

**National Park Service  
U.S. Department of the Interior**



**Sequoia and Kings Canyon National Parks  
California**

**REHABILITATE GENERALS HIGHWAY:  
Deer Ridge to Wolverton Road and the 1.3-Mile Wolverton Road  
to Wolverton Trailhead**

**FINDING OF NO SIGNIFICANT IMPACT**

The National Park Service (NPS), in cooperation with Central Federal Lands Highway Division of the Federal Highway Administration (FHWA), proposes resurfacing, restoring, and rehabilitating 7 miles of Generals Highway between Deer Ridge and Wolverton Road and the 1.3-mile Wolverton Road to the trailhead parking lot, within Sequoia and Kings Canyon National Parks (SEKI). Generals Highway (highway) was originally completed in 1935 and has periodically needed repairs to address structural deficiencies and normal wear that have led to deterioration of the highway. Currently a number of repairs and improvements are needed to address inadequate drainage, subgrade slumping, pavement cracking, potholes, and other structural problems. Phase 1 includes the 1-mile segment of the highway from Deer Ridge to Eleven Range, which requires more extensive reconstruction to address structural and retaining wall issues, a narrow road width, and drainage needs. Phase 2 extends 6 miles from Eleven Range to Wolverton Road and includes minor curve widening, repaving, and drainage work. This phase also includes repaving Wolverton Road and parking lot. The proposed rehabilitation will improve the efficiency of park operations by correcting structural deficiencies, selective widening of narrow sections, and reducing maintenance requirements.

This finding of no significant impact (FONSI) and the environmental assessment (EA) constitute the record of the environmental impact analysis and decision-making process for the rehabilitation of Generals Highway. The NPS will implement the preferred alternative, which includes the site-specific repairs needed to address the identified deficiencies and the associated improvements to rehabilitate the highway. The preferred alternative includes measures for protection of park resources, safety improvements, and a sustainable road for visitor travel; and provides long-term conditions necessary to sustain scenic, natural, and cultural resources. Road rehabilitation will improve traffic safety, facilitate maintenance, and provide a pleasant driving experience. Incorporated into the project design are measures for protection of park natural and cultural resources. The preferred alternative was selected after careful review of resource and visitor impacts and public comment.

This document records (1) a FONSI as required by the National Environmental Policy Act of 1969 (NEPA) and (2) a determination of no impairment as required by the NPS Organic Act of 1916 (see Appendix).

**SELECTION OF THE PREFERRED ALTERNATIVE**

Two alternatives were evaluated in the EA including a no action alternative and one action alternative. Under the no action alternative, the road would not be rehabilitated. The action alternative, which is the preferred alternative as described in the EA, is the selected alternative - the rehabilitation of Generals Highway. This alternative was selected because it best meets the purpose and need for the project, as well

as project objectives to: 1) improve the efficiency of park operations, 2) provide for visitor safety and enjoyment, and 3) protect park resources.

The preferred alternative includes site-specific actions for reconstruction and rehabilitation of about 7 miles of Generals Highway and 1.3 miles of Wolverton Road. Phase 1 consists of an approximate 1-mile segment of Generals Highway from Deer Ridge to Eleven Range. Work on this segment is more extensive than other portions of the project and includes reconstruction of the road to widen narrow sections, construct new or rehabilitate existing retaining walls, improve drainage, construct new pullouts, and other improvements. The 6-mile segment of Phase 2 extends from Eleven Range to Wolverton Road and includes minor curve widening, repaving, and drainage work. This project also includes repaving Wolverton Road from the intersection with Generals Highway to the Wolverton Trailhead parking lot, including all quadrants of the Wolverton parking lot. The work is expected to begin in 2014, depending on available funding.

## RESOURCE PROTECTION MEASURES

To prevent and minimize potential adverse impacts associated with the preferred alternative, best management practices (BMPs) and resource protection measures will be implemented during construction and post-construction phases of the project (Table 1).

**Table 1. Resource Protection Measures**

General Measures	Responsible Party
<ul style="list-style-type: none"> <li>• The NPS project manager will ensure that the project remains within the construction limits and parameters established in the compliance documents and that mitigation measures are properly implemented.</li> <li>• Construction zones will be signed at approach points. No construction activity will be permitted outside the construction limits.</li> <li>• All protection measures will be clearly stated in the construction specifications/special construction requirements, and workers will be instructed to avoid conducting activities beyond the construction limits as defined by construction plans or marked limits.</li> <li>• Garbage, trash, and other solid waste associated with construction operations will be disposed of in bear-proof trash bins and disposed of weekly or sooner if warranted, outside the park.</li> <li>• All contractor employees must attend a park-led bear training class.</li> <li>• All tools, equipment, barricades, signs, surplus materials, and rubbish will be removed from the project work limits upon project completion. Any asphalt surfaces damaged during construction of the project will be repaired to original conditions. All demolition debris will be removed from the project site, including all visible concrete and metal pieces. This material will be disposed of outside the park in an approved location.</li> <li>• Contractors will be required to properly maintain construction equipment (i.e., mufflers) to minimize noise from equipment use and follow California state idling regulations/laws.</li> <li>• A hazardous spill plan will be in place, stating what actions will be taken in the case of a spill, notification measures, and preventive measures to be implemented, such as the placement of refueling facilities, storage, and handling of hazardous materials.</li> <li>• Where appropriate and available, "environmentally friendly" grease, hydraulic oil, and bar and chain oil will be used. These lubricants are vegetable or mineral oil based, less toxic, and biodegradable.</li> <li>• All equipment on the project will be maintained in a clean and well-functioning state to avoid or minimize contamination from mechanical fluids as well as meeting California Air Resource Board "Off-Road" and On-Road emission requirements. All equipment will be checked daily.</li> <li>• BMPs for drainage and sediment control, as identified and used by the FHWA and</li> </ul>	<p>NPS Project Manager and FHWA Project Manager</p>

<p>NPS Stormwater Pollution Prevention Plan, will be implemented to prevent or reduce nonpoint source pollution and minimize soil loss and sedimentation in drainage areas. Use of BMPs in the project area for drainage area protection will include all or some of the following actions, depending on site-specific requirements:</p> <ul style="list-style-type: none"> <li>○ Keeping disturbed areas as small as practicable to minimize exposed soil and the potential for erosion.</li> <li>○ Locating waste and excess excavated materials outside of drainages to avoid sedimentation.</li> <li>○ Installing silt fences, temporary earthen berms, temporary water bars, sediment traps, stone check dams, or other equivalent measures (including installing erosion-control measures around the perimeter of stockpiled fill material) prior to construction.</li> <li>○ Conducting regular site inspections during the construction period to ensure that erosion-control measures were properly installed and are functioning effectively.</li> <li>○ Storing, using, and disposing of chemicals, fuels, and other toxic materials in a proper manner.</li> </ul> <ul style="list-style-type: none"> <li>• Delays for emergency response vehicles will be kept to a minimum by having the emergency responders notify the traffic monitors via park radio/frequency immediately when the vehicle is dispatched, thus allowing approximately 10 minutes to clear the road before the arrival of the emergency vehicle.</li> </ul>	
Vegetation and Protection of Giant Sequoia Trees	
<ul style="list-style-type: none"> <li>• Orange construction fencing will be used around large trees within construction limits to minimize the potential for inadvertent impact from heavy equipment during construction.</li> <li>• No construction material will be located so as to affect vegetation outside of the work limits or protected vegetation within the work limits.</li> <li>• Several measures will be used to protect <u>sequoia trees</u> adjacent to the road: <ul style="list-style-type: none"> <li>○ Mature trees close to the road will be fenced.</li> <li>○ In order to protect giant sequoias, excavation or trenching activities in park-designated areas, as directed by the contracting Officer (CO), must be performed in a manner that allows precision control of equipment so that tree roots 4 inches in diameter or larger and tree boles are not damaged. Refined excavation and trenching activity near roots requires hand or manual removal of material in the vicinity of giant sequoia trees. Major roots (4 inches in diameter or larger) that are encountered during excavation and trenching shall be preserved and covered with wet burlap to prevent sun scald until the trench or excavation is backfilled. Smaller roots will be cut clean and straight with a saw.</li> <li>○ In areas where giant sequoias are close to the road and pavement will normally be machine pulverized, the pavement will be removed in chunks using a combination of precision equipment and manual labor from the surface without disturbing the underlying soil and roots.</li> </ul> </li> <li>• No trees or other plants will be removed or injured without prior approval of the park. All tree trimming, pruning, and transplanting will be done under the direction of the NPS Project Manager in consultation with the Sequoia and Kings Canyon Restoration and Invasive Plants Ecologist.</li> <li>• In order to create an incentive for protecting vegetation, the contract will allow for assessment of monetary damages for causing certain types of damage to trees, roots, and other vegetation.</li> <li>• Populations of small-flowered monkeyflower growing adjacent to the road corridor will be protected by limiting disturbance to the actual project footprint when working in the vicinity of the plant. Population locations will be mapped and provided to the contractors prior to the beginning of the project, and will be flagged on the ground by park staff.</li> </ul>	<p>NPS Project Manager, SEKI Restoration and Native Plants Ecologist, and FHWA Project Manager</p>

<ul style="list-style-type: none"> <li>• A revegetation plan will be developed for disturbances outside of the existing road pavement.</li> <li>• Remedial actions will include installing erosion-control structures, reseeding, conserving and replacing topsoil and/or replanting the area, and controlling nonnative plant species with herbicide.</li> <li>• Ground surface treatment will include grading to natural contours, conserving and replacing topsoil and, where necessary, hand-seeding, hydroseeding/ hydromulching, or planting with native species. In some locations, topsoil placement and mulching with litter and duff will be the primary treatment. If insufficient litter and duff is salvaged from the project area, additional litter and duff will be gathered from adjacent areas to place mulch over disturbed soil.</li> <li>• Reclaimed areas will be monitored after construction to determine if reclamation efforts are successful or if additional remedial actions are necessary, as outlined in the revegetation plan developed by the NPS.</li> <li>• Introduction of nonnative/noxious plant species will be minimized by implementing several BMPs, including: <ul style="list-style-type: none"> <li>○ Minimizing soil disturbance.</li> <li>○ Pressure washing and/or steam cleaning all construction equipment to ensure that all equipment and machinery are cleaned and weed free before entering the parks. Construction equipment will be inspected by NPS or FHWA staff prior to entering the parks to ensure compliance with cleanliness requirements; inadequately cleaned equipment will be rejected.</li> <li>○ Covering all haul trucks bringing fill materials (excluding asphalt) from outside the parks to prevent seed transport and dust deposition along the road corridor.</li> <li>○ Limiting vehicle parking to existing roads, parking lots, or access routes.</li> <li>○ Limiting disturbance to roadsides and culvert areas, including limiting equipment to the roadbed area – no machinery or equipment should access areas outside the construction limits.</li> <li>○ Obtaining all fill, rock, or other earth materials from the project area, if possible. If not possible, obtaining weed-free earth materials from NPS-approved sources outside the parks.</li> <li>○ Scraping away topsoil at the quarry, acquiring freshly exposed material with minimal seed deposition, and washing coarse materials (riprap) if the contractor cannot locate weed-free quarry sources.</li> <li>○ No hay or straw bales will be used during revegetation or for temporary erosion control.</li> <li>○ Initiating revegetation of disturbed sites immediately following construction activities.</li> <li>○ Requiring that local staging areas outside the park are inspected for invasive plants and approved prior to use.</li> </ul> </li> <li>• To maximize vegetation restoration efforts after completion of construction activities, the following measures will be implemented: <ul style="list-style-type: none"> <li>○ Distribution of salvaged topsoil for use in restoration of disturbed areas.</li> <li>○ Incorporating native litter and duff layer in forested sites for replacement over salvaged topsoil.</li> <li>○ Surveying for and treating invasive plants prior to and one to three years after construction.</li> </ul> </li> </ul>	
<p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>• Impacts on wetlands will be avoided and minimized to the extent practicable. No wetland fill will occur without authorization from the Corps and appropriate permitting under the Clean Water Act.</li> <li>• Appropriate permits (404 permit and 401 certification) will be acquired should there be any impacts on wetlands.</li> </ul>	<p>NPS Project Manager and Environmental Protection Specialist; FHWA Project Manager</p>

Water Quality		
<ul style="list-style-type: none"> <li>Sediment traps, erosion checks, and/or filters will be constructed above or below all culvert drains (if such drains are required) and in all other ditches before the water (runoff) leaves the project construction limits.</li> <li>At all cut and fill areas, erosion and sedimentation control will be implemented to minimize impacts on water quality.</li> <li>Surface restoration and revegetation of disturbed soils will be implemented to minimize long-term soil erosion.</li> <li>Water needed for construction and dust control will come from the existing developed water systems within the parks and will not be diverted from surface waters.</li> </ul>		NPS Project Manager and FHWA Project Manager
Soils		
<ul style="list-style-type: none"> <li>Blasting will be allowed, in clearly identified areas, and an appropriate blasting plan will be established and strictly enforced.</li> <li>If blasting is needed, soils will be placed in suitable "pockets" within the disturbed area so that vegetation can be planted.</li> <li>Erosion and sediment control will be required (see the "General Measures" section).</li> <li>Topsoil will be removed from areas of construction and stored for later reclamation use. The topsoil will be redistributed as near the original location as possible and supplemented with scarification, mulching, seeding, and/or planting with native species.</li> </ul>		NPS Project Manager and FHWA Project Manager
Wildlife		
<ul style="list-style-type: none"> <li>Construction personnel will be informed of the occurrence and status of special status species and will be advised of the potential impacts on the species and penalties for taking or harming a special status species.</li> <li>To reduce noise disturbance and limit impacts on breeding California spotted owl and avian species, removal of suitable nesting trees will be conducted from August 15 to March 1, where feasible. If trees need to be removed outside of this time frame, they will be identified for removal and evaluated for nesting or roosting use prior to removal.</li> <li>Park wildlife biologists will check for the presence of active Pacific fisher denning prior to the removal of any trees of suitable size for fisher use.</li> <li>Feeding or approaching wildlife will be prohibited by construction personnel.</li> <li>Any wildlife collisions will be reported to park personnel.</li> <li>The park wildlife biologist or ranger will be notified if bears loiter in the area or if fisher sightings occur.</li> <li>Contractors must attend park-led training on food storage, garbage removal, and have on-site inspectors.</li> <li>A litter-control program will be implemented during construction to eliminate the accumulation of trash. All food will be stored in bear-proof containers. Food in vehicles will be stored in bear-proof containers. Spilled food will be cleaned up. Visitors in traffic delays will be instructed by NPS staff, when available, to not approach or feed wildlife.</li> <li>The clearing limits (construction limits) outside of the existing road prism will be clearly marked or flagged prior to construction. All construction activities, including staging areas, will be located within previously disturbed areas and fenced, if necessary.</li> <li>Trees will be removed from November 1 through March 1 if feasible, to avoid impacting actively roosting bats. If tree removal occurs at other times of the year, cut trees will be allowed to lie for 24 hours before being sectioned, chipped, or mulched to allow foliage roosting bats to arouse and leave.</li> </ul>		NPS Project Manager, SEKI Wildlife Biologist, and FHWA Project Manager
Air Quality and Natural Soundscapes		
<ul style="list-style-type: none"> <li>Dust control will occur, as needed, on active work areas where dirt or fine particles are exposed using water from developed sources.</li> <li>Asphalt plants will be located outside SEKI. Small quantities of asphalt may be stored short term only at the designated staging areas.</li> </ul>		NPS Project Manager and FHWA Project Manager

<ul style="list-style-type: none"> <li>• Construction debris will be hauled from the parks to an appropriate disposal location.</li> <li>• Visitors will be asked to not idle their vehicles while waiting for the traffic delay to be reopened.</li> <li>• The following measures will be taken to limit noise and disturbance from vehicles and construction equipment: <ul style="list-style-type: none"> <li>○ Equipment will not be allowed to idle longer than necessary.</li> <li>○ All motor vehicles and equipment will have mufflers conforming to original manufacturer specifications that are in good working order and are in constant operation to prevent excessive or unusual noise, fumes, or smoke.</li> <li>○ Mufflers and sound attenuation devices (such as rubber strips or sheeting) will be installed and maintained on all equipment, if feasible. This includes truck tail and other gate dampeners (both opening and closing) for all dump trucks in the project area.</li> <li>○ Use of air horns within the park will be limited to emergencies and as a safety signal for blasting operations.</li> </ul> </li> </ul>	
<b>Cultural Resources</b>	
<ul style="list-style-type: none"> <li>• Known historic sites and documented/isolated cultural resources occurrences will be flagged and avoided during construction, and a NPS archeologist will be on-site whenever there is ground disturbance near the site.</li> <li>• All new stone masonry features or rehabilitation of an existing historic stone masonry feature will be in accordance with the <i>Secretary of the Interior Standards for the Treatment of Historic Properties</i> (1992a), <i>Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings</i> (Weeks and Grimmer 1995), and per the NPS PA (NPS 2008).</li> <li>• Contractor-selected, noncommercial areas outside of the project limits including, but not limited to, material sources, disposal sites, waste areas, haul roads, and staging areas, will not encroach upon sites listed or eligible for listing in the national register. Written proof satisfactory to the NPS and the California State Historic Preservation Officer (SHPO) shall document, for compliance with section 106, that no historic properties will be affected because: <ul style="list-style-type: none"> <li>○ there are no historic resources present, or</li> <li>○ there is no effect on historic properties present.</li> </ul> </li> <li>• Protection of Archeological Remains: In the event of the inadvertent discovery of historic properties such as archeological resources, suspected human remains, funerary objects, sacred sites, or objects of cultural patrimony, the park archeologist and superintendent will be immediately notified. Work in the affected area(s) will stop immediately until the historic properties are reviewed by the park. As appropriate, consultation with the California SHPO and any affected American Indian tribes will also take place regarding disposition of affected artifacts and remains. During consultation, reasonable measures will be taken to protect the discovery site, including any appropriate stabilization or covering; to ensure the confidentiality of the discovery site; and to restrict access to the discovery site.</li> <li>• Should unknown archeological resources be uncovered during construction, work will be halted in the discovery area, the site will be secured, and the appropriate SEKI staff will consult with the California SHPO and affiliated tribes, if necessary, according to 36 CFR 800.13 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA).</li> <li>• In compliance with the NAGPRA, the NPS will also notify and consult with concerned American Indian tribal representatives for the proper treatment of human remains, funerary, and sacred objects should these be discovered during project construction.</li> <li>• Archeological specimens found within the construction area will be removed only by the NPS or their designated representatives.</li> </ul>	<p>NPS Project Manager, SEKI Cultural Resources Specialist, and FHWA Project Manager</p>
<b>Visitor Use and Experience</b>	
<ul style="list-style-type: none"> <li>• A detailed traffic control plan will be implemented to minimize impacts on visitors and complete construction work as quickly and efficiently as feasible.</li> </ul>	<p>NPS Project Manager and</p>

<ul style="list-style-type: none"> <li>Generals Highway and Wolverton Road will remain open throughout construction, subject to temporary delays.</li> <li>Access to trailhead parking lots, Crystal Cave, the Giant Forest, Giant Forest Museum, and through traffic to the Lodgepole visitor center and Wuksachi Village will remain open during construction, subject to traffic delays.</li> <li>The park will provide information (e.g., brochures, signs, telecommunication, and interpretative programs) to inform visitors, concessioners, the U.S. Forest Service, and employees of alternative routes and the project schedule.</li> <li>Visitors will be notified when road closures or traffic delays will occur and information will be posted in neighboring communities, on the park website, at visitor centers, and at entrance stations.</li> <li>At the traffic delay locations and if conditions warrant, a NPS interpreter will be present to answer questions from visitors and advise them of procedures and construction expectations.</li> </ul>	<p>FHWA Project Manager, SEKI District Interpreter, and SEKI Public Affairs Specialist</p>
<b>Park Operations</b>	
<ul style="list-style-type: none"> <li>As necessary, future park utility conduits may be incorporated into the project to reduce the damage and removal of any new road surface.</li> <li>Once the winter season halts construction, the turnouts should be cleared of all construction storage equipment and materials.</li> <li>Delays for emergency response vehicles will be kept to a minimum by having the emergency responders notify the traffic monitors via park radio/frequency immediately when the vehicle is dispatched, thus allowing approximately 10 minutes to clear the road before the arrival of the emergency vehicle.</li> </ul>	<p>NPS Project Manager and FHWA Project Manager</p>
<b>Health and Safety</b>	
<ul style="list-style-type: none"> <li>Traffic monitors will have park radios with the appropriate park frequency, appropriate safety clothing, and reflective signs.</li> <li>Visitors and NPS staff will not be allowed to stop/park in a pullout or on the road in the construction zone. Emergency vehicles will be allowed on an as-needed basis.</li> </ul>	<p>NPS Project Manager and FHWA Project Manager</p>

## OTHER ALTERNATIVES CONSIDERED

A no action alternative also was evaluated in the EA. Under the no action alternative, the section of Generals Highway from Deer Ridge to Wolverton Road and Wolverton Road would not be rehabilitated. Park staff would continue to conduct routine road maintenance, asphalt patching and sealing, minor repairs, and snow removal as in the past. Road pavement and structural integrity would continue to deteriorate and the safety issues associated with the narrow section of road from Deer Ridge to Eleven Range would persist. Prevention of catastrophic failures would continue to rely on attention to maintenance of the infrastructure including pavement, retaining walls, culverts, and ditches. No highway funds would be expended for rehabilitation; however, road maintenance costs would likely increase to address deteriorating road conditions.

The NPS also considered, but rejected from analysis in the EA, several additional alternatives. Minor improvements to the road surface, such as milling and overlay or chip and seal, would not address the underlying structural, geotechnical, and drainage issues contributing to the road problems or the widening necessary from Deer Ridge to Eleven Range to improve safety. Maintenance costs would increase in the long term if structural and drainage deficiencies are not corrected. Resurface-only options were eliminated because they would not meet the project purpose and need or current safety standards.

NPS also considered relocating a section of the highway away from several giant sequoia trees known as the Four Guardsmen. The current road configuration leads to occasional damage to the sequoias when they are struck by snowplows or other vehicles, and over the next 50 years, the sequoias will continue to grow in diameter, making the passage between them narrower and narrower over time. Because it may be

several decades before access through the site is an issue and because relocating the highway would result in impacts on previously undisturbed forest land, the park has decided to review possible options at the Four Guardsmen in the future rather than consider realignments in this area as part of the proposed action. The preferred alternative will address the immediate needs of repairing a deteriorating road to meet near-term safety needs. An in-depth evaluation of vehicle passage for future use will be conducted at a later date. For the above reasons, this alternative was dismissed from detailed evaluation in this EA.

## **ENVIRONMENTALLY PREFERABLE ALTERNATIVE**

According to the CEQ regulations implementing NEPA (43 CFR 46.30), the environmentally preferable alternative is the alternative "that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative."

The preferred alternative, rehabilitation and reconstruction of Generals Highway, is the environmentally preferable alternative for several reasons: 1) it will best preserve the natural and cultural features along the road because it implements structural improvements that will provide long-term protection of environmental and cultural resources adjacent to the road; 2) drainage improvements will reduce the potential for erosion and impacts on water quality and cultural resources; 3) it will support sustainable design concepts and energy efficiency by providing for the reuse of existing asphalt. For these reasons, the preferred alternative causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources, thereby making it the environmentally preferable alternative.

By contrast, the no action alternative is not the environmentally preferable alternative because although there would be no construction or ground-disturbing activities that would damage previously undisturbed elements of the biological and physical environment 1) it would not protect park natural and cultural resources, as the road would continue to deteriorate without rehabilitation; 2) inadequate drainage could lead to erosion and impacts on water quality, natural resources, and cultural resources; and 3) continued high maintenance requirements would not be energy efficient.

## **WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT**

As defined in 40 CFR § 1508.27, significance is determined by examining the following criteria.

***Impacts that may be both beneficial and adverse: A significant effect may exist even if the agency believes that on balance the effect will be beneficial***

Implementation of the selected alternative will result in some adverse impacts; however, the overall benefit of the project outweighs the negative effects. The visitor experience will benefit from measures to improve the condition of the road, including widening of narrow sections, adding or formalizing pullouts, drainage work, improving sight distance, repaving the road surface, and other rehabilitation measures. These measures will also improve safety and driving conditions for visitors and park staff. The efficiency and cost of park operations will improve from better highway conditions and reduced maintenance requirements, although there would be short-term moderate adverse impacts during construction. Construction-related spending and employment would have regional short-term beneficial effects on the economy, although traffic delays would deter some visitors from coming to the parks and may reduce the number of visitors at Crystal Cave, resulting in regional short-term minor adverse economic impacts.



Park cultural resources, including the highway's eligibility for the national register, will be protected by proposed road rehabilitation and structural repairs that reduce the potential for deterioration of historic features. However, a long-term moderate adverse effect on historic structures will occur from removal of the top course of stones from a historic crenulated stone wall for construction of a cantilevered viaduct and use of the stones in repairing other crenulated walls. Implementation of the provisions provided for in the existing *Programmatic Agreement among Sequoia and Kings Canyon National Parks; Sequoia National Forest; and the California State Historic Preservation Officer, Regarding the Repair and Reconstruction of Roads, Appurtenant, Structures, and Association Utilities, Sequoia and Kings Canyon National Parks* (2008) (hereinafter Programmatic Agreement) will be used to mitigate identified adverse effects. Highway rehabilitation will have a local short-term negligible impact on the cultural landscape from improvements designed to repair and replace deteriorating structural features that contribute to the integrity of the highway.

Construction activities will have short-term minor adverse impacts to vegetation, soils, hydrology, and water quality from ground disturbances. Ambient noise levels will be moderately impacted from elevated noise during construction from equipment and vehicles. Traffic delays and suspensions will inconvenience visitors traveling along the road during construction. Resource protection measures, as listed in Table 1 above, will reduce adverse effects. A summary of resource effects is found in Table 4 of the EA.

***Degree of effect on public health or safety***

Proposed rehabilitation and improvements will address public health and safety concerns associated with Generals Highway and Wolverton Road. Improvements to road pavement, visibility, sight distance, road widening, and drainage will improve safety and driving conditions. The selected alternative will result in local long-term beneficial effects on public health and safety from improvements to the structural features of the road and safety measures that reduce the potential for accidents. Traffic-control measures will be implemented to protect visitors during construction.

***Degree to which effects on the quality of the human environment are likely to be highly controversial***

The park began public scoping with a notice released on January 20, 2012 describing the preferred alternative and soliciting comments or concerns with the proposal to rehabilitate Generals Highway. Based on the input received during public scoping, there was no evidence that the effects will be highly controversial. The public also was given an opportunity to comment on the completed EA. At the conclusion of the 30-day public review and comment period, which ended on July 6, 2012, the park received four comments from interest groups and agencies. Comments generally supported the proposed project, but questions were raised about potential impacts to Crystal Cave operations and traffic control at Crystal Cave Road during construction. Construction traffic on SR 198 was questioned, as well as possible impacts to wildlife and cultural resources. Given the substance of these comments, there is no evidence that the effect to the quality of the human environment will be highly controversial. Responses to substantive comments on the EA are included at the end of this document.

***Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks***

Highway rehabilitation meets project objectives through implementation of structural improvements that correct damaged and deteriorating road conditions, address public safety, provide for visitor enjoyment, and protect park natural and cultural resources. The anticipated effects on the human environment, as analyzed in the EA, are not highly uncertain or unique, nor were any unknown risks identified.

***Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration***

Rehabilitation of Generals Highway will not result in significant adverse effects to the natural environment, cultural resources, or visitor experience because the project was designed to minimize resource and visitor impacts and resource protection measures were incorporated into the project to further reduce identified adverse effects. In addition, the selected alternative will provide for the long-term protection of resources and will not set a precedent for future actions that could have significant effects.

***Whether the action is related to other actions with individually insignificant but cumulatively significant impacts***

The EA concluded that past, present, and future activities, when coupled with the rehabilitation of Generals Highway, will have local short-term minor adverse cumulative impacts on the visitor use and experience, socioeconomics, and park operations. There will be long-term minor adverse effects on vegetation from the cumulative surface disturbances of multiple park projects. Cumulative effects to historic structures and cultural landscape will be long-term and negligible. Highway rehabilitation will have long-term beneficial cumulative effects on water resources, visitor use and experience, socioeconomics, health and safety, and park operations. Overall, the selected alternative will have no significant cumulative effects.

***Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources***

Road rehabilitation work will address deteriorating road infrastructure and will maintain and protect the historic features that contribute to the highway's eligibility for listing on the National Register of Historic Places (NRHP). As directed by SHPO in a February 14, 2012 email, the park will comply with applicable stipulations in the existing Programmatic Agreement between the California SHPO and the park to address the effects of the selected alternative. This includes 1) identifying and evaluating historic properties 2) preparing an Assessment of Effects; and 3) applying a treatment of adverse effects for a historic, nonarcheological property. In addition, the park will revise the Generals Highway National Register Nomination as needed for effects to contributing elements to the historic district and to reflect proposed modifications. After applying Advisory Council on Historic Preservation criteria of adverse effects (36 CFR Part 800.5, Assessment of Adverse Effects), the NPS concludes that implementation of the selected alternative will have no adverse effect on archeological sites, cultural landscapes, ethnographic resources, or museum collections.

***Degree to which the action may adversely affect an endangered or threatened species or its critical habitat***

In accordance with the Endangered Species Act, the NPS contacted the U.S. Fish and Wildlife Service by letter on January 20, 2011 to solicit input on threatened, endangered, and species of concern for the proposed project. Since the park has determined there will be no effect on federally listed species, no additional consultation with the U.S. Fish and Wildlife Service is required. The California Department of Fish and Game provided input on the proposed project regarding state species of concern. Based on mitigation and past project work, any beneficial or adverse effects would be discountable and insignificant, and the park has determined that the selected alternative will not adversely affect listed or sensitive species.

***Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas***

As described in the EA, moderate adverse effects to historic structures will occur from impacts to a crenulated stonewall for viaduct construction. Implementation of the provisions of the Programmatic Agreement will be used to mitigate adverse effects. Replacement of an existing culvert on Hazelwood Creek near Round Meadow would result in a temporary disturbance to less than 0.1 acre of wetlands. Wetland vegetation temporarily disturbed during culvert replacement would be revegetated with native species. No prime farmlands, wild and scenic rivers, or ecologically critical areas will be affected.

***Whether the action threatens a violation of federal, state, or local environmental protection law***

The selected alternative does not violate any federal, state, or local environmental protection laws.

**PUBLIC INVOLVEMENT AND NATIVE AMERICAN CONSULTATION**

On January 20, 2011, the park initiated public scoping with a press release to provide the public and interested parties an opportunity to comment on the proposed project. The park also sent letters to more than 240 interested individuals; organizations; state, county, and local governments; federal agencies; local businesses; and media outlets describing the preferred alternative and asking for comments. In addition, the scoping letter was sent to the California State Historic Preservation Office and American Indian tribes traditionally associated with the parks. During the 30-day scoping period, which ended February 22, 2011, the park received two public comments—one from an individual and one from the California Department of Fish and Game (CDFG). Concern was expressed on whether access to the park by large recreational vehicles would be restricted during roadwork and whether deer that are commonly seen in the area would be affected. The CDFG indicated the project has the potential to affect several federal and state endangered, rare, or threatened species, as well as state sensitive species, migratory birds, and listed plant species.

The EA was made available for public review and comment during a 30-day period ending July 6, 2012. To notify the public of this review period, a letter was mailed or emailed to 691 stakeholders, interested parties, and local, state, and federal government agencies. The printed EA was distributed to 54 parties on the parks' mailing list, and a CD version was sent to an additional 34 people. Letters inviting tribal consultations and comment, along with the printed EA, were mailed to 58 tribes or tribal organizations or representatives. A press release was distributed to more than 160 media outlets. Although the press release was not published in local newspapers, there was a wide distribution by mail and email. Information and the EA was posted on the NPS Planning, Environment, and Public Comment (PEPC) website, and there was a link to this site from the parks' public website. In addition, information on the project was presented at the Three Rivers Town Hall meeting on June 4, 2012. Therefore, public outreach is considered adequate. The printed version of the EA was also available at the following area libraries: California State University, San Joaquin Sierra Unit; Fresno County Libraries: Bear Mountain, Central, Sunnyside, Fowler, Kingsburg, Orange Cove, Parlier, Reedley, Sanger, and Selma; San Joaquin Valley College: Hanford Extension, Visalia Campus, and Fresno Campus; Tulare County Law Library; Tulare County Libraries: Exeter, Lindsay, and Three Rivers.

The park received comments from four entities during the public review period of the EA from—the California Department of Fish and Game (CDFG), California Department of Transportation District 6 (Caltrans District 6), the Sequoia Natural History Association (SNHA), and the Native American Heritage Commission (NAHC). Comments were generally supportive of the proposed action. None of the comments provided additional, new, or substantive information that will change the determination of effects in the EA.

The CDFG provided the same information during the public review of the EA as they did during scoping, including information on species which could be located in and around the project area and suggested surveys and mitigation measures to reduce potential adverse effects. The suggestions were reviewed by the parks' wildlife biologists during EA development, and applicable mitigations were included in the EA.

Caltrans District 6 had a question related to the impacts on State Route (SR) 198 from equipment and trucks accessing the construction site, and recommended signage to warn motoring public of slow moving trucks and construction activities. Because of the 22-foot vehicle length restrictions on Generals Highway (continuation of SR 198 into the park) between Potwisha and Giant Forest, SR 198 will not be the primary large truck access for most of the project. SR 180 via the North entrance will be the primary large truck access route. Base aggregate, asphalt, and concrete would be delivered to the park from sources outside the park. Existing asphalt will be milled and recycled in the park. In addition, the parks will use signage and other media to notify travelers on SR 198 and SR 180 of construction traffic and travel delays.

SNHA had several comments related to visitor access and effects to the operation of Crystal Cave area. As stated in the EA, construction work and associated traffic delays will inconvenience and possibly reduce the number of visitors going to Crystal Cave. The park will minimize impacts to Crystal Cave operations as much as possible by clearly publicizing traffic delays and working with SNHA to coordinate traffic control and operations, particularly when road work occurs at the Crystal Cave road turnoff. The park will continue to coordinate with SNHA during construction on traffic control to minimize disruption in visitor access to Crystal Cave and ensure public safety.

NAHC sent a letter stating that no Native American cultural resources were identified in their NAHC Sacred Lands File search (June 8, 2012). Enclosed with the NAHC letter, was a list of Native American contacts. The parks' mailing list was updated to reflect any differences between the lists, and project notification was sent to tribes.

The park initiated the coordination of this project with the California SHPO on January 20, 2011 at the start of the public scoping period. Once additional project details were known, SHPO was again consulted in February 2012 through a series of email messages (NPS outgoing emails dated February 2, 3, 10, and 29; SHPO responses dated February 10, 14, and 29). SHPO concurred with the direction provided in the Programmatic Agreement.

The California State Clearinghouse sent a letter acknowledging that the NPS has complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the CEQA; no additional comments were submitted through their review process. CEQA review was determined to be necessary for this project due to future state permitting requirements for any instream work (such as culvert replacements).


## CONCLUSION

Based on the conservation planning and environmental impact analysis documented in the EA, with due consideration of the nature of the public comments and consultations with other agencies, and given the capability of the mitigation measures to avoid, reduce, or eliminate impacts, the NPS has determined that the selected actions do not constitute a federal action that normally requires preparation of an environmental impact statement (EIS). Environmental impacts that could occur are limited in context and intensity, with generally adverse impacts that range from localized to widespread, short- to long-term, and negligible to moderate. The selected actions will not have a significant effect on the quality of the human environment or the parks' cultural resources, or natural resources, and there will be no effect to threatened or endangered species.

There are no unmitigated adverse impacts on public safety, sites, or districts listed in, or eligible for listing in, the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, cumulative effects or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS will not be prepared and the selected actions may be implemented as soon as practicable.

Recommended:

  
for Karen F. Taylor-Goodrich  
Superintendent, Sequoia and Kings Canyon National Parks

8/27/12  
Date

Approved:

  
for Christine S. Lehnertz  
Regional Director, Pacific West Region

8/30/12  
Date

## Appendix – Non-Impairment Finding

The National Park Service (NPS) *Management Policies 2006* require analysis of potential effects to determine whether actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts to park resources and values.

However, the laws do give the NPS the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the NPS the management discretion to allow certain impacts within the park, that discretion is limited by the statutory requirement that the NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of these resources or values. An impact to any park resource or value may, but does not necessarily, constitute an impairment, but an impact would be more likely to constitute an impairment when there is a major or severe adverse effect upon a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated.

The park resources and values that are subject to the no-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and

- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. The NPS's threshold for considering whether there could be an impairment is based on whether an action would have major (or significant) effects.

Impairment findings are not necessary for visitor use and experience, socioeconomics, public health and safety, environmental justice, land use, and park operations because impairment findings relate back to park resources and values, and these impact areas are not generally considered park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values. After dismissing the above topics, the topics remaining to be evaluated for impairment include water resources and floodplains.

### **Vegetation and Special Status Plant Species**

The parks contain a variety of native plant species, including the largest remaining stands of old growth forest in the southern Sierra Nevada mountains. Giant sequoias are found in a number of groves, including several near the project area. Although not a federally listed, state-listed, or rare species, the giant sequoia is a special status species in the park and a tree of national and historical significance. Sequoias grow in geographically limited areas, or groves, in the Sierra Nevada mountains. About 37 of the known 75 sequoia groves, including about a third of all naturally occurring sequoias, are found in the parks. Big-leaf maples occur along the highway in the Phase 1 southern portion of the project area proposed for reconstruction work. Although not a listed species, big-leaf maple approaches the southern end of its Sierran range in Sequoia National Park. One state-listed rare plant species, Tompkins sedge, is known to occur in the parks. Neither Tompkins sedge nor other federally threatened or endangered species or state-listed rare species were found during field surveys of the project area. Plant surveys did locate 14 populations of small-flowered monkey flower (*Mimulus inconspicuus*) along the highway corridor. This California endemic annual is listed by the California Native Plant Society as having limited distribution, but is considered "not very endangered."

Road rehabilitation will occur primarily within the existing disturbed road prism, but small areas of tree and vegetation removal will be necessary to maintain the standard road width, allow minor realignments, road widening, and to better define turnouts. Limited roadside vegetation clearing will be conducted to improve sight distance and safety. For Phase 1, vegetation will be cleared 2 feet beyond cut and fill limits on each side of the road. For Phase 2, a vegetation clearing width of 2 feet from the pavement edge will be used at selected wall locations and a 1-foot clearing zone will be used in curb locations. The selected alternative will have local short-term minor adverse effects on vegetation from road rehabilitation disturbances that are estimated to temporarily affect about 4.59 acres and a long-term minor adverse effect from the loss of up to 0.25 acre of vegetation from paving. Approximately 30 small to medium-sized trees will be removed, including big-leaf maples, which are at the edge of their range in the parks. However, there are numerous big-leaf maples in the same area that would not be affected by the project.

Three small sequoias, 16 to 22 inches in diameter, will be removed for culvert replacement. These are young trees evidently planted adjacent to the road shoulder during past revegetation efforts. No other giant sequoias will be impacted by the construction project. Several mitigation measures will be imposed to prevent damage, including hand or manual removal of material in the vicinity of giant

sequoia trees. Major roots (4 inches in diameter or larger) that are encountered during excavation and trenching will be preserved and covered with wet burlap to prevent sun scald until the trench or excavation is backfilled. Smaller roots will be cut clean and straight with a saw. In areas where giant sequoias are close to the road and pavement will normally be machine pulverized, the pavement will be removed in chunks using a combination of precision equipment and manual labor from the surface without disturbing the underlying soil and roots. Similar methods were used on past projects and were highly successful at protecting giant sequoias.

A loss of individuals of small-flowered monkey flower, an annual species with a limited distribution, from roadside construction disturbance will occur, but no adverse impact on this species population is expected. Weed establishment in areas of disturbed soil also is possible, but will be minimized with weed-control practices. Improvements to drainage and reductions in erosion will have a long-term beneficial effect on vegetation and special status plant species.

The selected alternative will not result in an impairment of vegetation resources because construction-related adverse effects will be local, mostly short-term, and minor. In addition, a number of BMPs will be implemented to protect trees and vegetation, minimize the potential for weed establishment, and ensure restoration of disturbed areas.

### **Water Resources**

The highway crosses several streams, including Little Deer Creek, Sherman Creek, and several smaller unnamed drainages between Deer Ridge and the northern end of the project area at Wolverton. These streams are tributaries to the Marble Fork of the Kaweah River and are high in quality, although quality also is influenced by vehicle deposition of oils, chemicals, and rubber on roads and parking areas.

Proposed road rehabilitation work and drainage improvements will have local short-term minor adverse effects on water resources from surface disturbances that may generate erosion and increased sediment runoff. Temporary adverse effects on water quality are possible during construction. Proposed drainage improvements such as culvert replacement, culvert cleaning, and other drainage work will improve hydrologic conditions, prevent erosion, and protect water quality. Construction of drainage improvements will temporarily introduce sediments into drainages, but will have a long-term benefit by restoring or improving drainage functions and protecting structural and natural features. Proposed erosion-control measures to minimize erosion during construction and revegetation of disturbed areas will minimize impacts. Road rehabilitation work will result in a long-term beneficial impact on water resources by improving conveyance of drainage structures and improving or restoring hydrologic functions. An increase in impervious surface area of 0.25 acre will have a negligible adverse effect on runoff and surface flows. BMPs will be used to protect disturbed areas from erosion and sediment transport.

The selected alternative will not result in an impairment of water resources because any construction-related adverse effects will be local, short-term, minor, and mitigated with BMPs; and drainage improvements will improve water quality by providing long-term treatment of surface discharges from the site.

### **Historic Structures**

Sequoia and Kings Canyon National Parks have 19 historic structures and 4 districts listed in the national register. None of these structures or districts, other than the Generals Highway District, are located within the area of potential effect. In 1992 the NPS determined that the Generals Highway was



eligible for listing in the national register. The listing identified 92 contributing features, specifically identifying stone masonry headwalls, stone masonry drainage ditches, stone masonry retaining walls, stone curbing, stone masonry guardwalls, specific turnouts, stone masonry bridges, stone embankment walls, and signs. Sixteen of these original features are located within the area of potential effect. An addendum inventory to the 1992 national register listing documented 96 additional contributing features along the length of Generals Highway. None of the additional contributing features are within the current area of potential effect.

Proposed rehabilitation work will be conducted to preserve the integrity, design characteristics, and craftsmanship of structural features. Rehabilitation will be conducted in accordance with the existing Programmatic Agreement and meet the *Secretary of the Interior's Standards for Rehabilitation*, including reuse of original material, repairing and replacing features in-kind, and using compatible designs when adding new features. Road stabilization and paving will maintain the structural integrity of the highway. Construction activities such as adding pullouts, adding guardrails, replacing guardrails, increasing the height of stone walls, and adding curbs under guardrails will add new elements to the landscape or reinforce existing structural features adjacent to the highway, but design specifications call for constructing the walls to match the historic workmanship and design of existing structural elements. Stone walls constructed with a crenulated (notched top) will be repaired using original or similar material. An existing historic crenulated stone wall where a cantilevered viaduct will be constructed will be preserved, but the top course of stone will be removed and used for repair of other sections of crenulated walls missing stones. Miscellaneous culvert repairs, replacement, and new drainage will maintain the historic design and materials using original material whenever possible.

Road rehabilitation work will address deteriorating road conditions and maintaining and protecting the historic features that contribute to the highway's eligibility for listing in the national register. However, removal of the top course of stones of a historic crenulated stone wall for construction of a cantilevered viaduct for use in repairing three other crenulated walls as needed, will have a long-term moderate adverse effect on a contributing element to Generals Highway. The park will comply with applicable stipulations in the existing Programmatic Agreement between the California SHPO and the park to address identified adverse effects of the selected alternative. This includes 1) identifying and evaluating historic properties (nonarcheological) (stipulation 3.a); 2) preparing an Assessment of Effects (stipulation 4); and 3) applying a treatment of adverse effects for a historic, nonarcheological property (stipulation 5.a). In addition, the park will revise the Generals Highway National Register Nomination to add the four crenulated walls as contributing elements to the historic district and to reflect proposed modifications to crenulated walls.

Planned road rehabilitation will have a long-term moderate adverse effect on historic structures from removal of the top course of stones from a historic crenulated stone wall for construction of a cantilevered viaduct and use of the stones in repairing other crenulated walls. The selected alternative will not result in an impairment of historic structures with implementation of the provisions provided for in the existing Programmatic Agreement to mitigate identified adverse effects.

### **Cultural Landscape**

Generals Highway and associated historic structures comprise a cultural landscape. The highway was determined eligible for listing in the national register in 1992, but has not been formally listed (NPS 1997). Additional structures were added to the nomination as an addendum in 2006. The highway has at least 188 contributing features. The stone masonry retaining walls, parapet walls, culvert headwalls, and bridges are all contributing features to the national register nomination and are part of the larger

built environment of the parkwide cultural landscape. The NPS manages the highway as if it were listed in the national register under a Programmatic Agreement with the California SHPO.

Planned rehabilitation of Generals Highway is intended to protect, restore, and rehabilitate the deteriorating structural components of the highway. Proposed rehabilitation work will be conducted to preserve the integrity, design characteristics, and craftsmanship of structural features. Any reconstruction or rehabilitation of contributing features will be conducted in accordance with the existing Programmatic Agreement and meet the Secretary of the *Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, including reuse of original material, repairing and replacing features in-kind, and using compatible designs when adding new features. Road stabilization and paving will maintain the structural integrity and visual appearance of the road. Construction activities such as adding pullouts, adding guardrails, replacing guardrails, increasing the height of stone walls, and adding curbs under guardrails will add new elements to the landscape or reinforce existing structural features adjacent to the road, but design specifications call for constructing the walls to match the historic workmanship and design of existing structural elements. Miscellaneous culvert repairs, replacement, and new drainage will maintain the historic design and materials using original material whenever possible.

A few short sections of the road will require removal of small and medium-sized trees during road widening in Phase 1 and three giant sequoias less than 22 inches in diameter will be removed for culvert replacement. Temporary vegetation disturbances will be restored with native species. The proposed rehabilitation will maintain the aesthetic quality, scenic views, and natural features along the road. There will be local short-term negligible impacts on the cultural landscape setting during project construction.

The selected alternative will not result in an impairment of the cultural landscape because the action will have a local short-term negligible impact on the cultural landscape from improvements designed to repair and replace deteriorating structural features that contribute to the integrity of the highway. No adverse impact on the cultural landscape will occur with implementation of the provisions provided for in the existing PA

## SUMMARY

As described above, adverse effects and environmental impacts anticipated as a result of implementing the Selected Alternative on a resource or value whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or identified as significant in the park's general management plan or other relevant NPS planning documents, will not rise to levels that will constitute impairment of park values and resources.