painted finish and future rehabilitation efforts to address the continued deterioration (fatigue) of the structural steel.

Alternative B (Build New Bridge and Remove Existing Bridge)

1. Ability to mitigate adverse impacts to each Section 4(f) resource: Mitigation will consist of installation of an informational kiosk in the vicinity of the bridge with interpretive information pertaining to the Maxwell Ditch segment.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: Construction access and staging in the vicinity of the bridge abutments would remove an isolated section of the Maxwell Ditch.

3. Relative significance of each Section 4(f) resource: The resource is a linear feature, which extends well beyond the physical limits of the bridge replacement project. The resource is presumed eligible for purposes of the bridge replacement project.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative B best meets the project purpose and need because it provides a low maintenance structure that meets regional transportation needs.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost of Alternative B is reported in the 2003 Project Scope Summary Report as $21.3 million versus $29.2 million for Alternative A and $10.5 million for Alternative C. The existing bridge would be removed thereby eliminating the need for additional maintenance and a future project to address the deteriorating structural steel.

Alternative C Rehabilitate Existing Bridge

1. Ability to mitigate adverse impacts to each Section 4(f) resource: Mitigation would consist of installation of an informational kiosk in the vicinity of the bridge with interpretive information pertaining to the Maxwell Ditch segment.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: Construction access and staging in the vicinity of the bridge abutments would remove an isolated section of the Maxwell Ditch.

3. Relative significance of each Section 4(f) resource: The resource is a linear feature, which extends well beyond the physical limits of the bridge replacement project. The resource is presumed eligible for purposes of the bridge replacement project.

4. Views of the officials with jurisdiction over each Section 4(f) property: SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: This alternative does not meet the project purpose and need because it does not replace the fatigued steel in its entirety. In addition, it does not address the lack of standard shoulders on the existing bridge.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary adverse effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost of Alternative C is reported in the 2003 Project Scope Summary Report as $10.5 million versus $29.2 million for Alternative A and $21.3 million for Alternative B. Alternative C would prolong the structure's life for

approximately 25 years. At that point, another rehabilitation effort would be necessary to repair and replace other fatigued structural members.

Alternative D (No Build).

1. Ability to mitigate adverse impacts to each Section 4(f) resource: An immediate adverse effect or use of Section 4(f) resources would be avoided with the No Build Alternative.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: There would be no harm to the Section 4(f) resource.

3. Relative significance of each Section 4(f) resource: The resource is a linear feature, which extends well beyond the physical limits of the bridge replacement project. The resource is presumed eligible for purposes of the bridge replacement project.

4. Views of the officials with jurisdiction over each Section 4(f) property: SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative D is the “No Build” alternative, which does not address the project purpose and need. Under this alternative, the existing bridge would be maintained and substantial improvements would not be made. The structural integrity of the bridge would continue to deteriorate and permit loads would continue to be limited due to the width and weight capacity of the bridge. Maintenance costs would increase, weight loads could be further restricted in the future, and eventually the bridge would need to be closed to traffic.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): Restrictions would remain on vehicle loads due to weight and width limitations of the existing bridge. This could result in potential social and economic impacts due to restrictions on commercial and emergency response equipment, e.g., railroad and utility repair equipment, and fire suppression equipment.

7. Substantial differences in costs among alternatives: Alternative D would incur costs for maintenance of the steel paint finish and periodic inspections of the steel superstructure. In addition, this alternative would only delay the eventual rehabilitation or replacement of the bridge.

In summary, Alternative A meets the project purpose and need by providing a new modern bridge. However, even though the existing bridge would remain in place, the Maxwell Ditch segment would be adversely affected due to the construction, access and staging in the vicinity of the bridge abutments. In addition, Alternative A would still require additional maintenance of the existing Spanish Creek Bridge.

Alternative B will provide a modern, low maintenance bridge that will accommodate regional transportation needs. Removal of the existing bridge will eliminate costs associated with the maintenance or subsequent rehabilitation work on the historic structure.

Alternative C does not satisfy the project purpose and need because it would not replace the fatigued steel in its entirety. Successive rehabilitation efforts or future bridge replacement could be necessary. In addition, Alternative C would not address the lack of standard shoulders on the existing bridge.

Alternative D would avoid a use of to the Maxwell Ditch segment. However, this alternative does not meet the project purpose and need because it would not address the fact that the bridge's steel superstructure is fracture critical and the bridge is unable to accommodate oversize vehicle permit loads.

Based on the above considerations, there is no feasible and prudent alternative to the use of land from a segment of the Maxwell Ditch and the proposed action includes all possible planning to minimize harm to the Maxwell Ditch segment resulting from such use and causes the least overall harm in light of the statute's preservation purpose.

IMPACTS TO THE UTAH CONSTRUCTION ROAD SEGMENT

<u>Alternative A (Build new bridge and seismic retrofit existing bridge)</u>

Alternative A would require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This would remove some fifty feet from an isolated segment of the wagon road used for construction of the railroad by the Utah Construction Company. This isolated segment can be described as having a high degree of historical integrity in that it is clearly discernible as a road, albeit interrupted by prior highway construction and improved in some locations by modern power equipment. The Utah Construction Road segment will be assumed eligible for the National Register and will be treated as such for purposes of the proposed project. Impacts to the road segment would be to its integrity in the form of removal of that fifty foot length. Thus, a use of this isolated segment of the Utah Construction Road would result.

Alternative B (Build new bridge and remove existing bridge)

Alternative B will require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This will remove some fifty feet from an isolated segment of the wagon road used for construction of the railroad by the Utah Construction Company. This isolated segment can be described as having a high degree of historical integrity in that it is clearly discernible as a road, albeit interrupted by prior highway construction and improved in some locations by modern power equipment. The Utah Construction Road segment will be assumed eligible for the National Register and will be treated as such for purposes of the proposed project. Impacts to the road segment will be to its integrity in the form of removal of that fifty foot length. Thus, a use of this isolated segment of the Utah Construction Road will result.

Alternative C (Rehabilitate existing bridge)

Alternative C would require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This would remove some fifty feet from an isolated segment of the wagon road used for construction of the railroad by the Utah Construction Company. This isolated segment can be described as having a high degree of historical integrity in that it is clearly discernible as a road, albeit interrupted by prior highway construction and improved in some locations by modern power equipment. The Utah Construction Road segment will be assumed eligible for the National Register and will be treated as such for purposes of the proposed project. Impacts to the road segment would be to its integrity in the form of removal of that fifty foot length. Thus, a use of this isolated segment of the Utah Construction Road would result.

Alternative D (No build)

Alternative D would not impact the Utah Construction Road, nor would it comprise a use of the Utah Construction Road.

AVOIDANCE ALTERNATIVES FOR THE UTAH CONSTRUCTION ROAD SEGMENT

An avoidance alternative must be prudent and feasible to be considered for implementation. An alternative is feasible if it can be constructed based on accepted engineering principles. The following six-factor test was applied pursuant to 23 CFR 774.117 in determining whether an alternative would be 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 construction, maintenance, or operational costs of an extraordinary magnitude;
    - Consider factors such as: the percentage difference in the costs of the alternatives; how the cost difference relates to the total cost of similar transportation projects in the applicant's annual budget; and the extent to which the increased cost for the project would adversely impact the applicants' ability to fund other transportation projects.
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.

Alternative A (Build New Bridge and Seismic Retrofit Existing Bridge)

Alternative A would require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This would remove some fifty feet from an isolated segment of the wagon road used for construction of the railroad by the Utah Construction Company, thereby affecting its integrity. Thus, a use of this isolated segment of the Utah Construction Road would result. This alternative would not avoid the use of the Utah Construction Road segment.

Alternative B (Build New Bridge and Remove Existing Bridge)

Alternative B will require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This will remove some fifty feet from an isolated segment of the wagon road used for construction of the railroad by the Utah Construction Company, thereby affecting its integrity. Thus,

a use of this isolated segment of the Utah Construction Road will result. This alternative would not avoid the use of the Utah Construction Road segment.

Alternative C (Rehabilitate Existing Bridge)

Alternative C would require removal of a portion of the hillside at the southwest corner of the Spanish Creek Bridge for equipment positioning and access. This would remove some fifty feet from an isolated segment of the wagon road used for construction of the railroad by the Utah Construction Company, thereby affecting its integrity. Thus, a use of this isolated segment of the Utah Construction Road would result. This alternative would not avoid the use of the Utah Construction Road segment.

Alternative D (No Build)

Alternative D would be feasible to implement, but would not be a prudent avoidance alternative because it falls within factor numbers 1 and 2. Implementation of Alternative D would not be a reasonable course of action because it would not address the purpose and need (Factor 1) and it would result in unacceptable safety and operational problems (Factor 2). This alternative would not address the condition of the Spanish Creek Bridge. Calculations show that the bridge is near the end of its fatigue service life as evidenced by fatigue cracks and distortion in the steel members. The bridge is currently classified as fracture critical. Also, it would not eliminate the width and weight limit issues. Restrictions on permit loads would continue; thus, transportation needs of the public, industry, and emergency response personnel would not be met. In addition, maintenance of the existing structure would require extra safety precautions due to the narrow width of the existing bridge deck.

MEASURES TO MINIMIZE HARM TO THE UTAH CONSTRUCTION ROAD SEGMENT

Alternative A (Build New Bridge and Seismic Retrofit Existing Bridge)

Caltrans has entered into an MOA with the SHPO to resolve adverse effects to historic properties resulting from the project. Under the terms of the MOA, a kiosk would be installed in the vicinity of the bridge with interpretive information pertaining to the Utah Construction Road segment.

Alternative B (Build New Bridge and Remove Existing Bridge)

Caltrans has entered into an MOA with the SHPO to resolve adverse effects to historic properties resulting from the project. Under the terms of the MOA, a kiosk

would be installed in the vicinity of the bridge with interpretive information pertaining to the Utah Construction Road segment.

Alternative C (Rehabilitate Existing Bridge)

Caltrans has entered into an MOA with the SHPO to resolve adverse effects to historic properties resulting from the project. Under the terms of the MOA, a kiosk would be installed in the vicinity of the bridge with interpretive information pertaining to the Utah Construction Road segment.

Alternative D (No Build)

With Alternative D the existing bridge would be maintained and substantial improvements would not be made. Therefore, no measures to minimize harm would be required as this Alternative avoids an immediate use of the Utah Construction Road segment.

COORDINATION RELATIVE TO THE UTAH CONSTRUCTION ROAD SEGMENT

SHPO consultation began with the submittal of an HPSR and supporting technical studies in December 2005. The SHPO concurred with the eligibility determinations by letters dated February 9, 2006 and May 3, 2006. The Utah Construction Road was assumed eligible for the National Register under criterion A in the area of transportation. A case was made for National Register eligibility of the Utah Construction Road through the entire canyon; however, it is beyond the scope of the proposed undertaking.

Caltrans elected to consider that the proposed project would have an adverse effect on the Utah Construction Road segment and therefore, considered the potential historic property in determining mitigation for the effects of the project.

Caltrans provided copies of the draft Section 4(f) Evaluation, appended to the draft Environmental Assessment, to the DOI during the public circulation period. One paper copy and 12 copies on compact disc were forwarded to the DOI on January 3, 2007 for review and comment pursuant to 23 CFR 771.135(i). Comments on the draft Section 4(f) Evaluation were requested by the close of the public review period, February 23, 2007. The DOI issued a letter on April 18, 2007 with the following recommendations: “Since SR-70 transits considerable area within Plumas National Forest, it may be desirable to contact their staff to determine if they may have any concerns.” And “To avoid or minimize affecting this contributing element [Spanish Creek Bridge] to the Historic District, consultation with the State Historic Preservation Office should be completed prior to selecting a final design or finalizing commitments for measures to minimize harm.” The letter also indicated that no responses or

comments had been received from any other Department of the Interior bureaus or offices.

In order to resolve the adverse effect on the Utah Construction Road Segment, Caltrans entered into a MOA with the SHPO in accordance with 36 CFR 800 (Section 106) on July 28, 2008.

LEAST HARM ANALYSIS AND CONCLUDING STATEMENT REGARDING THE UTAH CONSTRUCTION ROAD SEGMENT

The least harm analysis is based on a comparison of each project alternative in relation to the following factors:

1. Ability to mitigate adverse impacts to each Section 4(f) resource;
2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features;
3. Relative significance of each Section 4(f) resource;
4. Views of the officials with jurisdiction over each Section 4(f) property;
5. Degree to which each alternative meets the purpose and need;
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
7. Substantial differences in costs among alternatives.

<u>Alternative A (Build New Bridge and Seismic Retrofit Existing Bridge)</u>

1. Ability to mitigate adverse impacts to each Section 4(f) resource: Mitigation would consist of installation of an informational kiosk in the vicinity of the bridge with interpretive information pertaining to the Utah Construction Road segment.
2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: Construction, access and staging in the vicinity of the bridge abutments would remove an isolated segment of the Utah Construction Road.
3. Relative significance of each Section 4(f) resource: The resource is a linear feature, which extends well beyond the physical limits of the bridge

replacement project. The resource is presumed eligible for purposes of the bridge replacement project.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need. Alternative A satisfies the project purpose and need, but does not address the fact that the existing bridge is fracture critical. The bridge would require continued maintenance and additional retrofit work on steel members in the future.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary adverse effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost to construct Alternative A is reported in the 2003 Project Scope Summary Report as $29.2 million versus $21.3 million for Alternative B and $10.5 million for Alternative C. In addition, with Alternative A, the existing (historic) bridge would remain in place, requiring ongoing maintenance costs for the painted finish and future rehabilitation efforts to address the continued deterioration (fatigue) of the structural steel.

<u>Alternative B (Build New Bridge and Remove Existing Bridge)</u>

1. Ability to mitigate adverse impacts to each Section 4(f) resource: Mitigation will consist of installation of an informational kiosk in the vicinity of the bridge with interpretive information pertaining to the Utah Construction Road segment.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: Construction, access and staging in the vicinity of the bridge abutments would remove an isolated segment of the Utah Construction Road.

3. Relative significance of each Section 4(f) resource: The resource is a linear feature, which extends well beyond the physical limits of the bridge replacement project. The resource is presumed eligible for purposes of the bridge replacement project.

4. Views of the officials with jurisdiction over each Section 4(f) property: The SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative B best meets the project purpose and need because it provides a low maintenance structure that meets regional transportation needs.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost of Alternative B is reported in the 2003 Project Scope Summary Report as $21.3 million versus $29.2 million for Alternative A and $10.5 million for Alternative C. The existing bridge would be removed thereby eliminating the need for additional maintenance and a future project to address the deteriorating structural steel.

<u>Alternative C Rehabilitate Existing Bridge</u>

1. Ability to mitigate adverse impacts to each Section 4(f) resource. Mitigation would consist of installation of an informational kiosk in the vicinity of the bridge with interpretive information pertaining to the Utah Construction Road segment.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: Construction, access and staging in the vicinity of the bridge abutments would remove an isolated segment of the Utah Construction Road.

3. Relative significance of each Section 4(f) resource: The resource is a linear feature, which extends well beyond the physical limits of the bridge replacement project. The resource is presumed eligible for purposes of the bridge replacement project.

4. Views of the officials with jurisdiction over each Section 4(f) property: SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: This alternative does not meet the project purpose and need because it does not replace the fatigued steel in its entirety. In addition, it does not address the lack of standard shoulder width on the existing bridge.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): The project will result in temporary effects upon the environment due to the removal of vegetation and earth disturbance associated with construction access and staging. However, with this alternative, there are no adverse impacts to resources not protected by Section 4(f).

7. Substantial differences in costs among alternatives: The estimated cost of Alternative C is reported in the 2003 Project Scope Summary Report as $10.5 million versus $29.2 million for Alternative A and $21.3 million for Alternative B. Alternative C would prolong the structure's life for approximately 25 years. At that point, another rehabilitation effort would be necessary to repair and replace other fatigued structural members.

<u>Alternative D (No Build).</u>

1. Ability to mitigate adverse impacts to each Section 4(f) resource: With Alternative D the existing bridge would be maintained and substantial improvements would not be made. Therefore, no measures to minimize harm would be required as this Alternative avoids an immediate use of the Utah Construction Road segment.

2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features: There would be no harm to the Section 4(f) resource.

3. Relative significance of each Section 4(f) resource: The resource is a linear feature, which extends well beyond the physical limits of the bridge replacement project.

4. Views of the officials with jurisdiction over each Section 4(f) property: SHPO concurs with the proposal to replace the existing structure and mitigation to resolve the adverse effects of the undertaking.

5. Degree to which each alternative meets the purpose and need: Alternative D is the "No Build" alternative, which does not address the project purpose and need. Under this alternative, the existing bridge would be maintained and substantial improvements would not be made. The structural integrity of the

bridge would continue to deteriorate and permit loads would continue to be limited due to the width and weight capacity of the bridge. Maintenance costs could increase, weight loads would be further restricted and eventually the bridge would need to be closed to traffic.

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f): Restrictions would remain on vehicle loads due to weight and width limitations of the existing bridge. This could result in potential social and economic impacts due to restrictions on commercial and emergency response equipment, e.g., railroad and utility repair equipment, fire suppression equipment, etc, in the future.

7. Substantial differences in costs among alternatives: Alternative D would incur costs for maintenance of the steel paint finish and periodic inspections of the steel superstructure. In addition, this alternative would only delay the eventual rehabilitation or replacement of the bridge.

In summary, Alternative A meets the project purpose and need by providing a new modern bridge. However, even though the existing bridge would remain in place, the Utah Construction Road segment would be adversely affected due to the construction, access and staging in the vicinity of the bridge abutments. In addition, Alternative A would still require additional maintenance of the existing Spanish Creek Bridge.

Alternative B will provide a modern, low maintenance bridge that accommodates regional transportation needs. Removal of the existing bridge will eliminate costs associated with maintenance or subsequent rehabilitation work on the historic structure.

Alternative C does not satisfy the project purpose and need because it would not replace the fatigued steel in its entirety. Successive rehabilitation efforts or future bridge replacement could be necessary. In addition, Alternative C would not address the nonstandard shoulder width of the existing bridge.

Alternative D would avoid an adverse effect to the Utah Construction Road segment. However, this alternative does not meet the project purpose and need because it does not address the fact that the bridge's steel superstructure is fracture critical or the lack of standard width shoulders.

Based on the above considerations, there is no feasible and prudent alternative to the use of land from a segment of the Utah Construction Road and the proposed action includes all possible planning to minimize harm to the Utah Construction Road

segment resulting from such use and causes the least overall harm in light of the statute's preservation purpose.

OTHER PARK, RECREATIONAL FACILITIES, WILDLIFE REFUGES, AND HISTORIC PROPERTIES 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 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.

LIST AND DESCRIPTION OF OTHER PROPERTIES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(f)

Spanish Creek Tunnel Overhead (Bridge # 09-0017): The Spanish Creek Tunnel Overhead was determined eligible for the National Register of Historic Places by consensus determination as a contributive element of the Feather River Highway Historic District on April 16, 1987. The Spanish Creek Tunnel Overhead (Figure 7) was included in the Area of Potential Effects (APE) for the proposed undertaking, but was subsequently determined to be outside of the limits of construction. The project will not result in a use of the Spanish Creek Tunnel Overhead and therefore, the provisions of Section 4(f) are not triggered.

Figure 7 - Spanish Creek Tunnel Overhead

USDA United States Department of Agriculture | Forest Service | Plumas National Forest

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File Code: 2330/1580
Date: February 27, 2008

Edward Espinoza, Branch Chief
Office of Environmental Management MS-30
California Department of Transportation
P.O. Box 496073
Redding, CA 96049-6073

Dear Mr. Espinoza:

This letter is to confirm Plumas National Forest's (PNF's) determination, relative to Section 4(f) of the Department of Transportation Act [Section 4(f)] as it pertains to impacts to the recreation area, which includes the Spanish Creek Campground, resulting from the California Department of Transportation's (Caltrans) proposed Spanish Creek Bridge project.

Pursuant to Section 4(f), the PNF has determined that the recreation area, which includes the developed campground, is a significant designated public recreation property. That recreation area is depicted on the map, which is enclosed as an exhibit to this letter.

The PNF Land and Resource Management Plan (1988) recommended development of the campground, within the recreation area, to meet public demand (Forest Plan, Management Area 21, pg. 4-240). The demand for an additional developed campground was also heightened by the loss of two PNF public campgrounds adjacent to State Route 70 and the North Fork Feather River in 1986 due to flooding.

Following are the reasons why the attributes of the recreation area, which includes the developed campground area, make this area an important public recreation property relative to Section 4(f):

> "It is located out of the floodplain; it is close to Quincy (7 miles); there are no fully developed campgrounds in the area; it provides easy access to Bucks Lake and Lakes Basin Recreation Areas and the Bucks Lake Wilderness; other PNF developed campgrounds are at or near capacity; fishing access; centrally located in the County; generates recreation dollars to the local communities; provides a site for use by local organizations such as Boy Scouts, Girl Scouts, etc., access to a wildlife refuge; will replace lost campsites from the flooded campgrounds; close to power and water sources; availability of an area for an Incident Command Base, if needed; and un-crowded camping units." (*Spanish Creek Campground, Finding of No Significant Impact, February 23, 1987.*)

The recreation boundaries, which include the developed campground, encompass all developed amenities and proximate landscapes used by campers for activities and aesthetic values. The classification of this land by PNF as marginal timberland (Class III) with emphasis on visual

retention, developed recreation, and riparian management, substantiates that the primary value of the land is for camping and recreation.

The PNF and Caltrans have been engaged in ongoing project coordination relative to Section 4(f). Caltrans staff has verified that there are no prudent and feasible alternatives which avoid use of the recreation area, which includes the developed campground. The PNF and Caltrans have engaged in meetings during the planning phase of the proposed bridge replacement project to ensure that all possible measures are included in the project to minimize harm to the recreation area. These measures include:

- The campground will be closed during construction to protect the safety of the public.
- Within the limits of the paved campground access road, construction vehicles and equipment will be confined to the paved roadway unless otherwise directed by the project plans or Caltrans Resident Engineer.
- Construction storage and staging will occur only within those areas designated on the project plans.
- Mature trees near the campground entrance, as delineated on the project plans, will be preserved to the extent feasible.
- An informational sign will be installed at the campground entrance to inform the public about the project.
- Following construction, all disturbed areas within the recreation area will be stabilized with erosion control seeding. Pavement and infrastructure damaged as a result of Caltrans project will be repaired.

Impacts upon the recreation area which cannot be avoided or minimized include the following:

- The loss of campground revenue for a minimum of three years, during which time the campground will be closed. This includes the loss of day-use and camping opportunities, and rebuilding the patronage established since the campground opened in 2004. Direct administrative costs of agency coordination, public relations and concessionaire contract modification are also recognized.
- An adverse change in the setting of the recreation property due to the removal of mature trees and alteration of the landscape to accommodate construction access and staging. This will result in a loss of aesthetic values and recreation enjoyment by campground users.
- The loss of approximately 1.7 acres at the campground entrance due to a permanent shift in the highway alignment to connect to the new bridge.

The removal of significant trees and alteration of the landscape is an adverse and irretrievable impact to these recreation resources within the recreation area. To offset the loss of campground revenue and residual impacts to the recreation area resulting from Caltrans project, the PNF desires to construct future improvements within the recreation area that will enhance the camping and recreation experience. In light of the anticipated impacts, it is the position of PNF that mitigation in the form of monetary compensation would be appropriate for PNF to make those future recreation and camping improvements within the recreation areas defined on the attached map.

PNF, in consultation with Caltrans, has determined that the following compensation is proportionate to the magnitude of the project's impact on the Section 4(f) property and constitutes a reasonable public expenditure:

- Three-year closure of the campground and day use area plus direct administrative costs - $200,000
- Impacts to the recreation setting, including the developed campground, due to vegetation removal and landscape alteration - $500,000 ($100,000 per acre of trees affected within the campground boundary @ 5 acres)
- Value of lost property - $170,000

The PNF desires to enter into an agreement with Caltrans for the purpose of exchanging the total compensation amount of $870,000 at the time of project's construction contract, which is currently programmed for November 2009.

Sincerely,

Maria T. Pecio

ALICE B. CARLTON
Forest Supervisor

cc: Chris Quiney
Environmental Coordinator
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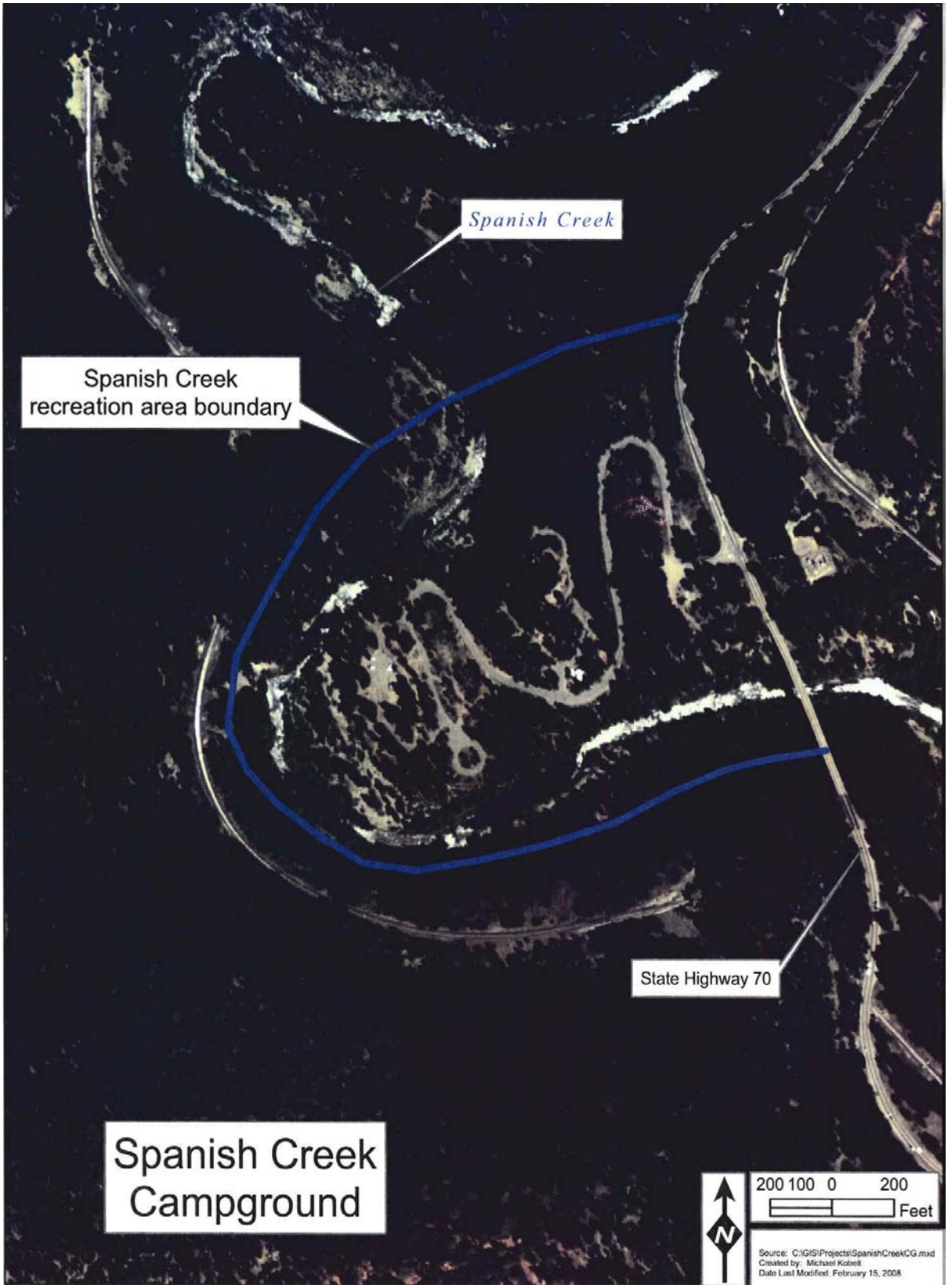
Spanish Creek
Spanish Creek
recreation area boundary
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Created by: Michael Kobelt
Date Last Modified: February 15, 2008