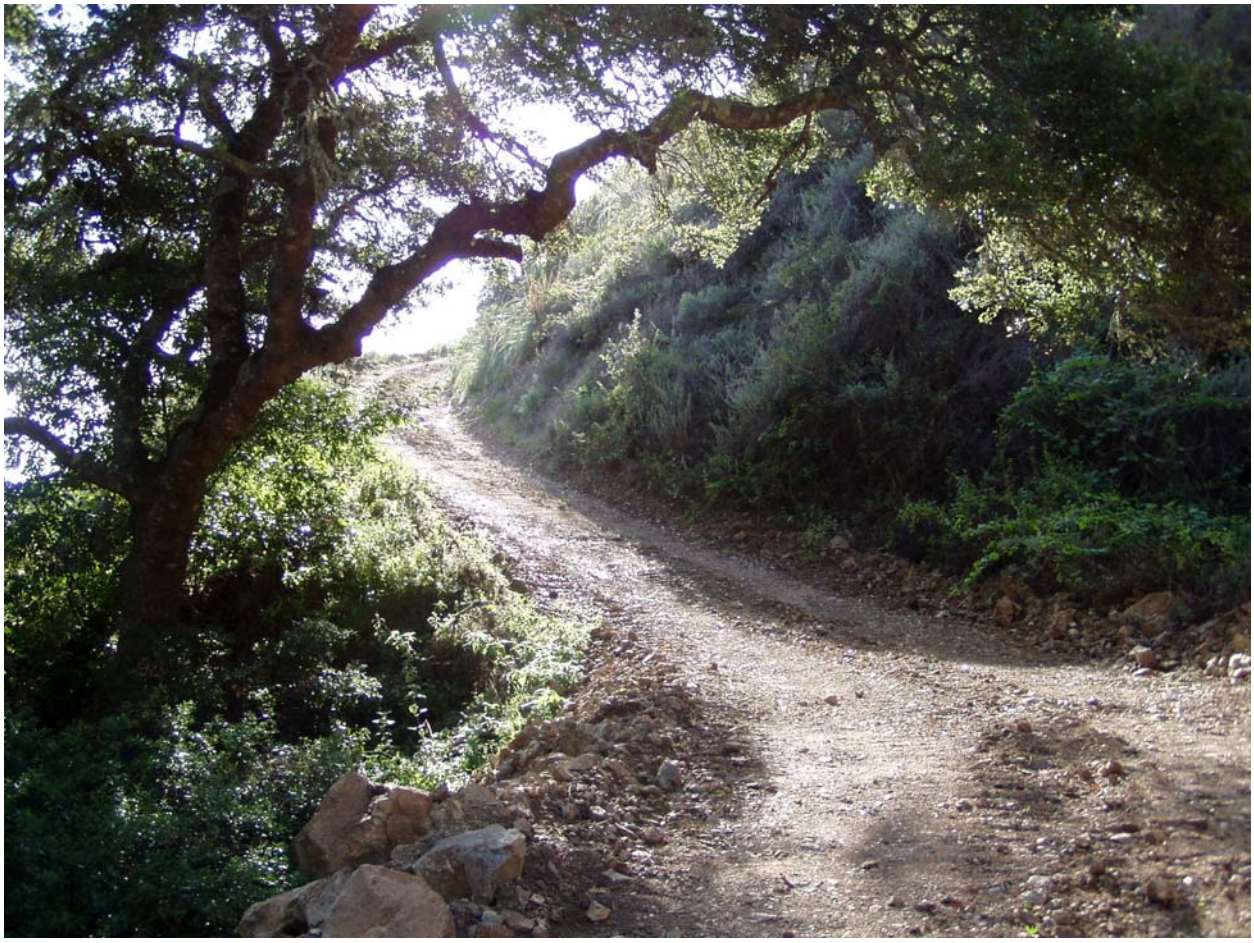
DRAFT

ENVIRONMENTAL IMPACT REPORT

Tin House Road Improvement Project
Julia Pfeiffer Burns State Park



December 2009

Lead Agency

State of California
DEPARTMENT OF PARKS AND RECREATION
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Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ADA	Americans with Disabilities Act
AMSL	Average Mean Sea Level
APE	Area of Potential Effect
APEFZ	Alquist-Priolo Earthquake Fault Zoning
AQMP	Air Quality Management Plan
ARB/CARB	California Air Resources Board
BMPs	Best Management Practices
BSVFB	Big Sur Volunteer Fire Brigade
CA	California
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal Fire	California Department of Forestry and Fire
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CCC	California Conservation Corps
CCR	California Code of Regulations
CCWQCB	Central Coast Regional Water Quality Control Board
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CHP	California Highway Patrol
CHOMP	Community Hospital of Monterey Peninsula
CNDDB	California Natural Diversity Database (Calif. Dept. of Fish and Game)
CNEL	Community Noise Equivalent Level
CNG	Compressed Natural Gas
CNPS	California Native Plant Society
CO	Carbon Monoxide
CRHR	California Register of Historic Resources
CRF	California Red-Legged Frog
CRWQCB	California Regional Water Quality Control Board
CSQA	California Storm Water Quality Association
CWA	Clean Water Act
dB	decibel
dbh	diameter at breast height
DEC	Department of Emergency Services

DEIR	Draft Environmental Impact Report
DFG	California Department of Fish and Game
DOT	Department of Transportation
DPR	California Department of Parks and Recreation
DTSC	California Department of Toxic Substance Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EOC	
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FPD	Fire Protection District
ft	feet
g	gallon
GIS	Global Information System
GP	General Plan
H_2S	Hydrogen Sulfide
HCP	Habitat Conservation Plan
IS/MND	Initial Study / Mitigated Negative Declaration
JP	Julia Pfeiffer
JPB	Julia Pfeiffer Burns
JPBSP	Julia Pfeiffer Burns State Park
LCP	Local Coastal Plan
Ldn	Day/night Average Sound Level
Leq	Equivalent Sound Level
LF	Linear Feet
LNG	Liquefied Natural Gas
LOS	Level of Service
LUP	Land Use Plan
MBTA	Migratory Bird Treaty Act
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCHD	Monterey County Health Department
MCOES	Monterey County Office of Emergency Services
MLD	Most Likely Descendent
MND	Mitigated Negative Declaration
mph	miles per hour
MRZ	Mineral Resource Zone
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Council
NCCAB	North Central Coast Air Basin
NCCP	Natural Community Conservation Plan

NO_2	Nitrogen Dioxide
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NOx	Nitrogen Oxide
NPDES	National Pollution Discharge Elimination System
NWP	Nationwide Permit
O_3	Ozone
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OPR/SCH	Office of Planning and Research / State Clearinghouse
Pb	lead
PM	particulate matter
PM_{10}	particulate matter (particles with an aerodynamic diameter of 10 Microns or less)
$PM_{2.5}$	particulate matter (particles with an aerodynamic diameter of 2.5 Microns or less)
POST	Peace Officer Standard Training
PRC	Public Resources Code
PVC	polyvinyl chloride
RWQCB	Regional Water Quality Control Board
RV	Recreational Vehicle
SAFZ	San Andreas Fault Zone
SB	Senate Bill
SBB	Smith's Blue Butterfly
SEA	Significant Ecological Area
SEMS	Statewide Mutual Services
SO_2	Sulfur Dioxide
SO_4	Sulfates
SOD	Sudden Oak Death
SP	State Park
SPRP	Spill Prevention Response Plan
sq	square
SR	State Route
SRA	State Recreation Area
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water resources Control Board
THR	Tin House Road
U.S.	United States
USACOE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFS	United States Forestry Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Service

VC	Vinyl Chloride
VOC	Volatile Organic Compounds
VRP	Visibility Reducing Particle

1.0 INTRODUCTION

1.1 Introduction

This Draft Environmental Impact Report (DEIR) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Tin House Road Improvement Project at Julia Pfeiffer Burns State Park (JPBSP), Monterey County, California. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code (PRC) §21000 *et seq*., and the California Code of Regulations (CCR) §15000 *et seq*. As described in the CEQA Guidelines §15121(a), an EIR is a public information document that informs the public and agency decision-makers of the potential environmental effects of a proposed project, considers reasonable alternatives, and identifies ways to avoid or reduce adverse impacts.

1.2 Lead Agency

The lead agency is the public agency with primary approval authority over the proposed project. In accordance with CEQA Guidelines §15051(b)(1), "the lead agency will normally be an agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." DPR is the lead agency for the proposed Tin House Road Improvement Project at Julia Pfeiffer Burns SP.

It is the responsibility of the lead agency to determine if the proposed project has the potential to result in a significant effect on the environment [CEQA Guidelines §15063(a)]. For the purposes of CEQA, the term “project” refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change to the environment [CEQA Guidelines §15378(a)]. An Initial Study (IS) is usually conducted to determine the extent of any potential impacts. If the IS reveals there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the lead agency determines there is substantial evidence that any aspect of the project, either individually or cumulatively, may cause a significant effect on the environment prior to completion of an IS, regardless of whether the overall effect of the project is adverse or beneficial, the agency is not required to complete the IS and can proceed directly with the preparation of the EIR [CEQA Guidelines §15063(a)]. As agreed in a Settlement Agreement, DPR has prepared a project-specific EIR for this project. A project-specific EIR focuses primarily on the changes in the environment resulting form the project including the planning, construction, and operation phases [CEQA Guidelines §15161].

1.3 Public Notice and Review

A Notice of Preparation (NOP) was filed with the State Clearinghouse (SCH#2005091024), filed June 15, 2007) and distributed to interested state agencies. The NOP was also sent directly to various local and Responsible and Trustee agencies. A copy of the NOP, distribution list, and written responses to the NOP are contained in Appendix B.

This DEIR and associated Notice of Completion (NOC) has been filed with the Governor’s Office of Planning and Research - State Clearinghouse (OPR/SCH), which will distribute copies to interested state agencies. It will also be sent directly to interested local and public

agencies. DPR will provide public notice of the availability of the DEIR for public review, in compliance with CEQA Guidelines §15087 and invite comment from interested groups, organizations, and the general public. The public review period will extend for 45 days from the date the NOC is filed with the State Clearinghouse. The DEIR and associated supporting documents will be posted on the State Parks website at: http://www.parks.ca.gov/default.asp?page_id=982.

All inquiries regarding environmental compliance for this project should be addressed to:

Patricia DuMont
California Department of Parks and Recreation
Northern Service Center
One Capital Mall, Suite 410
Sacramento, CA 95814
Fax: (916) 445-8883
CEQANSC@parks.ca.gov Subject Line: Tin House Road

All comments must be in writing and may be submitted by regular mail or email to the address indicated above, or by fax at (916) 445-8883; Attn: Patricia DuMont. Submissions must be postmarked or received by fax no later than January 14, 2010. The originals of any faxed document must be received by regular mail within ten working days following the deadline for comments, along with proof of successful fax transmission during the designated comment period. Emailed submissions must include the full name and mailing address of the commenter. Comments received during the public review period will become part of the public record and will be included in the Final EIR.

1.4 Responsible and Trustee Agencies

As described in Section 1.2 above, the lead agency has primary approval authority over the proposed project. However, other public entities, known as Responsible or Trustee agencies, could also have jurisdiction and discretionary approval authority over all or part of proposed project activities or resources potentially affected by a project. A "Responsible Agency" is a public agency, other than the Lead Agency, which has discretionary approval power over the project (CEQA Guidelines §15381). A “Trustee Agency” means a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. For example, California Department of Fish and Game is a trustee agency with regard to the fish and wildlife of the state, designated rare or endangered native plants, and game refuges, ecological reserves, and other areas administered by the Department.

The following agencies have or could have jurisdiction over aspects of the proposed project, requiring consultation, coordination, and/or permits before the project may be approved and/or implemented:

- United States Army Corps of Engineers (USACE)
- United States Fish and Wildlife Service (USFWS)
- California Department of Fish and Game (DFG)
- California Department of Forestry and Fire Protection (CDF)
- California Coastal Commission (CCC)

- State Water Resources Control Board (SWRCB)
- Central Coast Regional Water Quality Control Board (CCWQCB)
- Monterey County Planning Department, Coastal Planning

1.5 Organization and Scope

The CEQA Guidelines (14 CCR §§15122-15132) identify the information that must be contained in an EIR. A Draft EIR must include the following:

- Table of Contents
- Summary of Proposed Actions and Consequences
- Project Description
- Environmental Setting
- Consideration and Discussion of Environmental Impacts and Mitigation Measures
- Significant Environmental Impacts
- Alternatives to the Proposed Project
- Effects Found Not to Be Significant
- Organizations and Persons Consulted
- Cumulative Impacts
- Economic and Social Effects

This draft EIR analyzes the environmental effects of the Tin House Road Improvement Project, including Standard and Specific Project Requirements, and identifies and evaluates mitigation measures and alternatives to reduce or avoid significant environmental impacts resulting from the Project. CEQA requires proponents of projects approved or implemented by public agencies to mitigate or avoid significant impacts and to identify significant impacts that cannot be avoided, growth-inducing impacts, impacts found not to be significant, and significant cumulative impacts (14 CCR §§ 15122-15132).

The environmental effects addressed in this DEIR were established through review of the project scope, including, but not limited to, site evaluations, analysis of other projects in the general area, public agency responses to the Notice of Preparation (NOP), and preliminary consultation with responsible and trustee agencies.

This document is organized as follows:

Section 1 - Introduction
This chapter provides an introduction to the project, identifies CEQA requirements, and describes the purpose and organization of this document.

Section 2 - Project Description
This chapter describes the reasons for the project, location, background, project scope, project requirements, objectives, implementation, and regulatory requirements.

Section 3 - Alternatives to the Proposed Project
This section identifies and provides analysis of reasonable alternatives for the proposed project, including a discussion of potential environmental impacts that could result from implementation of each alternative and a comparative analysis. It also includes a discussion of those alternatives considered, but deemed infeasible.

Section 4 - Environmental Analysis
Section 4.0 contains an analysis of the environmental topics and potential impacts identified during initial project planning. Each subsection contains a description of the baseline conditions (environmental setting) as it relates to the specific topic; describes Project Requirements that have been incorporated into the Project, identifies and determines the significance of potential environmental impacts; and specifies mitigation measures, where appropriate, that will be implemented to reduce potential impacts to the lowest level feasible.

The following is a list and descriptive summary of the environmental topics addressed in the Environmental Analysis:

- Aesthetics/Visual Resources - Addresses visual impacts of the proposed project, including construction activities and nighttime illumination.
- Air Quality - Addresses the incremental and cumulative effect the proposed project could have on the air quality in the vicinity of the project site and within the Monterey Bay Unified Air Pollution Control District. Impacts of greenhouse gases on global climate change are also addressed.
- Biological Resources - Addresses potential impacts to the plant and animal species within the projects area, threatened and endangered species, jurisdictional wetlands, and habitat.
- Cultural Resources - Addresses potential impacts to historic and archaeological resources in the project's area of potential effect.
- Geology and Soils - Addresses geotechnical impacts associated with site development, including changes in topography, soil erosion, and potential geologic and seismic impacts during construction and use of the Road.
- Hazards and Hazardous Materials - Addresses potential Project impacts resulting from transportation and/or use of hazardous materials and exposure to toxic materials. This section also evaluates the possibility of increased fire danger
- Hydrology and Water Quality - Addresses changes in drainage patterns, absorption rates and runoff, surface water quality, and quality/quantity of groundwater.
- Land Use and Planning (includes Agriculture, Mineral Resources, and Recreation) - Addresses the potential impacts to land uses within the project site and in the surrounding community, including land use compatibility issues and consistency of the proposed project with existing plans and policies and recreational opportunities.
- Noise - Addresses the level of noise temporarily generated during the project.
- Public Services and Utilities: Addresses potential impacts of the Project to local public services; availability of utilities (including community sewer, water, solid waste disposal facilities, and services).
- Transportation, Circulation, and Traffic - Addresses effects of the proposed project on existing road conditions, vehicular circulation and flow, safety hazards, emergency access, and alternative modes of transportation.

Section 5 - Growth-Inducing and Cumulative Impacts
Section 5.0 identifies and discusses ways in which the Project could induce growth either, locally or regionally, by increasing population, housing, and/or employment.

Cumulative impacts associated with the Project are identified and discussed. This includes both temporary and long-term impacts that, if combined with one or more other projects in the vicinity, could result in a significant cumulative environmental impact.

Section 6 - Significance of Environmental Impacts
This section identifies both direct and indirect significant effects of the proposed project on the environment, during the construction phase and over the long-term use of the road. This will include significant environmental effects that cannot be avoided and significant irreversible environmental changes that would be caused if the proposed project were implemented.

Section 7 - Report Preparation
This section identifies those who contributed to and/or were responsible for the DEIR preparation, distribution, and accuracy of the information contained in this document.

Section 8 - References
This section identifies the references and sources used in the preparation of this DEIR.

Appendices
The Appendices contain supportive documentation for information, evaluations, and determinations presented as part of this DEIR.

1.6 Findings

CEQA Guidelines §15091indicates that no public agency will approve or carry out a project, for which an EIR has been certified, which identifies one or more significant environmental effects of the project, unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. Findings have been incorporated into this DEIR at the end of each topic of Section 4.0, Environmental Analysis that identifies a potentially significant environmental impact.

2.0 PROJECT DESCRIPTION

2.1 Introduction

The intent of this document is to evaluate the environmental effects of the proposed Tin House Road Improvement Project at Julia Pfeiffer Burns State Park (JPBSP). The project consists of removing dirt from Redwood Creek near the first hairpin turn and from the adjacent private property owned by Joseph Schoendorf in compliance with a settlement agreement as well as grading and re-contouring along the entire length of Tin House Road (Road) to reduce erosion and improve drainage runoff patterns, along with native vegetation restoration and endangered species habitat protection.

2.2 Local and Regional Setting

Situated in Monterey County, 37 miles south of Carmel on Highway 1, Julia Pfeiffer Burns SP encompasses over 2,000 acres of varied habitats, with spectacular views from the park's 3,000-foot ridges. The Tin House Road is north of the park's main entrance on Highway 1 at Post Mile 36.9 and traverses generally moderately steep to steep slopes until it reaches the Tin House on a ridgeline nose about 1600 feet above Highway 1. The hairpin turn project site is located approximately 400 feet from where Tin House Road intersects with Highway 1. The region is rural in nature, with pockets of small community development.

Figure 2.1 – Area Map

2.3 Background and Need for the Project

Tin House Road is a 2.2 mile backcountry dirt road built circa 1944 as a driveway to provide access to the Tin House prior to and following its construction in 1946. Since

the 1960's when the property became a park the dirt road has been maintained for trail use and occasional maintenance vehicle access. Due to steep grades and tight turns frequent rock falls and down trees Tin House Road is only suitable for off road vehicles with high clearance, four wheel drive, and a short turning radius. The road is approximately 12 feet wide, with an eight to ten foot wide running surface. The road traverses steep slopes (ranging from 35% to 100%) and crosses several small watershed areas. The road is mostly constructed with an inboard cross slope and with metal culverts conveying water under the road at natural drainage areas. In many locations rain runoff gets trapped in the roadway instead of continuing downslope in its natural drainage. The road then conveys water away from its natural drainage and is damaged by excessive erosion. Where the diverted runoff is finally released from the roadway to a down slope area there are increased risks of landslide and erosion.

The beginning portion of the road runs parallel to Redwood Creek with an area where slide material was sidecast towards the creek in the past after large landslides occurred in the vicinity. The landslide material filled part of the creek channel and caused rerouting of the stream away from the road and towards the opposite bank. The slide material has been used to widen the roadway in this location. State Parks and Joseph Schoendorf agreed to a boundary line adjustment by recording the Record of Survey in Volume 29 of Surveys at Page 78 of official records of Monterey County recorded on February 21, 2008. This project proposes to remove the slide material and thereby remove that portion of Tin House Road presently located on a short segment of the Schoendorf property as well as restore the creek channel to a natural condition. In 2000, DPR entered into a settlement agreement with the Schoendorfs requiring DPR to "proceed with reasonable diligence to remove that portion of Tin House Road presently located on the Schoendorf property and return the land to its natural condition". In 2006, DPR filed a Mitigated Negative Declaration to comply with CEQA and proceed with Trail Management work. However, Schoendorf and others filed an action entitled *"Friends of the Big Sur Coast v. Department of Parks and Recreation"* challenging the sufficiency of the Mitigated Negative Declaration. In order to avoid the necessity of litigating the issue, DPR agreed to prepare an EIR.

2.4 Project Objectives

DPR's mission is to provide for the health, inspiration, and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality recreation.

The purpose of this project is to

- Comply with and fulfill the settlement agreement entered in the case entitled "*State of California v. Joseph Schoendorf et a*l", Monterey County Superior Court case number M45442.
- Remove that portion of Tin House Road located on the Schoendorf property
- Remove fill in Redwood Creek at the hairpin turn.
- Improve natural drainage patterns across Tin House Road, reduce erosion potential, and encourage water flows across, rather than down the road.

Additionally, this project furthers the DPR mission by contributing to the following objectives:

- Protect and preserve the historical, scenic, and cultural qualities of the site.
- Support and enhance the diversity of habitat for native plants and wildlife.
- Provide for managed public access, designed to ensure that quality recreational opportunities are available and that wildlife values are protected.
- Improve the quality of life in California through diverse, high quality recreation experiences and opportunities.

2.5 Design Requirements

DPR has two types of Project Requirements: Standard and Specific. Standard Project Requirements are applied to projects statewide at all parks, as required and were developed from Best Management Practices (BMPs) and known regulatory requirements. For example, a Standard Project Requirement addressing the treatment of the inadvertent discovery of archaeological features is assigned to all projects statewide that include ground-disturbing work. However, for a project that does not have ground disturbance, such as replacing a roof on a historic structure, this Standard Project Requirement would not be necessary and therefore not applied to the project. Specific Project Requirements are written for, and applied to, projects based on specific actions unique to a project and/or area that are necessary to complete the project while protecting resources. Table 2.1, Summary of Standard and Specific Project Requirements for the Park, lists Standard Project Requirements and Specific Project Requirements that will be incorporated into the Project, as applicable.

Based on the Project Description, DPR incorporates Project Requirements into the project. After incorporating the Requirements, whether standard or specific, DPR evaluates the significance of impacts based on CEQA Guidelines Section 15064.5 and Appendix G. After further impact analysis, if impacts are potentially significant or are potentially significant and unavoidable, DPR provides mitigation measure(s) to reduce impacts to a less than significant level. Continuing with the analysis, DPR could determine that although Project Requirements and mitigation measures have been included, project impacts are significant and unavoidable; therefore, could provide a Statement of Overriding Consideration (see Section 6.5).

Table 2.1
Summary of Standard and Specific Project Requirements for the Park

Project Requirements	Project Requirement Description
AESTHETICS	
Standard Project Requirement AES 1: Viewshed Revegetation	• Cut and fill slopes will be revegetated for stability to control erosion and to re-establish the visual continuity of vegetative cover (see Bio 10 Revegetation Plan below). • Trail edges along the creek realignment will be vegetated using appropriate redwood or riparian understory plantings where consistent with adjacent vegetation (see Bio 10 Revegetation Plan below).
Specific Project Requirement AES 2: Storage of Materials in the Viewshed of Highway 1.	• All materials required for project implementation will be stored outside of the viewshed of Highway 1.
AIR QUALITY	
Standard Project Requirement AIR 1: Ozone-Related Emissions	• DPR and its contractor(s) will maintain all construction equipment in good mechanical condition, according to manufacturer's specifications. Construction equipment exhaust emissions will not exceed Monterey Bay Unified Air Pollution Control District (MBUAPCD) Regulation IV – Rule 400 – Visible Emissions limitations (Cal EPA 2007b). • All off-road and portable diesel-powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, will be fueled with California Air Resources Control Board (CARB)-certified motor vehicle diesel fuel. • Idling time for all diesel-powered equipment will be limited to five minutes, except as necessary to maintain a continuous workflow or for safety considerations. • The use of diesel construction equipment meeting the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines will be maximized to the extent feasible. • Electric and/or gasoline-powered equipment or equipment using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel, will be substituted for diesel-powered equipment, when available.
Standard Project Requirement AIR 2: Particulate Matter Fugitive Dust Emissions	• Ground-disturbing activities will be suspended when sustained winds exceed 25 mph, instantaneous gusts exceed 35 mph, or dust from construction might obscure driver visibility on public roads. • Disturbed areas of the site will be watered as necessary depending on the conditions, using water trucks and/or sprinkler systems, to prevent airborne dust from leaving the site. If available, reclaimed (non-potable) water will be used. • All dirt stockpiles would be covered (tarped) or watered daily, as necessary to prevent dispersion of windblown dust.

Project Requirements	Project Requirement Description
	• All trucks hauling dirt, sand, soil, or other loose materials would be covered or would maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer), in accordance with California Vehicle Code Section 23114. • All disturbed areas in inactive portions of the site would be covered, seeded, and/or watered until a suitable cover is established or construction activities are resumed. Non-toxic soil stabilizers could be used in accordance with county, Regional Water Quality Control Board (RWQCB), and California Air Resources Board (CARB) standards. • Permanent dust control measures would be implemented as soon as possible following completion of any soil disturbing activities. • The name and telephone number of such persons will be posted on site throughout construction and provided to the MBUAPCD. The phone number of the Monterey Bay Unified Air Pollution Control District will also be visible to ensure compliance with Rule 402 (Nuisance) (CEPA 2007b). Project requirements would also be implemented during holidays, weekend periods, or times when work is temporarily suspended, as necessary to control site conditions generating fugitive dust.
BIOLOGICAL RESOURCES	
Standard Project Requirement BIO 1: Sudden Oak Death	Sudden Oak Death Best Management Practices (BMPs) will follow the "Sudden Oak Death Best Management Practices in Zone of Infestation Regulated Areas, Assembled by the Management Committee of California Oak Mortality Task Force, 2002"
Specific Project requirement BIO 2: Lewis Clarkia	No Lewis' clarkia will be removed or damaged by construction activities. All individual plants and stands will be flagged and avoided. A biological monitor will be onsite during all activities within 100 feet of areas containing Lewis' clarkia to ensure that no impacts occur to the plants.
Specific Project Requirement BIO 3: Blue Butterfly	• No seacliff buckwheat plants will be removed or damaged by construction activities. All individual plants and stands will be flagged and avoided. A biological monitor will be onsite during all activities within 500 feet of areas containing seacliff buckwheat to ensure that no impacts occur to the plants. • No construction will occur within 300 feet of seacliff buckwheat plants between June 15 and September 15. This is the flight period of adult Smith's blue butterflies and avoidance of activities during this period in the vicinity of seacliff buckwheat plants will avoid any potential impacts which could result from creation of dust associated with project activities. • DPR natural resources staff will conduct a training course for all construction personnel to educate them about Smith's blue butterfly and other sensitive species, how to avoid impacts to these species, and why it is important to protect sensitive natural resources. • The Tin House Road will not be re-contoured in areas where there would be potential impacts to seacliff buckwheat plants. The extent of the seacliff buckwheat habitat occurs from approximately 2400 to 4900 feet from the junction of the Road and Highway 1. In this portion of the road, rolling water bars will be installed approximately every 200 feet at strategic points to direct water along a natural course and also avoid impacting any individual seacliff buckwheat plants. A DPR natural resources specialist will be onsite to assist in locating these water bars to ensure no direct or indirect impacts occur as a result of installation of these water bars.

Project Requirements	Project Requirement Description
	• Work will be confined to the footprint of the existing road in all areas where seacliff buckwheat occurs or could potentially occur.
Standard Project Requirement BIO 4: California Red-Legged Frog	• A biological monitor will be onsite during all activities within 500 feet of streams to ensure there are no impacts to individual California red-legged frogs that might potentially move through the project area on dispersal. • All work will be confined to the footprint of the existing road surface and a small section of fill on the road shoulder. In addition, work will occur adjacent to the road at the hairpin turn closest to Highway 1. • Work will be confined to the dry season and during daylight hours to avoid activities during periods when California red-legged frogs are known to be active
Standard Project Requirement BIO 5: California Condor	• All food related trash will be properly contained and regularly removed from the work site to avoid attracting California Condors. • Work will be restricted to daylight hours when California Condors are actively foraging to avoid periods when the birds are roosting.
Standard Project Requirement BIO 6: Nesting Raptors	• To the extent possible, all noise-generating construction activities which could disturb nesting raptors will occur during the non-breeding season (September 1 to January 31). • If outside noise-generating construction activities are necessary during the breeding season (February 1 to August 31), a DPR-approved biologist will conduct focused surveys for raptor nests. These surveys will be conducted during the breeding season to identify all active nests within ¼ mile of the project area. • If nesting raptors are found, no construction activities will occur within a 250-foot radius of the nest tree during the breeding season, or until the young have fledged and moved from the area (as determined by a DPR-approved biologist) and there is no evidence of a second attempt at nesting.
Standard Project Requirement BIO 7: Nesting Migratory Birds	• Small tree removal will occur between September 1 and February 1 to protect nesting migratory birds, unless otherwise approved by a DPR-approved biologist after the tree is checked to confirm there is no nesting activity. • To the extent possible, noise-generating construction activities will occur during the non-breeding season (September 1 to March 31). • If noise-generating construction activities with potential to disturb nesting birds are necessary during the breeding season (April 1 to August 31), a DPR-approved biologist will conduct focused surveys for migratory bird nests. These surveys will be conducted during the breeding season to identify all active nests within 250 feet of the project area. • If active migratory bird nests are located, construction within 100 feet of the nest location will be postponed until the nest is vacated and juveniles have fledged and left the area, and there is no evidence of a second nesting attempt.
Standard Project Requirement BIO 8: Nesting California Spotted Owls	• To the extent possible, all noise-generating construction activities which could disturb nesting California spotted owls will occur during the non-breeding season (September 1 to January 31).

Project Requirements	Project Requirement Description
	• If outside noise-generating construction activities are necessary during the breeding season (February 1 to August 31), protocol-level surveys will be conducted prior to the start of construction activities to determine the nesting status of California spotted owls in or near the project area. • No noise generating construction activities will occur within ¼ mile of an active nest tree until the young have fledged.

Specific Project Requirement BIO 9: Dewatering Plan	• Prior to any work in the creek, DPR will obtain a Department of Fish and Game Streambed Alteration Agreement and an approved dewatering plan.
	  • The dewatered zone will be inspected prior to work starting each day to determine if live animals are in the area.
	  • All species will be relocated as described in Section 2.6.2 if found at any time in the work zone or dewatered area.

Standard Project Requirement BIO 10: Revegetation Plan	• Prior to project implementation, DPR-approved Biologist will prepare a Project Revegetation Plan that identifies: all areas intended for revegetation, appropriate plant species, plant sources, planting techniques, planting rates, success criteria, monitoring requirements, weed control and remediation (as warranted). The Revegeation Plan will also include guidance to develop long term soil erosion Best Management Practices and will identify implementation during the appropriate phase of construction
CULTURAL RESOURCES	
Standard Project Requirement CULT 1: Secretary of Interior Standards	• Work will comply with the Secretary of Interior Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.
Standard Project Requirement CULT 2: Previously Undocumented Resources	• In the event that previously undocumented/unflagged cultural resources (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic material) are encountered during project activities, all work in that location will be temporarily halted and diverted to another location, until DPR's State Representative is contacted; a DPR-qualified cultural resource specialist will record and evaluate the find and work with the Project Proponent and/or Construction Contractor to implement avoidance, preservation, or recovery measures, as appropriate, prior to any work resuming at that specific location.
Standard Project Requirement CULT 3: Human Remains	In the event that human remains are discovered during Program Actions, all work at that location will be temporarily halted and diverted to another location. Any human remains and/or funerary objects will be left in place. The Project Proponent and/or Construction Contractor will immediately contact the DPR State's Representative who will then contact the DPR Sector Superintendent. The DPR Sector Superintendent (or authorized representative) will notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (NAHC) will be notified within 24 hours of the discovery if the Coroner determines that the remains are Native American. The NAHC will designate the "Most Likely Descendent" (MLD) of the deceased Native American. The MLD will recommend an appropriate disposition of the remains. If a Native American monitor is at the Park at the time of

Project Requirements	Project Requirement Description
	the discovery, and that person has been designated the MLD by the NAHC, the monitor will make the recommendation of the appropriate disposition. Work will not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects will be cleaned, photographed, analyzed, or removed from the site prior to determination. If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable
HAZARDS AND HAZARDOUS MATERIALS	

Specific Project Requirement
HAZMAT1: Hazardous Material Control
	• Contractor or DPR Staff will inspect all equipment for leaks immediately prior to the start of construction, and regularly inspect thereafter until equipment is removed from Park premises.
	• The contractor(s) or DPR Staff will prepare a Spill Prevention and Response Plan (SPRP) as part of the Stormwater Pollution Prevention Plan (SWPPP) prior to the start of construction and maintain a spill kit on-site throughout the life of the project. Plans will include, but not be limited to:
	  • Areas designated for refueling, lubrication, and maintenance of equipment shall be at least 100 feet from any spring/seep/wetland/creek areas.
	  • In the event of any spill or release of any chemical in any physical form at the project site or within the boundaries of the Park during construction, the contractor will immediately notify the appropriate DPR staff (eg, project manager, supervisor, or State Representative).
	  • Equipment will be cleaned and repaired (other than emergency repairs) outside of the Park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds will be disposed of outside of Park boundaries, at a lawfully permitted or authorized destination.

Standard Project Requirement
HAZMAT2: Wildfire Avoidance and Response
	• Prior to the start of construction, the Project Contractor will develop a DPR-approved Fire Safety Plan, including but not limited to:
	  • The emergency calling procedures for both the CalFire and the Big Sur Volunteer Fire Brigade.
	  • Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment.
	  • Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush.
	  • At the end of each workday, heavy equipment will be parked over, asphalt, gravel, or concrete to reduce the chance of fire.
	  • Fire suppression equipment (fire extinguishers, fire hoses, etc.) will be available and located on Park grounds.
	  • Park staff will be required to have a State Park radio on site, which will allow direct contact with the Big Sur Volunteer Fire Brigade or CalFire, and a centralized DPR dispatch center, to facilitate the rapid deployment of control crews and equipment in case of a fire.

Project Requirements	Project Requirement Description
HYDROLOGY AND WATER QUALITY	
Standard Project Requirement HYDRO 1: Erosion and Sediment Control and Pollution Prevention	• A Stormwater Pollution Prevention Plan (SWPPP) will be required that includes temporary construction and permanent post-construction Best Management Practices (BMPs) to control soil and surface water runoff, such as scheduling work during the non-rainy season (April 15-October 15), use of silt fences, weed-free straw bales, weed-free fiber rolls, and/or sediment detention basins to prevent soil loss and siltation. Long term revegetation BMPs will be guided by the Project Revegetation Plan (see Bio 10, Revegetation Plan). Work in the creek will include a temporary creek diversion and will require a California Department of Fish & Game-approved dewatering plan. • The SWPPP will also include spill prevention, vehicle and equipment management, and materials management BMPs to prevent releases of non-sediment pollutants, such as vehicle and equipment fluids and any construction-related materials. • No excavation work will occur on slopes greater than 10% during periods of heavy rains (at least ½ inch of precipitation in a 24-hour period) or when soils are saturated. ▪ Work will be directed and/or inspected periodically on-site by the Project Manager or other qualified personnel to assure soil compaction and finish grading meet job specifications. ▪ Plant duff and organic soil will be removed from graded areas and stored. After grading is complete the stored material will be spread over disturbed areas intended for revegetation as identified in the Project Revegetation Plan (see Bio 10, Revegetation Plan). ▪ Work will be directed and/or inspected periodically on-site by qualified personnel (Engineer, Construction Inspector) to assure soil compaction and finish grading meet job specifications.
NOISE	
Standard Project Requirement NOISE 1: Noise Exposure	• On- site project work will be limited to the daylight hours, Monday through Friday. However, weekend work could be implemented to accelerate construction or address emergency or unforeseen circumstances. If weekend work is necessary, no work will occur on those days before 8:00 a.m. or after 6:00 p.m. • Internal combustion engines used for project implementation will be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for Project-related activities will utilize the best available noise control techniques (e.g., engine enclosures, acoustically attenuating shields or shrouds, intake silencers, ducts, etc.) whenever necessary. • Stationary noise sources and staging areas will be located as far from potential sensitive noise receptors, as possible. If they must be located near potential sensitive noise receptors, stationary noise sources will be muffled or shielded, and/or enclosed within temporary sheds.

2.6 Project Details

The intent of this project is to comply with and fulfill the settlement agreement entered in the case entitled "*State of California v. Joseph Schoendorf et a*l". Additional work to support the Settlement Agreement and improve the Tin House Road for use as a hiking trail and occasional maintenance road would remove fill in redwood creek at the hairpin turn and improve natural drainage patterns across Tin House Road to reduce erosion potential, and encourage water flows across, rather than down the road.

2.6.1 Drainage Improvements

DPR proposes to remove landslide material from the channel of Redwood Creek and to restore the land at that location to its natural condition utilizing the techniques described in the California State Parks Field Techniques for Forest and Range Road Removal (Merrill and Casaday, 2001). When the proposed project is completed the creek would be restored to natural conditions and the road would only occupy an area on State Park Property. Following construction, existing uses of the Road would not be changed by the project. The Road would continue to be used as a public hiking trail and occasional authorized vehicles (maintenance and wildland fire equipment).

The following summarizes the proposed work:

- Reconfigure the drainage across Tin House Road to minimize the potential impacts of drainage and erosion on the trail and adjacent lands.
- In locations that can be graded without significant impacts to natural resources, the road bed would be graded to an out-sloped condition and inboard ditches would be eliminated through re-grading and fill.
- Where regrading is not possible swales and rolling dips would be constructed to direct overland flow across the roadbed and into the natural drainage areas.
- Work required in the limits of the normal high water zone of the creek would be accomplished in conjunction with a Department of Fish and Game (DFG)-approved dewatering plan.
- A Project Revegetation Plan would be prepared in advance of construction that identifies and describes the following: areas intended for revegetation, appropriate native plant species, propagules sources, propagation and planting techniques, success criteria, monitoring, weed control, and remediation as necessary. This Plan would be implemented during appropriate phases of the project.

2.6.2 Dewatering Plan

Work required in the limits of the normal high water zone of Redwood Creek would be accomplished in conjunction with a Department of Fish and Game (DFG)-approved dewatering plan. The dewatering plan would consist primarily of a coffer dam immediately upstream of the area of work, a bypass pipe to allow the creek to flow around the area of work, and a downstream silt fence assembly. After installing dewatering facilities, the contractor would rescue any aquatic animals found in the dewatered zone and work area. Rescued species would be hand-netted and transported in buckets to an area of similar characteristics downstream of the work zone. The downstream silt fence would prevent movement back in to the dewatered zone.

2.7 Project Implementation

The project area for the Tin House Road includes the entire trail from the intersection at Highway 1 to the terminus by Tin House, including existing turn outs and includes upgrades to existing facilities (road) and removal of landslide debris from the creek channel. Actual construction would be scheduled to start during the appropriate season to avoid impacts to sensitive resources; however, unfavorable conditions, such as inclement weather, and funding constraints could extend the start and completion of the project.

Work would generally occur Monday through Friday, during daylight hours. Weekend or holiday work may be implemented to accelerate the construction schedule or address emergencies or unforeseen circumstances. This may also require minimal use of exterior, shielded construction lights on a limited basis.

The ground upslope and down slope of the road edge is steep and does not allow off road staging areas or equipment turn around. Work crews would have to plan carefully to bring equipment in and turn it at the top of the road. Staging of excavated material and equipment would be within the work area (road bed). Due to site constraints, the project would require the use of specialized equipment typically used on trails as well as a small dozer, backhoe, dump truck, grader, compactor and various transport vehicles. The work of excavating the slide material from the creek would require an excavator with an extendable arm. Most equipment would be transported to the site and remain until the associated work is completed. Transport vehicles for material or equipment, delivery trucks, and crew vehicles would also be present intermittently at the site.

Individual vehicles and occasional larger delivery vehicles would be on-site during construction. Most heavy equipment would be stored along Tin House Road for the duration of construction. Crew vehicles would be parked in the paved parking area west of Highway 1 across from the intersection of Tin House Road.

2.8 Regulatory Requirements, Permits, and Approvals

The proposed project site is part of Julia Pfeiffer Burns State Park (JPBSP), located within the Big Sur Coast of Monterey County, and contains sensitive natural and cultural resources, and scenic vistas. No general plan yet exists for JPBSP; however, in the event a General plan is prepared, DPR will re-visit the use and maintenance of Tin House Road. Design plans and activities that might affect natural or cultural resources, traffic, and air or water quality could be subject to review and approval by local, state, and/or federal responsible/trustee agencies. Consultation, permits, and/or approvals could be required from the following agencies and organizations:

- United States Army Corps of Engineers (USACOE)
- U.S. Fish and Wildlife Service (USFWS)
- State Water Resources Control Board (SWRCB)
- California Coastal Commission (CCC)
- California Department of Fish and Game (CDFG)
- Central Coast Regional Water Quality Control Board (CCWQCB)
- Monterey County Planning Department, Coastal Planning

3.0 ALTERNATIVES TO THE PROPOSED PROJECT

The California Environmental Quality Act (CEQA) requires that an EIR describe a reasonable range of alternatives to the Project, or to the Project's location, which could feasibly attain most of the basic project objectives, but avoid or substantially lessen any of the potentially significant project-related effects. The EIR's alternative section is also required to evaluate the comparative merits of the alternatives. DPR, as the lead agency, is responsible for selecting a range of project alternatives for analysis and is required to publicly disclose its reasoning for selecting the discussed alternatives. The EIR should also identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the determination (Title 14, California Code of Regulations (14 CCR) §15126.6(a, c)). Further, if the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion and should include the reasons in the EIR (14 CCR §15126.6 (f)(2)).

Project Objectives

To be considered a feasible alternative, an alternative must meet most of the project's objectives (14 CCR § 15126.6 (a)). In this case, the Project is aimed at complying with a Settlement Agreement, improving the drainage across Tin House Road to minimize erosion on the road and adjacent lands and restoring the creek channel to its native channel in compliance with DPR's mission and the Project's Objectives, provided in Section 2.4.

3.1 Alternatives

A very narrow range of alternatives might be excused where due to statutory or other legal constraints, a lead agency simply does not have a "reasonable range" of options on how to satisfy the legal duty (Remy *et al.* 2007). DPR is responsible as a result of a Settlement Agreement to remove soil and restore the creek to natural conditions; therefore, the discretion that DPR retains regarding the range of alternatives is narrow.

For this EIR, potential alternatives are limited to those: (1) that are located within the Park; and (2) that comply with the Settlement Agreement requiring removal of that portion of Tin House Road presently located on the Schoendorf property. These two factors limit DPR's consideration of Alternatives in this EIR.

In Section 3.2, Alternatives Considered and Rejected as Infeasible, DPR considered and rejected alternatives to the Project because they were infeasible or would not meet most of the Project Objectives. This approach deviates from the traditional analytical approach of alternatives in an EIR because it recognizes that DPR's discretion is limited and location of the project cannot be different than the Project.

3.1.1 Alternative 1: No Project

This section identifies and provides analysis of the "no project" alternative for the proposed project, including a discussion of potential environmental impacts that could result if the proposed project is not implemented. Those alternatives deemed infeasible will also be discussed.

The California Environmental Quality Act requires an evaluation of the specific "no project" alternative and its impact [CEQA Guidelines Section 15126.6(e)(1)]. The "no

project" alternative describes the existing conditions, as well as the physical conditions that are likely to occur in the future if the project (the proposed plan) is not approved. The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the expected impacts of not approving the project.

If the proposed Tin House Road Improvement Project (Project) were not implemented, the road and the surrounding area would erode and degrade to the point where no access was possible. The area would naturalize and the overall character of the site would quickly transform to match the surrounding rugged environment. The road itself would gradually disappear, eliminating park maintenance access and become invaded by heavy vegetation currently encroaching on the roadbed, eliminating a hiking trail and increasing the numerous exotic species in the park.

Although the "no project" alternative would reduce the physical changes to the proposed project site, it would also violate the Settlement Agreement, which makes it infeasible. It is, however, a statutorily mandated Alternative and is therefore included in this Alternative Analysis.

3.2 Alternatives Considered and Rejected as Infeasible

CEQA defines 'feasible' as …capable of being accomplished in a manner, within a reasonable period of time, taking into account economic, environmental, social, and technological factors. In evaluating alternatives to the Project, DPR considered and rejected as infeasible the following alternatives.

- Remove that portion of Tin House Road at the hairpin turn presently located on the Schoendorf property and return the land to its natural condition only. Under this alternative, DPR would complete only the work required by the Settlement Agreement and would not repair the drainage along the Road; without drainage repair, erosion material from the Road would once again deposit itself at the entrance to the Road creating significant impacts to the creek and Road. Not feasible
- Improve natural drainage patterns across Tin House Road only. While this alternative meets the objective to reduce erosion potential and encourages water flows across rather than down the Road, it does not meet the objective to satisfy the Settlement Agreement. Not feasible.

3.3 Environmentally Superior Alternative

CEQA Section 15126.6(e)(2) requires that an EIR identify the environmentally superior alternative. Additionally, if the environmentally superior alternative is the "No Project Alternative", the EIR must also identify an environmentally superior alternative from the remaining alternatives (other than the proposed Project). The environmentally superior alternative for this Project would be one that meets the objectives of the Project, while reducing or eliminating environmental impacts to the greatest degree.

The proposed project to improve Tin House Road reduces or eliminates resource impacts to a less than significant level with either Project Requirements or mitigation. In addition, as stated in Section 2.3, DPR entered into a settlement agreement with the Schoendorf's requiring DPR to "proceed with reasonable diligence to remove that portion of Tin House Road presently located on the Schoendorf property and return the

land to its natural condition." Therefore, the proposed project not only avoids potentially adverse environmental impacts, but also fulfills the requirements of the Settlement Agreement, a primary objective; thereby making it the most environmentally superior project

3.4 Findings

The alternatives presented in this EIR are the only feasible options reasonably available to accomplish the project objectives. While DPR contemplated only satisfying the Settlement Agreement, this alternative alone would not permanently (to the extent possible) resolve the erosion issue, and would create additional environmental impacts, making the proposed project the most viable solution that meets all objectives.

4.0 ENVIRONMENTAL ANALYSIS

This section contains an analysis of the environmental effects and potential adverse impacts resulting from the implementation of the proposed project, as identified during initial project planning. Each subsection contains an environmental setting (description of the baseline conditions) as it relates to the specific topic; identifies and determines the significance of potential environmental impacts; and specifies conditions and mitigation measures, where appropriate, to reduce potential impacts to the lowest level feasible. The environmental setting describes the physical environmental conditions in the vicinity of the project, as they existed at the time the Notice of Preparation was published (SCH#2004082055, filed June 15, 2007). [CEQA Guidelines §15125(a)]

4.1 Aesthetics / Visual Resources

This section describes existing local and regional conditions and the potential impacts of the proposed project on aesthetics and visual resources, along with mitigations proposed to reduce the significance of potential impacts.

4.1.1 Existing Conditions

The following is a discussion of the existing visual quality of the project area and surrounding region.

Regional Visual Environment

Figure 4.1.1 – View of the Big Sur Coast

The project area falls within Julia Pfeiffer Burns State Park. The regional area landforms consist of the Pacific Ocean, cliffs, rock outcroppings, hillsides and canyons. Sweeping views of the Big Sur coast are a trademark of the area. This project is within the "Critical Viewshed" along Highway 1 (Monterey Co LCP quoting *Big Sur Coast LUP* Policy 3.2.2.1). Big Sur is a visually dramatic location with the expanse of the Pacific Ocean spreading as far as you can see to the west. To the north and south Highway 1 snakes its way along the edge of the cliffs, giving way to the precarious feeling of riding along edge as one drives through the area. To the east is the rising mountain range where elevations are covered by a mixture of coastal scrub, grassland and mixed evergreen plant communities. Part of the beauty of the area is the extent of untouched land. The park is fairly remote; visitors have to travel some distance on a curving Highway 1 to reach the park. Very little development can be seen in the immediate area. Scenic turnouts are situated at strategic locations to allow travelers to pull off the highway and take in the views. Several of these occur within the viewshed of the project area. McWay Falls, a popular tourist attraction within the Park, is nearby, but can't be seen from the project area.

The adjacent area is primarily rural. A few nearby residences are nestled in the canyon; occasional shops, hotels, restaurants and galleries occur in the community around the park on Highway 1. Beyond these few commercial ventures, visitors to the Big Sur Coast can expect views of the ocean and horizon.

Portions of the park are clearly within the viewshed of travelers along the highway and can be seen from nearby residents. Glimpses of the Tin House Road area can be seen by travelers heading south on Highway 1. When traveling northbound on Highway 1, a traveler would have to look behind them to see the road location.

Project Area Visual Environment

A description of the visual information (landform and water, vegetation and manmade development) within a project area, as well as its visual character and quality, serves as a baseline of existing conditions against which to measure the project's potential impacts. Visual impacts are considered from both the perspective of views *from* the project area and views *of* the project.

The project area landforms consist of hillsides and canyons, a creek/riparian area and a ridgetop. Rock outcroppings are present in the vicinity of the project, but would not be affected by the project. The actual Tin House Road begins in a visually limited area along a curve in the highway with partial highway views north and south and panoramic views behind trail users.

Parking to access the Road occurs at a vista point on the southbound side of Highway 1, commonly known as the whale parking lot. Visitors must cross the highway to access the Road or hike from within the park along a connecting trail.

On the Tin House Road, topography limits the visual boundaries into and out of the project area. Elevations along the trail range from the highway level to approximately 1,600 feet above the highway.

The quality of the surrounding landscape and visual environment are very high. Spectacular views of the Pacific Ocean, coastal bluffs, large rock outcroppings and crashing waves can be seen from various points along the trail.

Views Out:

As the Road flanks the hillside, views are primarily to the west, north and south as views east are blocked by the topography. Occasional views of canyons and housing can be seen along the trail. Scenic turnouts and informal pull out areas dot the coast line along this stretch of Highway 1. These areas along with the highway can be seen from various locations along the trail.

Views in:

Although the Road location can be seen from Highway 1 and nearby residences, the Road itself is not readily apparent and is masked by area vegetation. The predominant view in the area is toward the Pacific Ocean. The Road is elevated on the opposite side of the highway.

Visitor Experience Conditions

The existing Tin House Road has some problems for visitors. The Tin House Road is a walking trail that is very occasionally used for maintenance or emergency access.

The Road begins just west of Highway 1. Immediately, the Road takes off up a steep incline along Redwood Creek under the cool shade of the riparian/mixed evergreen vegetation. The Road environment quickly changes to a warmer, drier coastal scrub habitat with lower growing

Figure 4.1.2: View from Road of Canyon and Residences.

vegetation and little shade, some portions become overgrown, poorly drained, gullied and otherwise eroded. Some sections are rocky and slippery.

Along the approx. 2.2 mile route the vegetation changes back and forth between an open scrub habitat and a shady evergreen canopy.
As hikers begin their trek along the Road, sounds of the creek can be heard; as the hikers move upward occasional traffic sounds rise from the highway. Because the Road follows the hillside and weaves in and out of canyons, as hikers get away from the Highway, gentler sounds come and go like the buzzing of bees and the rustle of wind in the trees

Figure 4.1.3: View from Road of Big Sur Coastline

4.1.2 Regulatory Setting

The segment of Highway 1 in Big Sur is a designated American National Scenic Byway under the National Scenic Byways Program of the Federal Highway Administration and an eligible California Scenic Highway under the Caltrans Scenic Highway Program. The Guidelines for the Official Designation of Scenic Highways (Caltrans 1996) states that the scenic corridors (defined as the area of land generally adjacent to and visible from the highway) of officially designated state scenic highways are subject to protection,

including regulation of land use, site planning, advertising, earthmoving, landscaping, and design and appearance of structures and equipment. Examples of visual intrusions that would degrade scenic corridors as stipulated by Caltrans and that are applicable to this project include dense and continuous development, highly reflective surfaces, development along ridge lines, extensive cut and fill, scarred hillsides and landscape, exposed and un-vegetated earth, and a dominance of exotic vegetation.

The Tin House Road Improvement Project is consistent with the Local Coastal Program Plan for Monterey County and the Big Sur Coast Highway Management Plan.

The Monterey County LCP (Monterey County 1980), as well as the Coastal Act, emphasize protection of views to scenic resources. The following analysis demonstrates consistency with this provision.

4.1.3 Thresholds of Significance

The following thresholds have been prepared based on the CEQA Guidelines Section 15064.5 and Appendix G. The Project would have a significant impact on Aesthetics and the Visual Resources if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings;
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.4 Environmental Impacts, Project Requirements and Mitigation Measures

Methodology

Views of the project area and views of the surrounding area from the project area are evaluated on their relative degree of vividness, intactness, and unity, as modified by the "visual sensitivity" of the viewer. Viewer sensitivity is based on the visibility of resources in the landscape, the proximity of viewers to the visual resource, the frequency and duration of viewing, the number of viewers, and the type and expectations of individuals and viewer groups. The discussion identifies the project's potential impacts on visual resources and measures to avoid, reduce, or mitigate the intensity and duration of those impacts.

The potential for change in visitor experience was evaluated by identifying projected increases or decreases in recreational trail use on Tin House Road and determining whether these projected changes would affect the desired visitor experience and result in greater safety concerns.

The following thresholds for evaluating impacts on visual resources and visitor experience were defined:

Negligible: The visual quality of the landscape would not be affected or the effects would be at or below the level of detection, would be short-term, and the changes would be so slight that they would not be of any measurable or perceptible consequence to the

visitor experience. Visitors would not be affected or changes in visitor use and/or experience would also be below or at the level of detection and any effects would be short-term.

Minor: Effects to the visual quality of the landscape would be detectable, although the effects would be short-term, localized, and would be small and of little consequence to the visitor experience. Changes in visitor use and/or experience would be detectable although the changes would be slight and short-term.

Moderate: Effects to the visual quality of the landscape would be readily detectable, long-term and localized, with consequences at the regional level. Changes in visitor use and/or experience would be readily apparent and likely long-term. The visitor would be aware of the effects associated with the actions. Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.

Major: Effects to the visual quality of the landscape would be obvious, long-term, and would have substantial consequences to the visitor experience in the region. Changes in visitor use and/or experience would be readily apparent, severely adverse or exceptionally beneficial and have important long-term consequences. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

Impact Statement AES 1: Construction activities associated with the proposed project could have a potentially adverse effect on a scenic vista

During construction, and until vegetation is established on the disturbed soil created by the project, the scenic vista, which includes the project site, would be affected. This would be a short-term effect that would last through the growing season following construction. Small portions of the project site are visible from Highway 1 immediately west of the project site. The proposed work would not hinder accessibility to any of the park's scenic areas and no new structures would be placed in the view corridor. Construction activities may have a limited temporary impact on the scenic view from Highway 1, but obstructions would be extremely limited and exposure of brief duration. Integration of Project Requirement AES 1, view shed re-vegetation and Project requirement BIO 10, Project Revegetation Plan, will reduce impacts to a less than significant level.

Figure 4.1.4. Erosion Along the Road

Level of Significance Before Mitigation: Less than Significant
Mitigation: None

Impact Statement AES 2: Construction activities associated with the proposed project could substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Only the lower portions of the Tin House Road are located within the viewshed of State Scenic Highway 1. Vegetation that would be removed along the shoulders includes low growing native and exotic shrubs and annuals/forbes as well as a limited number of trees 6" in diameter or less.

Visual Resource Impacts
The proposed Road improvements and construction activities would be temporarily visible from various locations within the general vicinity, including the Scenic Highway. Revegetation of impacted areas would be seen from Highway 1, along the Road, by neighboring residents and briefly from nearby park trails.

The visual effect of Road construction would be the removal of vegetation in the path of the Road and on the sides of the Road.

On side slopes, out sloping would require some bank cuts and filling. These grading activities would create areas adjacent to and below the edges of the Road where newly bare soil or rock would be exposed to view. Visually, it may be apparent where construction has occurred because bare soil, being different in color and texture than surrounding vegetation, is readily distinguishable. When viewed face on, the resulting appearance of the hillside may vary depending on several factors including the steepness of the slope, the width of the road tread, the height and spread of existing vegetation, and the position of the viewer.

Following revegetation of new Road edges the Road's long-term appearance would be compatible with the existing visual character of the site and result in a negligible effect on visual resources. The project would not significantly alter the views *of* the Road as commonly seen from Highway 1 or neighboring properties; nor would it affect scenic views *from* the Road.

Impacts to the integrity of the setting would be reduced to less than significant by screening these sections of Road with coastal sage scrub vegetation consistent with the existing land cover.

There would be a short-term, minor, and temporary adverse affect on visual resources from exposed road tread, bare road edges, and restoration activities. The short-term appearance of a larger disturbed bare soil area could occur as a result of creating a smooth and gradual transition to the adjacent undisturbed areas. The area would then be revegetated and the long-term effect would be beneficial as native plants eventually are established and provide visual screening, more diversity and improved wildlife habitat along the Tin House Road.

Views out of the project site towards the coast would be temporarily enhanced as vegetation is cleared from the road shoulder, but would return to existing conditions as vegetation re-establishes.

Level of Significance Before Mitigation: Less than Significant
Mitigation: None

Impact Statement AES 3: Construction activities associated with the proposed project could potentially degrade the existing visual character or quality of the site and its surroundings.

The proposed project on Tin House Road would have minimal impact on the visitor experience. However, the road surface would be improved, increasing safety and ease of travel on the Road with a more level walking surface when the project is complete. Generally, lines-of- sight along the Road would remain unchanged. The new surface and drainage patterns would provide a stable, consistent road tread of safe width.

Auditory experiences would remain unchanged after the construction is complete. The sounds of a natural environment would still be available to visitors. Vegetation and the creek would be would be restored to natural conditions. Spectacular views of the Pacific Ocean and surrounding parklands would remain intact, if not more prominent, as they would be temporarily opened up until vegetation again grows to its full height.

The long-term impact on visitor experience would be local, beneficial and moderate. Short-term impacts on visitor experience would be local, temporary, and minor during the construction period.

Construction Activities
Project implementation would temporarily disturb the visitor experience by altering the visual resources in the area immediately affected by the work being performed. Construction equipment and personnel, staging areas and stored materials and stockpiles could be visible to motorists, trail users and residents over the period of construction. Although adverse, the affects of construction activities on visual resources would be short-term, temporary and minor.

During the construction period, most heavy equipment would be stored along Tin House Road; crew vehicles would be parked in the paved parking area west of Highway 1 across from the entrance to Tin House Road. Integration of Project Requirement AES 2, storage of materials in the viewshed of Highway 1, and HYDRO 1, use of Best Management Practices, will reduce project impacts to a less than significant level.

Level of Significance Before Mitigation: Less than Significant
Mitigation: None

4.1.5 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area: All construction work for the proposed project would be limited to daylight hours, eliminating the need for night-time work lights. No permanent new light sources would be introduced into the landscape. Neither construction nor operation of the trail would require or create lighting conditions that would adversely affect day or nighttime views. The project would have negligible or no effect on natural darkness.

4.1.6 Findings

Implementation of the Tin House Road Improvement Project would have no impact from new permanent light sources introduces into the environment. With the integration of

Project Requirements, temporary impacts to the scenic vista, scenic resources, and the visual character of the area would be less than significant.

4.2 AIR QUALITY

This section describes existing local and regional conditions and the potential impacts of the proposed project on air quality, along with pertinent air quality standards and regulations, and mitigations proposed to reduce the significance of potential impacts.

4.2.1 Existing Conditions

The following provides a discussion of the incremental and cumulative effect the proposed project could have on the air quality in the vicinity of the project site and within the Monterey Bay Unified Air Pollution Control District (MBUAPCD). Impacts of greenhouse gases on global climate change are also addressed.

Climate

Along the Big Sur Coast, the climate is strongly influenced by a semi-permanent high pressure cell in the eastern Pacific (Monterey County 2006). Climate in the summer months is dominated by the high pressure cell causing warm northwest air to ride over the cooler coastal air. This creates a temperature inversion with average temperatures (from June through August) ranging from 51.2°F to 68°F accompanied by very little rainfall and lots of fog (MBUAPCD 1995). During the winter months of November through March, the high pressure cell moves southward resulting in some easterly air flow, loss of the inversion, average temperature ranging from 44.7°F to 61.5°F, and rain (average 15.3 inches).

Along the Monterey coastline constant on shore breezes (from the west) bring in a continuous supply of clean air. As a result, air quality within the project footprint along Tin House Road is expected to be good, with minimal air pollutants present.

North Central Coast Air Basin

Julia Pfeiffer Burns SP falls within the North Central Coast Air Basin (NCCAB), comprised of San Benito, Santa Cruz, and Monterey Counties. This air basin includes 5,100 square miles with varied topography, vegetation, and climate. The region climbs from sea level to the Santa Cruz Mountains and Santa Lucia Range in the west, through the flat plains and up and over the Diablo and Gabilan ranges in the east. These parallel ranges allow prevailing winds from the northwest to push remnant San Francisco air pollutants into the air basin. The NCCAB is under the jurisdiction of the MBUAPCD and United States Environmental Protection Agency (U.S. EPA) Region 9.

Reviewing all of the current California Ambient Air Quality Standards (CAAQS) data for the NCCAB listed in Table 4.2.1, ozone and particulate matter (PM_{10}) levels were above the attainment levels. Exceeded levels for ozone were measured at the Pinnacles monitoring station within the Gabilan mountain range, approximately thirty-five miles from the proposed project site (Cal EPA 2007c). The PM_{10} exceedance levels were due to natural causes such as sea salt or wildfire emissions.

Ambient air quality is monitored within the NCCAB by eight monitoring stations, three of which, are located within Monterey County. The closest air monitoring station to Julia

Pfeiffer Burns SP is the Carmel Valley-Ford Road facility. The prevailing winds from onshore breezes promote good air quality both in the vicinity of the Park and this monitoring station. The Carmel Valley-Ford Road station monitors ozone and particulate matter (PM_{10}). Ozone data for the station dates back to 1882; the last instance when ozone exceeded the State standard was in 1993 for one day (Cal EPA 2007c). Although data is available from 1992 through 2006 for particulate matter (PM_{10}), there are a number of years with insufficient data available. The last recorded exceedance for PM_{10} was for a State High 24-hr Average in 1999 (Cal EPA 2007c).

Air Quality Standards

Ambient air quality standards (AAQS) were established to set the maximum amount of pollutant that can be in the air without harming even the most sensitive individuals. Individuals or groups who are especially reactive to criteria pollutants are considered sensitive receptors and include children, the elderly, individuals susceptible to respiratory distress, and those who are acutely or chronically ill. Air pollutants have the ability to affect the health of the population, damage agricultural crops, and diminish visibility (Cal EPA 2007). The National Ambient Air Quality Standards (NAAQS) and CAAQS identify six common air pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} & $PM_{2.5}$), and sulfur dioxide (SO_2). The California Air Resources Board (CARB) have identified other air pollutants that have standards for hydrogen sulfide (H_2S), sulfates (SO_4), vinyl chloride (VC), and visibility reducing particles (VRPs).

Designations for air quality differ between the National and State standards. Under the Clean Air Act (CAA) §107(d)(i-iii), the designations for air pollution are defined. "Attainment" is the designation given when an area meets the AAQS for a pollutant. "Non-attainment" is the designation given when an area does not meet (or contributes to ambient air quality nearby that does not meet) the AAQS. "Unclassified" refers to an area that cannot be classified by the amount of available data for the AAQS.

At the State level, some of the designation definitions vary slightly. The designation of "Attainment" is given to a site where the State standard for the pollutant was not violated during a three year period. "Non-attainment" refers to an area where at least one violation of the State standard occurred during the three year period. "Non-attainment / transitional" refers to an area of non-attainment that is close to attaining the State standard for compliance.

Table 4.2.1 Monterey County Attainment Designations

Pollutant	State* Levels	National Levels**
Ozone (O_3) - 1 hour	Non-Attainment	*Revoked June 2005*
Ozone (O_3) - 8 hour	N/A	Unclassified/Attainment
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassified
Particulate Matter (PM_{10})	Non-Attainment	Unclassified
Particulate Matter ($PM_{2.5}$)	Attainment	Unclassified/Attainment
Sulfates	Attainment	No National Data
Lead (Pb)	Attainment	
Hydrogen Sulfate	Unclassified	
Visibility-Reducing Particles (VRP)	Unclassified	

* 2006 State Area Designations effective on July 26, 2007
** National Area Designations current as of February 2009

Sources: California Air Resources Board, U.S. Environmental Protection Agency, NSAQMD

Description of Pollutants

The following air pollutants were selected for AAQS because research indicates exposure can have harmful effects on health and the environment. The descriptions include information regarding sources and effects of air pollutants recognized by the EPA (2007). These pollutants impact individuals at differing rates dependent on susceptibility, concentrations, and the frequency of exposure. These health effects include increased respiratory disease, lung damage, headaches, chest pain, cancer, neurological or reproductive disorders, and in extreme situations even premature death.

NAAQS and CAAQS Common Air Pollutants

Carbon Monoxide

Carbon Monoxide (CO) is a colorless, odorless gas emitted by mobile and stationary sources as a result of incomplete combustion. Motor vehicle emissions contribute about 56 percent of all CO emissions nationwide, with an additional 22 percent from non-road engines (such as construction equipment and boats) (EPA 2007). Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential indoor and outdoor activities (including wood burning, gas stoves, cigarette smoke, and space heaters), and natural sources such as forest fires. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent (EPA 2007). The air pollution becomes trapped near the ground beneath a layer of warm air.

Health risks associated with CO exposure range from person to person and by the concentration and length of the exposure. At lower levels of exposure, symptoms

experienced include headaches, dizziness, disorientation, nausea, and fatigue. Higher exposure reduces delivery of oxygen to organs and tissue throughout the body. For individuals suffering from heart disease, exposure can be serious causing chest pains. Those who breathe in a high level of CO repeatedly can develop vision problems and reduced brain function, slowing down work and the ability to learn. In extreme cases CO can be fatal and cause death.

Lead

Lead is a metal found naturally as a relatively soft yet resistant metal. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources (EPA 2007). Since the elimination of lead additives in motor vehicles, the major source for lead emissions today is from industrial plants processing metal (Cal EPA 2007a). The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers (EPA 2007).

Exposure to lead occurs from breathing or eating it in food, water, soil, or dust. Even in small amounts, exposure to lead is unhealthy because lead accumulates within the body to harmful levels. Lead can adversely affect the nervous, reproductive, digestive, immune, and circulatory systems. High levels of exposure could lead to osteoporosis, mental retardation, and heart disease. Infants and young children are especially sensitive to even low levels of lead.

Nitrogen Oxides

A by-product of fuel combustion, nitrogen oxides (NO_x) is the generic term for a family of highly reactive gases. NO_x in combination with various compounds causes a variety of environmental impacts including ground-level ozone (smog), acid rain, reduced water quality, and reduced visibility. Many of the nitrogen oxides are colorless and odorless. However, one common pollutant, nitrogen dioxide (NO_2) along with particles in the air can often be seen as a reddish-brown layer over many urban areas (EPA 2007). Fuels burned at high temperatures, during combustion processes for motor vehicles, electric utilities, and other industrial, commercial, and residential sources, result in the formation of nitrogen oxides. NO_x can also be formed naturally.

As an acute irritant, NO_x raises health concerns related to the respiratory system. Continual exposure to NO_x can damage lung tissue and cause increased respiratory infection (Monterey County 2006). Higher levels of exposure could cause emphysema, bronchitis, and aggravate heart disease.

Ozone

Ozone occurs within two levels of the atmosphere. The “good” ozone occurs naturally within the stratosphere approximately 10 to 30 miles above the earth’s surface. At that level, ozone protects life on earth from the sun’s harmful ultraviolet rays. The “bad” ozone occurs in the troposphere, which extends from the earth’s surface to approximately ten miles above ground level (EPA 2007).

Ozone is gas composed of three oxygen atoms that are a result of a chemical reaction at ground level. The reaction consists of nitrogen oxides (NO_x) combining with volatile organic compounds (VOC) in the presence of sunlight.

$$NO_x + VOC \xrightarrow{\text{sunlight}} O_3$$

Within the troposphere, sources of VOC and NO_x are from motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents, and natural sources. Ground-level ozone is the primary constituent of smog. Ozone concentrations tend to be higher when temperatures are high and days are long during spring, summer and fall months. As a result, it is known as a summertime air pollutant. Many urban areas tend to have high levels of "bad" ozone, but even rural areas are also subject to increased ozone levels because wind carries ozone and pollutants that form it hundreds of miles away from their original sources (EPA 2007).

Health effects associated with exposure to ozone include chest pain, coughing, sore throat, and congestion. With exposure to high levels of ozone, sensitive receptors are susceptible to reduced lung function.

Particulate matter

Particulate matter (PM) consists of tiny particles of dry solid fragments, small liquid droplets, or solid particles with liquid coatings. The particles vary in shape, size, and chemical composition, and can be made of different materials such as metals, soot, soil, and dust (Cal EPA 2007). Particulate matter that is 10 microns or less in diameter (PM_{10}) is considered small enough to be inhaled and penetrate the lungs. Even smaller than PM_{10} are fine particles measuring 2.5 microns or less in diameter ($PM_{2.5}$). Fine particles ($PM_{2.5}$) are the major cause of reduced visibility (haze) in parts of the United States (EPA 2007).

Directly emitted particulate matter, known as primary particles, are from sources that include combustion, motor vehicles, field burning, factories, construction sites, and road dust. Others form in complicated reactions in the atmosphere of chemicals such as sulfur dioxides and nitrogen oxides that are emitted from power plants, industries and automobiles. These particles, known as secondary particles, make up most of the fine particle pollution across the country (EPA 2007).

Due to the size of particulate matter, inhalation can carry the smaller particles into the lungs and even through transfer into the bloodstream. Made up of different chemical components particulate matter can cause lung and heart related health problems.

Sulfur Dioxide

Sulfur dioxide **(**SO_2) is an extremely reactive, colorless, gaseous compound of sulfur and oxygen. SO_2 is formed when sulfur containing fuel is burned by locomotives, ships, off-road diesel equipment, petroleum refineries, or metal production (Cal EPA 2007a). Sulfur dioxide is also produced through natural causes including geologic vents and hot springs. These gases dissolve easily in water creating acid rain or fog. Over 65% of SO_2 released to the air, or more than 13 million tons per year, comes from electric utilities, especially those that burn coal (EPA 2007).

SO_2 causes a wide variety of health and environmental impacts because of the way it reacts with other substances in the air. Heart and lung disease can occur due to exposure to particularly sensitive groups including people with asthma who are active outdoors and children, the elderly, and people (EPA 2007).

CAAQS Additional Air Pollutants

Hydrogen Sulfide

Hydrogen sulfide (H_2S) is a colorless gas identifiable by its odor of rotten eggs. It is produced during bacterial anaerobic decomposition of substances containing organic sulfur (Cal EPA 2007). In nature, hydrogen sulfide can be found around hot springs, and geothermic sources. It is also produced through industrial processes such as oil production. At high levels it can be fatal because hydrogen sulfide prevents the uptake of oxygen by the blood. H_2S is regulated by the CARB to eliminate exposure to disagreeable odors because the human nose detects the smell at low levels.

Sulfates

Sulfates (SO_4) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and / or hydrogen ions (Cal EPA 2007a). In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO_2) during the combustion process and subsequently converted to sulfate compounds in the atmosphere (Cal EPA 2007). Sulfates tend to be acidic which can harm ecosystems and damage materials and property. Exposure to high levels of sulfates can cause heath risks including a decrease in breathing function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease (Cal EPA 2007a).

Vinyl Chloride

Vinyl chloride (chloroethene) is a colorless gas with a mild, sweet odor. It is used in the production of vinyl products and polyvinyl chloride (PVC) plastic (Cal EPA 2007). Once these vinyl products are disposed of in local landfills, sewage plants, or hazardous waste sites they break down emitting vinyl chloride. Health risks associated with short-term exposure to high levels include dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage and cancer (Cal EPA 2007).

Visibility-Reducing Particles (VRPs)

Visibility-reducing particles are made up of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, small droplets of liquid, or solid cores with liquid coatings. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt (Cal EPA 2007).

Sensitive Receptors

A sensitive receptor is a person in the population who is particularly susceptible to health effects resulting from exposure to an air contaminant, when compared to the population at large. These include the elderly, children, and those with compromised immune systems, asthma, or severe allergies.

Greenhouse Gas Emissions

Greenhouse gases (GHG) are atmospheric gases that contribute to the greenhouse effect (one of the key elements in the study of global climate change) by allowing sunlight to penetrate the atmosphere and heat the planet's surface but preventing some

of that heat from escaping back into space. Carbon dioxide, water vapor, and methane are among the most important greenhouse gases (Global Climate Change).

Unlike criteria air pollutants and toxic air contaminants (TAC) that are pollutants of local or regional concern, GHGs are global pollutants. Pollutants with localized air quality effects have relatively short atmospheric lifetimes, about a day, while GHGs have relatively long atmospheric lifetimes, 1 year to several thousand years – long enough to be dispersed around the globe. The lifetime of any specific GHG is dependent on multiple variables and cannot be pinpointed. Scientists understand that more CO_2 is emitted into the atmosphere that is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions: approximately 54% is sequestered through ocean uptake, uptake by northern hemispheres forest regrowth, and other terrestrial sinks within a year; the remaining 46% is stored in the atmosphere (Seinfeld and Pandis, 1998)

Various statewide and local initiatives to reduce the state's GHG emissions contribution have raised awareness that although the various contributors to and consequences of global climate change are not fully understood, there is a potential for severe adverse environmental, social, and economic effects in the long run.

Executive Order S-03-05

Executive Order S-3-05 was signed by Governor Schwarzenegger in 2005 and proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 200 level by 2010, the 1990 level by 2020 and to 80% below the 1990 level by 2050.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

Governor Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006 in September 2006. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 202. This reduction would be accomplished through an enforceable statewide cap on GHG emissions that would be phased in starting in 2012. To effectively implement the cap, AB 32 directs the Air Resources Board to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 also includes guidance to institute emission reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Senate Bill 97

Senate Bill (SB) 97, signed August 2007, acknowledges that climate change is a prominent environmental issue that requires analysis is under CEQA. This bill directs the California Office of Planning and Research to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emission or the effects of GHG emissions, as required by CEQA by July 1, 2009. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010. On April 13, 2009, OPR submitted to the Secretary of the Resources Agency

its proposed amendments to the State CEQA Guidelines for GHG emissions. These proposed CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in draft CEQA documents. The adopted amendments to the State CEQA Guidelines include; provisions for determining significance of GHG emissions, mitigating significant GHG impacts, streamlining of CEQA analysis of GHG impacts, and additional questions in the Appendix G checklist.

4.2.2 Regulatory Setting

Federal Air Quality Regulations

The Federal Clean Air Act (CAA) was originally written in 1963 as a means to provide funding for air quality research. A subsequent CCA was written in 1970 to enable nationwide responses for air pollution. After an amendment in 1990, the CCA was expanded to cover the impacts of air pollution and empower the U.S. EPA to implement and enforce stronger air pollution regulations. The CAA has two standards: to protect public health and public welfare.

The U.S. EPA is a regulatory agency charged with setting the NAAQS, creating minimum National emission limits for pollution sources (i.e. utilities and steel mills), and establishing regulations. Together these functions reduce the population's exposure to air pollutants.

State Air Quality Regulations

This 1988 California Clean Air Act (CCAA) was adopted by the State to implement statewide air pollution controls regulated by the California Air Resources Board (CARB) a section of the California Environmental Protection Agency (Cal EPA). This board set more stringent air pollution laws than are approved by the U.S. EPA. The CAAQS, regulated by the state, also include air pollutants that may cause serious long term effects such as sulfates (S), lead (Pb), hydrogen sulfide (H_2S), and visibility reducing particles (VRPs). The CARB also coordinates and approves local plans (MBUAPCD 2007).

Local regulations

Monterey Bay Unified Air Pollution Control District (MBUAPCD or District)

The MBUAPCD is charged with protecting public health while balancing economic and air quality considerations for the North Central Coast Air Basin (Cal EPA 2006). To ensure NAAQS and CAAQS are met; the District has rules and regulations for implementation and enforcement within an Air Quality Management Plan (AQMP) (MBUAPCD 2007).

As required by the California Clean Air Act and Amendments (HSC Section 40910 et seq.) and the Federal Clean Air Act and Amendments (42 U.S.C. Section 7401 et seq.), the District is responsible for air monitoring, permitting, enforcement, long-range air quality planning, regulatory development, education and public information activities related to air pollution. California Health and Safety Code Sections 39002, et seq. and 40000, et seq. requires local districts to be the primary enforcement mechanism for air pollution control. Districts must have rules and regulations for the implementation and

enforcement for the attainment and maintenance of Federal and State ambient air standards.

Monterey General Plan
The Monterey General Plan identifies goals and policies regarding air quality protection within county boundaries. The proposed project is within Monterey County therefore DPR would consider some or all of these goals and policies during planning and implementation. Listed below are the goal and policies that relate to air quality and project activities (Monterey County GP 2007, Chapter 4 – Conservation and Open Space Element):

Conservation and Open Space (OS) Goal-10 – Provide for the protection and enhancement of Monterey County's air quality without constraining routine and ongoing agricultural activities.

- **Policy OS-10.3** – Naturally vegetated and forested areas should be conserved for their air purifying functions.
- **Policy OS-10.6** – The Monterey Bay Unified Air Pollution Control District's air pollution control strategies, air quality monitoring and enforcement activities shall be supported.
- **Policy OS-10.7** – Use of the best available technology for reducing air pollution emissions shall be encouraged.
- **Policy OS-10.8** – Air quality shall be protected from naturally occurring asbestos by requiring mitigation measures to control dust and emissions during construction, grading, quarrying or surface mining operations. This policy shall not apply to routine and on-going agricultural activities except as required by State and Federal law.
- **Policy OS-10.9** – The County of Monterey shall require that future development implement applicable Monterey Bay Unified Air Pollution Control District control measures. Applicants for discretionary projects shall work with the Monterey Bay Unified Air Pollution Control District to incorporate feasible measures that assure that health-based standards for diesel particulate emissions are met.

DPR is exempt from local regulations, including general plans, specific plans and zoning ordinances (California Constitution Article XI, Section 7), although the project must comply with applicable state and federal rules and regulations governing local regulations applicable to impacts located outside Park boundaries (i.e. air quality and noise).

4.2.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on Air Quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan or regulation.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state AAQS (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors (e.g., children, the elderly, and individuals with compromised respiratory or immune systems) to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Where available, the significance criteria established by MBUAPCD will be relied on to make these determinations.

Table 4.2.2

MBUAPCD Thresholds for Significant Contribution to Regional Air Pollution	
Criteria Pollutant	**Threshold**
Carbon Monoxide (CO)	550 lbs/day (direct)
Nitrogen Oxide (NO_x)	137 lbs/day (direct & indirect
Particulate Matter (PM_{10})	82 lbs/day (direct) Earthmoving (grading, excavation) 2.2 acres/day
Sulfur Dioxide (SO_2)	150 lbs/day
Volatile Organic Compounds (VOC)	137 lbs/day (direct & indirect)

Source: MBUAPCD 1995

The Office of Planning and Research (OPR) is in the process of updating Appendix G of the State CEQA Guidelines to address impacts of GHG emissions. OPR has proposed the following additions to Appendix G. An impact related to global climate change is considered significant if the proposed project would:

- Generate greenhouse gas emissions, either directly or indirectly, that could have a significant impact on the environment;
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

4.2.4 Environmental Impacts, Project Requirements, and Mitigation Measures

Impact Statement Air 1: Construction activities associated with the proposed project would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Air Quality Standard/Air Quality Violation

Emissions during project implementation would not include air contaminants at levels that would, by themselves, violate local, state, or federal ambient air quality standards. Emissions would not contribute to a substantial permanent or long-term increase in any air contaminant, but could still cause adverse air quality impacts. Construction would cause intermittent and temporary increases of fugitive dust (PM_{10}) and ozone precursors (i.e., volatile organic compounds [VOC] and nitrogen oxides [NOx]). These

air quality impacts would be limited to the segment of Tin House Road where construction occurs. This would vary from day to day, location along the road, type of work occurring there, and the weather.

Ozone precursors (chemicals, which contribute to the creation of ozone) from project vehicles would increase in the general vicinity of the site. Project and worker vehicles would range from 5-20 daily, with 1-2 trips per vehicle. Most heavy equipment would remain on the site for the duration of the work. Suppliers would drop off equipment and materials and leave the same day, with an average of 1-3 deliveries per day. Traffic volumes on Highway 1 indicate a peak-hour traffic volume count of 820 vehicles (Cal Trans 2006). During project implementation, there is a projected possibility of an additional 43 trips per day by delivery and worker vehicles. Based on these figures, maximum project traffic would only increase total traffic volume, and vehicle emissions, in the vicinity of the construction site by approximately five percent. This increase would constitute a less than significant impact at the site and a negligible impact on the air quality in the MBUAPCD.

Construction equipment powered by diesel would also emit air pollutants during project implementation. Diesel exhaust emits nitrogen oxides (NO_x) (another component of ozone) and particulate matter (diesel PM). Diesel PM has been identified by CARB as a toxic air contaminant with chronic and carcinogenic risks to public health. A significance threshold for diesel PM has not been established. Emissions can vary widely, depending on the length of time each piece of equipment would be operated, condition of the equipment's engine and exhaust, weather, and type of operation.

Travel and work along the unpaved road would result in short term increases of fugitive dust (PM_{10}). Steep grades and dry summer conditions would increase the potential for PM_{10} during disking, stabilizing, and other road repair components. In addition to increased PM_{10} along the Road, the movement of vehicles in and out of the project area could move soil onto CA Route 1. Once on the paved road, continual traffic and off shore breezes could transfer the soil to airborne PM.

Due to the limited size of this project, it is expected that the project's operational emissions would not exceed the MBUAPCD's Thresholds for Significant Contribution to regional air pollution (VOC, NO_x, and PM_{10}).

Increased emissions of particulate matter and ozone related to activities proposed as part of this project could contribute to existing non-attainment conditions and interfere with achieving the projected attainment standards. However, construction related emissions would be short-term and temporary in nature, local air quality conditions would return to existing conditions at the end of the project. Integration of Project Requirement Air 1, limiting the quantity, type, and duration of equipment used during project implementation, would reduce any increase in emissions to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: none

Impact Statement Air 2: Construction activities associated with the proposed project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable

federal or state AAQS (including releasing emissions which exceed quantitative thresholds for ozone precursors)

Particulate Matter Fugitive Dust Emissions
DPR and its contractors would limit the emission and/or airborne transport of fugitive dust in implementing the measures outlined in the MBUAPCD: CEQA Air Quality Guidelines (1995). Integration of Project Requirement Air 2 will reduce fugitive dust emission to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: none

4.2.5 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

- Conflict with or obstruct implementation of the applicable air quality plan or regulation: Proposed work will not conflict or obstruct the implementation of any applicable air quality management plan for Monterey County.
- Expose sensitive receptors (e.g., children, the elderly, and individuals with compromised respiratory or immune systems) to substantial pollutant concentrations: Sensitive receptors would have the ability to avoid the Julia Pfeiffer Burns SP or visit other areas of the Park free of potential air pollutants. Although the project site is currently open to the public; access would be restricted during construction to protect public health and safety. Area residences are sufficiently distant from proposed construction activities to be safe from serious exposure. Facilities that provide care for sensitive receptors (such as schools, hospitals) are not within a mile of the project site.
- Create objectionable odors affecting a substantial number of people: Construction-related activities and emissions would result in a short-term generation of odors, including diesel exhaust, and fuel vapors. These odors could be considered objectionable by some Park visitors and employees. However, construction activities would be short-term; odorous emissions would dissipate rapidly in the air, with increased distance from the source; and visitor exposure to these odors would be extremely limited

Greenhouse Gas Emissions

- Generate greenhouse gas emissions, either directly or indirectly, that could have a significant impact on the environment;
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

The quantity of GHGs that it takes to ultimately result in climate change is not known; no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or micro climate. From a CEQA perspective, GHG impacts to global climate change are inherently cumulative.

4.2.6 Findings

For air quality evaluated as part of this environmental document, the potential exists for the release of air pollutants that could result in a temporary significant risk to the public and the environment. However, the implementation of this project would only impact air quality for a short period of time during construction. Integration of Project Requirements would reduce air quality impacts to a less than significant level.

4.3 BIOLOGICAL RESOURCES

This section provides information on biological resources that occur or could occur within the proposed project site, or could be impacted by the Tin House Road Improvement Project activities at Julia Pfeiffer Burns State Park (JPBSP). This includes specific information on the biological resources and potential impacts to these resources from road improvement construction activities.

4.3.1 Existing Conditions

4.3.1.1 Methodology

All sensitive species and their habitats were evaluated for potential impacts from this project. DPR staff collected and reviewed existing available data to determine the proximity of sensitive plants, animals, and their habitats to the project area. Staff conducted a query of the California Department of Fish and Game's Natural Diversity Database (CNDDB 2007) for the Partington Ridge and all adjacent 7.5-minute USGS quadrangles. These included: Pfeiffer Point, Big Sur, Ventana Cone, Chews Ridge, Tassajara Hot Springs, and Lopez Point. An official U. S. Fish and Wildlife Service (USFWS) species list for Monterey County was also consulted. Special-status plant species potentially occurring in the area were derived from the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2007). Staff also consulted the Resource Inventory for JPBSP for specific information on species and habitats located in the vicinity of the project area. In addition, several species that were not recorded in the databases queried, but which have the potential to occur in the project area or surrounding lands, were included in this analysis.

Information on special-status species was obtained through discussions with California Department of Parks and Recreation CDPR biologists, consultation with USFWS staff, literature review, and on-site reconnaissance-level surveys. Multiple visits by CDPR biologists were conducted to: survey for special status plants; map seacliff buckwheat locations; survey for California spotted owls and other nesting birds; assess potential habitat for raptors; conduct a California red-legged frog site assessment; and to assess the habitat suitability for other sensitive species. An on-site visit with USFWS staff was conducted to discuss the project, examine potential impacts to special-status species, and discuss appropriate avoidance and habitat enhancement measures. In addition, surveys for the endangered Smith's blue butterfly were conducted by Dr. Richard Arnold of Entomological Consulting Services, Ltd.

4.3.1.2 Vegetation And Wildlife Habitat

Vegetation

The vegetation at Julia Pfeiffer Burns State Park is a mixture of coastal scrub, chaparral, grassland, broadleaved forest, redwood, and riparian woodland types, which is typical of the coastal side of the Santa Lucia Mountains. As defined by Sawyer and Keeler-Wolf (1995) in "A Manual of California Vegetation", the California Department of Fish and Game's California Natural Diversity Data Base (CNDDB 2003), and other researchers, there are nine distinct vegetative alliances or associations within park boundaries. Some of the park's vegetation types are not adequately described by published references. The nine types identified in the park are:

Northern Coastal Bluff Scrub Alliance
Coyote Brush-California Sagebrush Association
Chamise Alliance
Blue Blossom Alliance
California Annual Grassland Alliance
Tanoak Alliance
Coast Live Oak Alliance
Redwood Alliance
Mixed Willow Alliance

The Northern Coastal Bluff Scrub Alliance is a low shrubby vegetation type characterized in the park by the co-dominance of lizard tail (*Eriophylllum staechadifolium*), mock heather (*Ericameria* ericoides), seacliff buckwheat (*Eriognum parvifolium*), and Carmel ceanothus (*Ceanothus griseus*). Other commonly encountered species include beach sagewort (*Artemisia pycnocephala*), poison oak (*Toxicodendron diversilobum*), California coffeeberry (*Rhamnus californica*) in the shrub layer and Monterey Indian paintbrush (*Castilleja latifolia*), seaside daisy (*Erigeron glaucus*), and California seapink (*Armeria maritima*) in the herbaceous layer. This type is limited to the immediate coast and is best represented at the mouth of Partington Creek.

One of the most extensive vegetation types in the park is Coyote Brush-California Sagebrush Association, which occupies xeric sites. Much of the lower portion of the Road is bordered by this vegetation. It is a coastal scrub vegetation type that is typically dominated by the shrub species coyote brush (*Baccharis pilularis*) and California sagebrush (*Artemisia californica*); in many park locations black sage (*Salvia mellifera*) and poison oak co-dominate with the other two species. Seacliff buckwheat, the host plant for the federally listed as endangered Smith's blue butterfly, is a common component of this scrub, occurring as individual plants or in small stands along the edge of about a ½ mile section of the Road.

Although common in the park on more xeric sites, the Chamise Alliance does not occur in close proximity to the Tin House Road. This shrubby vegetation is completely dominated by chamise (*Adenostema fasciculatum*); blue blossom (*Ceanothus thyrsiflorus*) is an uncommon associate and contributes little to the total cover. Mature stands are so dense that there is little herbaceous understory or litter.

Blue Blossom Alliance occupies more mesic sites than coastal scrub, but on shallower soils and under less moist conditions than forested locations. It is limited in the park to

north-facing slopes of McWay and Partington Creek canyons. A middle section of the Road is bordered by Blue Blossom Alliance vegetation. It is a type of chaparral that is dominated by blue blossom and Carmel ceanothus. Other common associates include poison oak, coyote brush, California coffeeberry (*Rhamnus californica*), Douglas' nightshade (*Solanum douglasii*), and bush monkey flower (*Mimulus aurantiacus*), the latter found in more open areas. Coast lizard tail is a common component of this vegetation near the coast; golden yarrow (*Eriophyllum confertiflorum* var. *confertiflorum*) replaces lizard tail further inland.

The California Annual Grassland Alliance occupies open slopes that support native grasslands prior to Euroamerican settlement and subsequent invasion by non-native plant species. Grasslands nearly touch the upslope edge of the Road approximately ¾ of a mile from Highway 1. This vegetation is dominated by non-native grass species, primarily slender wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), and leporinum barley (*Hordeum murinum* ssp. *leporinum*).

The Tanoak and Coast Live Oak Alliances are forest vegetation types that are partly equivalent to the Mixed Evergreen Forest described in other vegetation classification systems. Tanoak Alliance is dominated by tanoak (*Lithocarpus densiflora*), while coast live oak (*Quercus agrifolia*) dominates the Coast Live Oak Alliance. Common associates of both types include redwood (*Sequoia sempervirens*), California bay (*Umbellularia californica*), poison oak, and California coffeeberry. Together, these types constitute the most acreage of any vegetation in the park. Most of the upper 1/3 of the Road is flanked by a mixture of Tanoak Alliance, Coast Live Oak Alliance, and Redwood Alliance.

Both of the oak vegetation types are undergoing a radical transformation since the arrival of the Sudden Oak Death (SOD) pathogen (*Phytophthora ramorum*) on the central coast, resulting in numerous dead and dying oaks that are scattered throughout the park. Discovered in 1995, Sudden Oak Death (SOD) has spread rapidly through coastal California and has infected and killed thousands of tanoak, coast live oak, and other oak species in coastal forests from Humboldt County to Monterey County. It is known to infect many other coastal species such as California bay , Pacific madrone (*Arbutus menziesii*), California buckeye (*Aesculus californica*), coast redwood, Douglas-fir (*Pseudotsuga menziesii*), big leaf maple (*Acer macrophyllum*), hairy honeysuckle (*Lonicera hispidula var. vacillans*), California coffeeberry, toyon (*Heteromeles arbutifolia*), California rose bay (*Rhododendron macrophyllum*), various manzanita species (*Arctostaphylos* spp.), and black huckleberry (*Vaccinium* ovatum).

The Redwood Alliance vegetation type is dominated by redwood, with abundant California bay in the canopy. Tanoak was formerly a common canopy associate, but most of these are either dead or dying. Redwood sorrel (*Oxalis oregana*), sword fern (*Polystichum munitum*), coltsfoot (*Petasites frigidus* var. *palmatus*), and giant chain fern (*Woodwardia fimbriata*) are common constituents of the shrub and herbaceous layers, especially in moister locations such as streamsides. Within the project area this vegetation borders Redwood Creek at the beginning of the road and on north facing slopes along the upper portion of the Road. Non-native and invasive sticky eupatorium (*Ageratina adenophora)* is the dominant ground cover under the redwood and California bay canopy adjacent to Redwood Creek. This area provides valuable riparian habitat for various species of native wildlife.

Mixed Willow Alliance is moisture loving vegetation that is restricted to streamsides and seepy areas in the park. Dominant species include arroyo willow (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*), and white alder (*Alnus rhombifolia*). The shrub and herbaceous layers are composed of species such as poison oak, Douglas' nightshade (*Solanum douglasii*), and giant chain fern. Mixed Willow Alliance does not occur within or adjacent to the project area.

Several exotic plant species have become well established in the park, including but not limited to blue gum (*Eucalyptus globulus*), acacia (*Acacia* sp.), sticky eupatorium) ageratina (*Ageratina adenophora*), French broom (*Genista monspessulana*), purple pampas grass *(Cortaderia jubata)*, poison hemlock *(Conium maculatum)*, and Monterey cypress (*Cupressus macrocarpa*).

Wildlife Habitat

Habitats are described according to the California Wildlife Habitat Relationship System (Mayer and Laudenslayer 1988). The lower portion of the project site, adjacent to Highway 1, is in a small riparian redwood stand. There are several large redwood trees growing in close proximity to the ocean at this site, which is near the southern extent of the range of coast redwoods. The middle reaches of the project area are coastal scrub habitats and this is where the coast buckwheat stands occur. There are areas dominated by annual grassland habitat, but these occur above the project area. The upper portions of the project area are in Montane Hardwood-Conifer habitat. These upper portions of the project area are dominated by coast redwood, tanoak, and coast live oak.

Wetlands, Riparian Zones, and Waters of the U.S.

The U.S. Army Corps of Engineers (USACE) defines wetlands as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The majority of USACE jurisdictional wetlands meet three wetland delineation criteria: (1) hydrophytic vegetation, (2) hydric soil types, and (3) wetland hydrology. No USACE jurisdictional wetlands occur within the project area.

The term "waters of the U.S." applies to the jurisdictional limits of the authority of the US Army Corps of Engineers to regulate navigable waters under Section 404 of the federal Clean Water Act. Navigable waters are defined in Section 502(7) of the Act as "waters of the United States, including the territorial seas." By definition, navigable waters include all wetlands and tributaries to "waters of the United States." Under Section 404 of the Act the USACE has authority to regulate the discharge of dredged or fill material into navigable waters. The authority for the USACE to regulate navigable waters is also provided under Section 10 of the Rivers and Harbors Act of 1899. Under this statute, the USACE regulates excavation or filling operations or the alteration or modification of the course, location, condition, or capacity of any navigable water of the United States.

The proposed project would include construction activities within bed and bank of Redwood Creek adjacent to the beginning of the Road. This creek is subject to regulation by the USACE under provisions of Section 404 of the Clean Water Act. DFG

also has regulatory authority over construction activities within the bed and bank of streams pursuant to Section 1600 of the Fish and Game Code.

4.3.1.3 Special Status Biological Resources

Special status biological resources include plants and animals that have been afforded special recognition by federal, state, or local resource agencies and organizations. Also included are habitats that are of relatively limited distribution or are of particular value to wildlife.

For the purposes of this EIR, special-status species are defined as plants and animals that are legally protected under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA) or other laws, or that are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. Specifically, this includes species listed as state and/or federally Threatened, Endangered, or Rare; those considered as candidates for listing; species identified by USFWS and /or CDFG as Species of Special Concern; wildlife identified by CDFG as Fully Protected or Protected; and plants considered by the CNPS to be rare, threatened, or endangered (i.e., plants on CNPS lists 1 and 2). Special-status species that are not federally protected or state listed as threatened, endangered, or rare do not receive protection under ESA or CESA; however, impacts to these species could still be considered significant under CEQA if it determined to be rare or endangered by the lead agency [CEQA Guidelines §15380(b)].

A species can be considered:

- “Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors.
- “Rare" when either:
  - the species is not presently threatened with extinction, but is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or
  - the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act.

Special-Status Plants

Identification of the special status plant species that are known or that could potentially occur within or near the project area are based on surveys in 2005 and 2007 by DPR biologists and a review of existing information sources that include the CNPS (Inventory of Rare and Endangered Plants of California, 6th edition, electronic version, 2007), the CNDDB (CDFG 2007), the USFWS list of federally listed species for Monterey County, the 1990 Julia Pfeiffer Burns State Park Resource Inventory (DPR 1990), and an IS/MND prepared for this project (DPR 2005).

The CNPS[1] identifies 21 special status species for the Partington Ridge 7.5-minute USGS quadrangle and adjacent Pfeiffer Point, Big Sur, Point Sur, Ventana Cone, Chews Ridge, Tassajara Hot Springs, and Lopez Point quadrangles. Occurrences of 21 special status plant species appear in the CNDDB for these quads, including three species not reported by the CNPS. The USFWS identifies 16 federally listed species for Monterey County, none of which appear on the CNPS or CNDDB list for the aforementioned quads. Another species, the CNPS list 4.3 Lewis' clarkia (*Clarkia lewsii*), has been located in the project area by DPR biologists. Special status species identified above and their relevant listing status and pertinent biological information are presented in Table 4.3.1 (See Appendix C).

Of the 43 species listed in Table 4.3.1, 25 of these have no potential to occur in or near the project area based on the absence of suitable habitat, including all of the species with federal listing status. Some of these plants are restricted to substrates such as clay, sand, or serpentine or to habitat types such as coastal bluff scrub, closed cone coniferous forest, coastal dunes, vernal pools, and mesic meadows, none of which occur in or near the project area. For example, Little Sur manzanita (Arctostphylos edmundsii)is limited to sandy areas in coastal bluff scrub or chaparral habitat immediately adjacent to the ocean, which does not exist within the project boundary.

DPR biologists conducted field surveys in the project area for special status plant species in July and August of 2005 and February, June, and August of 2007. These surveys focused on the 18 species with a potential to occur within or adjacent to the project area and were timed to coincide with their appropriate blooming periods or in a life stage where they could be accurately identified. Based on known occurrences and specific microhabitat preferences most of these species have a very limited potential to occur in the project area. A single species, Lewis' clarkia, was located during the course of these surveys both in and adjacent to the project area. No other special status species were located in the project area during these surveys.

Lewis' clarkia (*Clarkia lewisii*)

Lewis' clarkia is a CNPS List 4.3 annual herb of Monterey and San Benito Counties that inhabits several habitat types (as defined by CNPS), including broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub. It blooms from May through July.

Most of the Lewis' clarkia population occupies the open grasslands upslope of the Road and outside of the project area. This population was estimated to number at least several hundred during the 2007 survey. Approximately 80 plants were counted within 10 feet of the edge of the road; 3 of these occur in the middle of the road. Since this species is an annual, locations of individuals may vary from year to year. This species has previously been reported from this area (DPR 1990).

Other special status plant species known or reported to occur in the park are Arroyo Seco bush mallow (*Malacothamnus palmeri var. lucianus*), branching beach aster

[1] California Native Plant Society (CNPS) Lists: List 1A = presumed extinct in California; List 1B = rare or endangered in California and elsewhere; List 2 = rare or endangered in California, more common elsewhere; List 3 = need more information; List 4 = plants of limited distribution. New threat code extensions are: .1 = seriously endangered in California; .2 = fairly endangered in California; and .3 = not very endangered in California.

(*Corethrogyne leucophylla*), Santa Lucia gooseberry (*Ribes sericeum*), tear drop moss (*Dacryophyllum falcifolium*), Rattan's cryptantha (*Cryptantha rattanii*), and bristlecone fir (*Abies bracteata*). Biological information for these species is provided in Table 4.3.1.

Within and adjacent to the project area are two common plant species that provide habitat for special status wildlife species. The seacliff buckwheat (*Eriogonum parvifolium*) is host plant for the Federal Endangered Smith's blue butterfly in all life stages. Canyon Liveforever (*Dudleya cymosa ssp. pumilla*) is a host plant for Doudoroff's elfin butterfly (*Callophrys* [Incisalia] *mossii doudoroffi*), a Species of Special Management Concern. Surveys for these host plants were conducted in 2005 and mapped locations were reconfirmed in the April 2007 survey. A more detailed discussion of these special status butterfly species is presented in the Special Status Wildlife Section below.

Sensitive Natural Plant Communities

Sensitive natural plant communities are communities that are especially diverse, regionally uncommon, or of special concern to local, state and federal agencies. Elimination or substantial degradation of these communities would constitute a significant impact under CEQA. The Redwood Alliance vegetation type described in Section 4.3.1.2 Vegetation and Wildlife Habitat is identified as a plant community of high inventory priority by the CNDDB (2003) and is treated as a rare community under CEQA.

Sudden Oak Death

Discovered in 1995, Sudden Oak Death, caused by the pathogen *Phytophthora ramorum,* has infected and killed thousands of tanoak, coast live oak, Shreve oak (Quercus parvula var. shrevei), and California black oak trees in coastal forests from Humboldt County to Monterey County. This water mold also infects California bay laurel, Pacific madrone, California buckeye, coast redwood, Douglas-fir, big leaf maple Acer macrophyllum), hairy honeysuckle, California coffeeberry, toyon, California rose bay, Manzanita species and black huckleberry.

Sudden Oak Death (SOD) is transported to new areas when infected plants or infested soil is moved. *Phytophthora ramorum* thrives in wet or moist climates with cool temperatures; these organisms and their spores can be found in soil and water as well as plant material. The risk of SOD spread is greatest in muddy areas and during rainy weather where spore-producing hosts are present. Monterey County is one of 14 California counties to have confirmed SOD findings and is under State and federal quarantine regulations. Quarantined areas are subject to specific regulations regarding the movement and use of susceptible plants. County Agricultural Commissioners enforce both State and federal regulations. Sudden Oak Death, as described in Section 4.3.1.2 Vegetation and Wildlife Habitat, is known to occur in JPBSP.

Special-Status Wildlife

A list of 58 special-status wildlife species was generated with the potential to occur in JPBSP or on surrounding lands. These species are addressed in Table 4.3.1. Species with the potential to occur in or near the project area are discussed below.

INVERTEBRATES

Smith's blue butterfly (*Euphilotes enoptes smithi*) – The Smith's blue butterfly (SBB) is a Federal Endangered species that is fully dependent on coast buckwheat (*Eriogonum latifolium*) and seacliff buckwheat (*Eriogonum parvifolium*) during all life stages. The USFWS recently recommended the SBB be down-listed to threatened status with the discovery of new populations and an extension in the known range of this species (USFWS 2006b). South of Monterey Bay, current threats faced by the SBB include invasive species, fire suppression and associated plant succession, and maintenance of roads and trails. Invasive species colonization of buckwheat habitat is probably the most serious of these threats. The proposed project presents potential impacts from maintenance and repair of the Road.

Doudoroff's elfin butterfly (*Callophrys* [Incisalia] *mossii doudoroffi*) – This is a Species of Special Management Concern for California State Parks in the Big Sur Sector. This species inhabits steep coastal canyons and dangerous rocky slopes above creeks (Garth and Tilden 1986). Doudoroff's elfin butterflies are known to occur in Landel's-Hill Big Creek Reserve to the south and in the Los Padres National Forest. Host plants for this species include pacific stonecrop (*Sedum spathulifolium*) and canyon liveforever. Surveys conducted in January 2005 and April 2007 located several patches of canyon liveforever, but no pacific stonecrop. The canyon liveforever plants that occur in the project area are growing on a small rocky cliff above the road that would not be impacted by project activities. The only improvement of the section of road below where spreading canyon liveforever occurs would be placement of one rolling water bar. Doudoroff's elfin butterfly and its potential host plant would not be impacted by this project.

Monarch butterfly (*Danaus plexippus*) – This butterfly is a long distance migrant that winters in large colonies along the coast from Northern California to Baja California. Over-wintering roosts are located in Eucalyptus, Monterey pine (*Pinus radiata*), Monterey cypress (*Cupressus macrocarpa*) and other wind-protected tree groves; these groves are considered to be sensitive resources. Although monarch butterflies have been documented in JPBSP (DPR1990), no groves of trees suitable for over wintering colonies exist in or near the project area.

Pinnacles riffle beetle (*Optioservus canus*) – This stream invertebrate is a Federal Sensitive Species which only occurs in a small number of locations in central California. The CNDDB lists this species in Partington Creek and it is also known to occur in other coastal drainages along the Big Sur coast.

FISH

Steelhead – south/central California coast (*Oncorhynchus mykiss irideus*) – This Federal Threatened species occurs in the Big Sur River and its tributaries, as well as other drainages along the Big Sur Coast. Partington Creek is a perennial stream with populations of coast range sculpin (*Cottus aleuticus*); steelhead have also been observed in this creek. Redwood Creek does not support fish populations (CDPR 1990).

AMPHIBIANS

California red-legged frog (*Rana aurora draytonii*) – The California red-legged frog (CRF) is a Federal Threatened species and a California Species of Concern. Habitat for CRF generally consists of deep, slow moving water associated with overhanging or emergent vegetation such as willow, cattail or bulrush. The historical range of the California red-legged frog includes drainages of the Big Sur coastline; however the park is not located within the designated critical habitat for the species (USFWS 2006a). Distribution maps and location information show a gap on the severe and rugged stretch of the Big Sur coastline where JPBSP is located (Davidson et al. 2001, Jennings and Hayes 1994, Stephenson and Calcarone 1999, N. Scott personal communication 2007). The gap is characterized by very short, steep drainages and occurs between just south of Pfeiffer Big Sur State Park and the southern extent of Monterey County.

The California Natural Diversity Database (CNDDB 2007) had no records of CRF within 1 mile of the project location. The closest record was approximately 4.4 air miles to the north, on private land between Castro and Grimes Canyons, and additional records further north in the Post Creek drainage. There are also CRF records in the north and south forks of the Big Sur River (Stephenson and Calcarone 1999). Redwood and Partington Creeks are characterized by very steep gradients and rushing water, which do not allow for slow moving reaches or deep pools. Suitable breeding habitat does not occur within 1 mile of the project site and this species would not be impacted by this project.

Foothill yellow-legged frog (*Rana boylii*) – This California Species of Concern historically occurred in foothill portions of most drainages from the Oregon border south to the San Gabriel River, but has disappeared from nearly 50% of its range (Jennings and Hayes 1994). This species requires shallow, flowing water in small or medium sized streams with some cobblestone substrate (Jennings and Hayes 1994). Similar to the CRF, historical detections of yellow-legged frogs show a distinct gap along the rugged stretch of the Big Sur coast between the Pfeiffer Big Sur State Park and southern Monterey County (Jennings and Hayes 1994, Stephenson and Calcarone 1999). There are populations inland in the Carmel and Big Sur River drainages (DPR 1990, Jennings and Hayes 1994, Stephenson and Calcarone 1999). There are no records of foothill yellow-legged frogs for the Partington or other quads surrounding the project location (CNDDB 2007).

Coast range newt (*Taricha torosa torosa*) – The Coast range newt is a California Species of Concern with a general range which includes JPBSP. The historic and current distribution of the coast range newt includes portions of the Big Sur coastline (Jennings and Hayes 1994). This species breeds in ponds, reservoirs and slow moving streams, but is frequently found in upland habitats. Canyon streams may be used, especially in association with oak trees (Yocom and Dasmann 1957). This species may occur in the Partington Creek drainage but the long distance and steep slope between the creek and the road, and work confined to the road surface, make it very unlikely that coast range newts occur in the project area.

REPTILES

Western pond turtle (*Emys* [=Clemmys] *marmorata*) – This Federal and California Species of Concern has a general range that includes the central coast of California.

Historic and current location records show a gap along the rugged Big Sur coast similar to that for CRF and foothill yellow-legged frogs (Jennings and Hayes 1994). The CNDDB shows the closest records of western pond turtles occur in the Carmel and Salinas River drainages of interior Monterey County. This species also occurs in the Big Sur and Little Sur watersheds (Stephenson and Calcarone 1999). The western pond turtle inhabits still or slow moving aquatic habitats with submergent or emergent vegetation and also requires open basking areas and sandy or loose soil egg-laying sites (Jennings and Hayes 1994). Suitable habitat does not occur in the project area

Coast horned lizard (*Phrynosoma coronatum*) – The frontale (subspecies) population of the coast horned lizard is a Federal and California Species of Concern. This species is found in open areas with sandy soil where basking opportunities are available (Jennings and Hayes 1994). There are no records in the CNDDB near the project site, but this species was found in the upper elevation portions of Landels-Hill Big Creek Preserve, south of JPBSP (Carothers et al. 1980). There are areas of JPB with sandy soil types that may provide suitable habitat for coast horned lizard, but these are in the upper elevations of the park and not near the project area (DPR 1990). Suitable habitat does not occur in the project area.

California legless lizard (*Anniella pulchra*) – This California Species of Concern inhabits sandy, loose soils and are apparently absent from rocky soil areas (Jennings and Hayes 1994). This species is known to occur on the Big Sur coast (Bikle 1985). There are areas of JPBSP that have sandy or sandy loam soil types that are potentially suitable for this species, but not in the project area (DPR 1990).

Two striped garter snake (*Thamnophis hammondii*) – This California Species of Special Concern has a general range which extends from northern Monterey County south into Mexico, along the coast and portions of the interior coast range (Jennings and Hayes 1994). It inhabits permanent fresh water along streams with rocky substrates and in stock ponds with dense vegetation, such as willow (Jennings and Hayes 1994, Stebbins 2003). Two-striped garter snakes feed primarily on frogs and fish and are found in or near water. There is no suitable habitat in the project area and no prey populations in Redwood Creek.

BIRDS

California condor (*Gymnogyps californianus*) – The California condor is a Federal and California Endangered species that has been re-introduced to the Big Sur area. The first nesting attempt in the last 100 years in northern California occurred in 2006 (Ventana Wildlife Society [a] 2006). Condors were nearly driven to extinction in California from a range of threats including poisoning, collisions with power lines, habitat alteration, and large declines in the traditional prey base. California condors have been observed flying over JPBSP.

Bald eagle (*Haliaeetus leucocephalus*) – The bald eagle is a California Endangered and Federal delisted species that historically nested along the Big Sur Coast (Roberson 1985). In California, bald eagles build stick platform nests, usually in the largest tree of a mixed species stand, that are located within 1 mile of a permanent water source (DFG 1990). Bald eagles historically nested at the mouths of several large canyons along the

Big Sur coast, north of JPBSP (DPR 1990). After an absence of nearly 60 years, the Ventana Wildlife Society has successfully reintroduced bald eagles to Monterey County (Ventana Wildlife Society [b] 2006). There were three nesting pairs in the interior portion of the county in 2006, but none along the coast. Although there is no current nesting by bald eagles near JPBSP, there may be potential suitable habitat in the Partington Creek drainage for future range expansion. This project would not damage any trees in the Partington Creek drainage that could serve as suitable habitat for bald eagles.

Golden eagle (*Aquila chrysaetos*) – The golden eagle is a Federal Fully Protected speciesand California Species of Concern that nests on cliffs or tall trees in rolling hills and open country (DFG 1990, Carnie 1954). Golden eagles are regularly found in more interior portions of Monterey County, and there is one record of a coastal nest in the Elkhorn Slough area at the northern extent of the county (Roberson 1985). A checklist of Big Sur birds does not include the golden eagle as breeding in Andrew Molera State Park or surrounding lands located to the north in similar habitat to JPBSP (Davis and Roberson 2000). Although there are no records of golden eagle nests near JPB, there are limited areas of potentially suitable open coastal bluff and grassland habitat near upper portions of the project vicinity. This project would not damage any potential nest trees or impact any potential foraging habitat for golden eagles.

Sharp-shinned hawk (*Accipiter striatus*) – This California Species of Concern is present as a migrant or winter resident (Roberson 1985), but is probably a very uncommon summer resident. On the coast of Monterey County, there is only one probable record of nesting at Point Lobos in 1983 (Roberson 1985). There are no known nesting records of sharp-shinned hawks anywhere near the project vicinity and implementation of this project is very unlikely to impact this species.

Cooper's hawk (*Accipiter cooperii*) – This California Species of Concern uses riparian deciduous and other forest habitats near water. Cooper's hawks are common migrants, uncommon winter residents, and rare summer residents throughout Monterey County (Roberson 1985). A checklist of Big Sur birds does not include Cooper's hawks as breeding in Andrew Molera State Park or surrounding lands to the north of JPBSP in similar habitat (Davis and Roberson 2000). There is a record of a coastal nest found in Landels-Hill Big Creek Reserve (Carothers et al. 1980). Although there are no records of Cooper's hawk nests in JPBSP, there does appear to be potentially suitable riparian habitat in the Partington Creek drainage.

Peregrine falcon (*Falco peregrinus anatum*) – The peregrine falcon is a California Endangered Species and Federal Bird of Conservation Concern, which was delisted from the Federal Endangered Species Act in 1999 (USFWS 1999). Peregrine falcons are known to nest on protected cliffs and ledges in woodland and forest habitats along the Big Sur Coast. Although there is potential for peregrine falcons to occur in JPBSP, there is no suitable nesting habitat in the project area.

California spotted owl (*Strix occidentalis occidentalis*) – This California Species of Concern is known to nest in mature forest stands associated with drainages in the coast

range of Monterey County. There is a resident pair of California spotted owls in the upper portions of the east fork of Partington Creek.

Northern harrier (*Circus cyaneus*), **prairie falcon** (*Falco mexicanus*), **merlin** (*Falco columbarius*), and **osprey** (*Pandion haliaetus*) – These raptors are California Species of Concern that are present as migrants or winter residents, but that are not known to nest along the rugged portions of the Big Sur Coast (Roberson 1985). Both the prairie falcon and northern harrier nest in interior Monterey County. Northern harriers have nested at the Big Sur River Mouth (Roberson 1985); however, the habitat there is much different than the habitat available along the rugged stretch of coast in JPBSP. The project is very unlikely to impact these species.

White-tailed kite (*Elanus leucurus*) – The white-tailed kite is a Federal Fully Protected species that is a resident of less rugged, open country along the coast in Monterey County from the Big Sur River and north (Roberson 1985). Suitable nesting habitat for this species does not occur in the project area.

Double-crested cormorant (*Phalacrocorax auritus*) – The only Monterey County nesting location of the double-crested cormorant, a California Species of Concern, occurs on a rock island off of Partington Point (Roberson 1985). However, there is no suitable habitat at the project site and this species would not be impacted.

Black swift (*Cypseloides niger*) – The black swift is a California Species of Concern that nests in cliffs and behind waterfalls, including McWay and Anderson Canyons in JPBSP (Roberson 1985). There are no suitable nesting or roosting locations at the project site and these birds forage on the wing so project activities would not impact this species.

Purple martin (*Progne subis*) – The purple martin is a California Species of Concern that inhabits forested areas, especially along ridges with snags (Roberson 1985). This species has been observed in JPBSP, but the closest nesting record is approximately 2 miles north, in a very uncommon nesting location under the Torre Canyon Bridge (Roberson 1985). There is a potential for this species to nest along ridges near, but not within the project area.

Yellow warbler (*Dendroica petechia*) and **California horned lark** (*Eremophila alpestris actia*) are both California Species of Concern that nest in warm interior regions of Monterey County, although fall migrants and winter residents may show up on the coast (Roberson 1985). There is no suitable habitat for these species in the project area.

Bank swallow (*Riparia riparia*) – The Bank swallow is listed as a California Threatened Species that is a very local summer resident in two colonies in the far north and east portions of Monterey County (Roberson 1985). There is no suitable habitat for this species in the project area.

OTHER RAPTORS AND MIGRATORY BIRDS

Migratory non-game native bird species are protected under the Migratory Bird Treaty Act (MBTA). In addition, all raptors and their nests are protected under Fish and Game

Code §3503.5. These protections prohibit the take (including disturbances which would cause abandonment of active nests containing eggs and/or young) of all birds and their active nests. Several of the species of birds protected under the MBTA and Fish and Game Code §3503.5 which are known to or likely nest near the project area include: **Anna's hummingbird** (*Calypte anna*), **California towhee** (*Pipilo fuscus*), **California thrasher** (*Toxostoma crissale*), **lazuli bunting** (*Passerina amoena*), **Band-tailed pigeon** (*Columba fasciata*) and **wrentit** (*Chamaea fasciata*), **red-shouldered hawk** (*Buteo lineatus*), **American kestrel** (*Falco sparverius*), and **great horned owl** (*Bubo virginianus*).

MAMMALS

American badger (*Taxidea taxus*) – The American badger is a California Species of Special Concern. There is a record for this species in the CNDDB "10 miles south of Carmel" and they have been found in the Landels-Hill Big Creek Preserve to the south (Carothers et al. 1980). No badgers have been detected in JPBSP; open grassland habitat suitable for this species does not occur within the project area.

Ringtail (*Bassariscus astutus*) – This California Fully Protected mammal occurs in various riparian habitats, and in brush stands of forest and shrub habitats (Zeiner et. al., 1990). These mammals are nocturnal and forage on the ground, especially in rocky areas, and in trees. Ringtails are known to occur along the Big Sur Coast and could be present near the project vicinity, but no rocky areas would be disturbed and no construction activities would be conducted at night when this species is active.

Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*) – This California Species of Concern inhabits a variety of woodland and forest types throughout Monterey County. These small mammals construct large stick and vegetation piles called middens, which can be used for generations. The Monterey dusky-footed woodrat is a primary prey species of the California spotted owl. Monterey dusky-footed woodrats occur in the upper reaches of the project area in association with oak trees and could be present in the scrub habitats. No middens or suitable habitat would be affected by construction activities.

Sensitive Bat Species – Several special-status bat species could potentially occur in JPB. **Townsends big-eared bat** (*Corynorhinus townsendii*), **pallid bat** (*Antrozous pallidus*), and **western mastiff bat** (*Eumops perotis*) are California Species of Concern, while **hoary bat** (*Lasiurus cinereus*), **fringed myotis** (*Myotis thysanodes*), **long-legged myotis** (*Myotis volans*), **long-eared myotis** (*Myotis evotis*), and **Yuma myotis** (*Myotis yumanensis*) are USFWS Sensitive Species. These bats all inhabit a variety of regions in California, including coastal scrub, grassland, woodland and forest types present in the vicinity of the project. All of these bats roost and or locate maternity sites in one or more of the following: buildings, bridges, caves, rock outcrops, tree cavities, loose bark on large trees, or mines. There is a potential for some of these bat species to roost in JPB, especially in the Partington Creek drainage, and to forage over the project area at night. No suitable roost or maternity sites occur within the project site.

MARINE ANIMALS

There are several special status species which occur in Marine environments off the coast or along the beaches of JPBSP. These include the Federal Threatened **southern sea otter** (Enhydra lutris nereis), Federal and California Endangered **brown pelican** (Pelecanus occidentalis californicus), Federal Threatened and California Endangered **western snowy plover** (Charadrius alexandrinus nivosus), and the Federal Threatened and California Endangered **marbled murrelet** (Brachyramphus marmoratus).

4.3.2 Regulatory Setting

The project area includes biological resources that are protected and/or regulated by state and federal laws, regulations, and policies. This section discusses potential impacts and permit requirements associated with "waters of the U.S.", sensitive natural plant communities, and species currently listed or proposed for listing as threatened or endangered under the State or Federal Endangered Species Acts, as well as special-status plant and wildlife species not currently listed or proposed for listing. Prior to implementation, it would be necessary for the proposed project to be in compliance with these laws, regulations, and policies.

Federal laws and regulations pertaining to plants, wildlife, and wetlands/waters of the U.S. include the following:

- Endangered Species Act
- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act
- Bald and Golden Eagle Protection Act
- Clean Water Act
- Rivers and Harbors Act

State laws and regulations pertaining to plants and wildlife include the following:

- California Environmental Quality Act
- California Endangered Species Act
- Sections 1601 to 1603 of the Fish and Game Code
- Sections 1900 to 1913 of the Fish and Game Code
- Sections 4150 and 4152 of the Fish and Game Code
- Section 3503.5 of the Fish and Game Code

Federal Endangered Species Act (ESA)

The primary federal law protecting threatened and endangered species is the Federal ESA (16 United States Code Section 1531, et seq. and 50 CFR Part 402). The ESA and its amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. The USFWS has regulatory authority over projects that may result in take of a federally listed species. Section 3 of the ESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct." Under federal regulation, take is further defined to include habitat modification or degradation where it results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. If incidental take is a possibility, then a Biological Opinion is prepared for

take of listed species under Section 7 of the ESA. An incidental take permit can be authorized by the USFWS.

Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

The Migratory Bird Treaty Act (MBTA) establishes a Federal prohibition to pursue, capture, kill, possess, sell or purchase, transport, or export any migratory bird or any part, nest, or egg of any such bird (16 U.S.C 703). This Act was established in 1918 to try to end the commercial trade in birds and their feathers that was severely impacting populations of many native bird species. A list of migratory birds protected under this Act is provided in Title 50 of the Code of Federal Regulations, Section 10.13. The Bald and Golden Eagle Protection Act prohibits any form of take, possession, or commerce in bald or golden eagles, including disturbance.

California Endangered Species Act

The California Endangered Species Act (CESA) emphasized early consultation to avoid potential impacts to rare, threatened, and endangered species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats (California Fish and Game Code, Section 2050, et seq.). The CDFG is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits take of any species determined to be an endangered or threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." It does not include "harm" or "harass" as provided under the federal ESA. CESA allows for take incidental to otherwise lawful activities; for these actions an incidental take permit is issued by CDFG. For projects requiring a Biological Opinion under Section 7 of the ESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Clean Water Act (CWA)

The federal Clean Water Act was established in 1972 to maintain the chemical, physical, and biological integrity of the nation's waters [Federal Water Pollution Control Act/Clean Water Act, 33 U.S.C. 1251, §101(a), 2002]. It was also intended to provide a mechanism for regulating discharges of pollutants into the waters of the U.S and gave the USEPA authority to implement pollution control programs, such as setting wastewater standards for industry and water quality standards for all contaminants in surface waters.

Section 400 *et seq.* of the Clean Water Act applies to permits and licenses required for activities that may impact the nation's surface water (waters of the U.S.). Activities that might result in any discharge into navigable waters are covered under CWA Section 401.

The California State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board's (RWQCB) enforce the federal Clean Water Act, including administration of the National Pollutant Discharge Elimination System (NPDES) permits for various discharges into waters of the U.S. (CWA §402). The new NPDES Stormwater Phase II requires implementation of BMPs to maintain water quality control of runoff from (post-construction) operations, in addition to construction-related discharge protections. A Notice of Intent is filed with the SWRCB when a project is subject to an NPDES permit and a Stormwater Pollution Prevention Plan (SWPPP) must be approved prior to the start of work.

Waters of the U.S. are also subject to Section 404 of the CWA. Section 404 establishes a requirement to obtain a permit prior to any activity that involves any discharge of dredged or fill material into the waters of the U.S., including wetlands. In general, if the fill to be placed into waters of the U.S. is limited to an area of no more than 0.2 ha (0.5 ac), such fill can be approved through the USACE Nationwide Permit (NWP) Program. USACE districts use NWPs to authorize categories of activities with minimal effects on the aquatic environment.

4.3.3 Thresholds of Significance

The following thresholds have been prepared based on Appendix G and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or the USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by the Clean Water Act (Section 404), including, but not limited to marsh, vernal pool, coastal, etc., through direct removal, filling, sedimentation, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.4 Environmental Impacts, Project Requirements, and Mitigation Measures

Impact Statement BIO 1: Construction activities associated with the proposed project would have a potential adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS.

Lewis' clarkia.

Lewis' clarkia is a CNPS List 4.3 annual herb of Monterey and San Benito Counties that inhabits several habitat types, including broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub. Most of the Lewis' clarkia population occupies the open grasslands upslope of the Road and outside of the project area. This population was estimated to number at least several hundred during the 2007 survey. Approximately 80 plants were counted within 10 feet

of the edge of the road; 3 of these occur in the middle of the road. Since this species is an annual, locations of individuals may vary from year to year. The proposed project presents potential impacts to Lewis' clarkia from maintenance and repair of the Road. Integration of Project Requirement BIO 2, Lewis Clarkia avoidance, into design plans will reduce impacts to a less than significant level.

Level of Significance Before Mitigation: Less than significant.
Mitigation Required: None

Pinnacles rifle beetle
The project area is approximately 1000 feet from Partington Creek at its closest point and erosion control measures would ensure no impacts to this species. Integration of Project Requirements Hydro 1, Best Management Practices, into design plans to control erosion and sedimentation and reduce impacts to this species.

Level of Significance Before Mitigation: Less than significant.
Mitigation Required: None

Marine Animals
Erosion control measures would ensure no impacts to the marine environment and the long term goal of this project is to prevent future erosion problems resulting from improper drainage across the slope of the Tin House Road, which would minimize potential future erosion impacts and landslide potential. Integration of Project Requirements Hydro 1, Best Management Practices, into design plans would control erosion and sedimentation and reduce impacts to this species.

Level of Significance Before Mitigation: Less than significant.
Mitigation Required: None

Smith's Blue Butterfly.
The Smith's blue butterfly is a Federally-listed Endangered Species which is known to occur in association with seacliff buckwheat, its obligate host plant, in the project area. Road maintenance and repair which results in direct or indirect impacts to seacliff buckwheat plants could negatively impact Smith's blue butterflies by affecting individuals or by removing future potential habitat. The seacliff buckwheat habitat along the central portion of the Tin House Road provides a potential link between populations of this species in the north and south portions of JPBSP. Seacliff buckwheat is known to exist along the road in the middle portion of the project area (roughly 1600 plants along an approximate 0.4 mile stretch). Surveys conducted by Dr. Richard Arnold of Entomological Consulting Services, Ltd. resulted in his determination that there is a resident population of SBB associated with the seacliff buckwheat plants that grow there. There are two other known populations of SBB in JPBSP; a small population occurs on the north side of Partington Canyon at the northern edge of JPBSP, and another population occurs on the north side of McWay Canyon at the southern edge of JPBSP. Any impacts to SBB in this central portion of JPBSP could potentially isolate the other sites since SBB often don't fly far from the host plant stands (Arnold 1993). Integration of Project Requirement Bio 3, Seacliff Buckwheat Avoidance, into design plans would reduce impacts to Smith's Blue Butterfly to a less than significant level.

Level of Significance Before Mitigation: Less than significant.

Mitigation Measure: None

California Red-Legged Frog
There is no suitable breeding habitat in or near the project area, but California red-legged frogs are known to move long distances on rare occasions. The closest known California red-legged frog record is approximately 4 air miles to the north. Potential impacts to California red-legged frogs could occur if an individual dispersing long distance enters the work area. Integration of Standard Project Requirement Bio 4, California Red-legged Frog, into design plans would reduce impacts to this species to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: None

California Condors.
California Condors are known to occur in and around JPBSP; however, there are no known roost or nest locations in or near the project area. However, California condors may fly over the project site or be attracted to dead carcasses along the beaches of JPBSP. If a California condor is attracted to the construction site, potential disturbance of a federally listed species could occur. Integration of Standard Project Requirement Bio 5, California Condors, into design plans will reduce impacts to this species to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measures: None

Nesting Raptors
There is potential for a number of special-status raptor species to be present in JPBSP. Most raptor species known to occur along the Big Sur Coast are present as winter residents or migrants, but there is potential for some species to nest in JPBSP. All raptor nests are protected and noise related disturbance could disrupt nesting attempts of raptors that are nesting in or near the project area. Integration of Standard Project Requirement Bio 6, Nesting Raptors, into design plans will reduce impacts to these species to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: None

Nesting Migratory Birds
The coastal sage scrub habitat adjacent to Tin House Road provides prime habitat for a variety of nesting birds. Migratory birds are protected under the Migratory Bird Treaty Act and disturbance in close proximity to nest sites could result in impacts to nesting birds. Integration of Standard Project Requirement Bio7, Nesting Migratory Birds, into design plans will reduce impacts to these species to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: None

Nesting California Spotted Owls
A pair of California spotted owls is known to occur in JPBSP, along the east fork of Partington Creek. The roost location for this pair was more than ¼ mile from the

nearest project activities but owls can relocate nest sites between years. Noise related disturbance activities could have significant impacts on California spotted owls nesting in close proximity to project activities. Integration of Standard Project Requirement Bio 8, Nesting California Spotted Owls, into design plans will reduce impacts to this species to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: None

Impact Statement Bio 2: Construction activities associated with the proposed project could have a potential adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or the USFWS.

Redwood Alliance
The Redwood Alliance vegetation that borders the small perennial stream at the beginning of the Tin House Road provides valuable riparian habitat for native wildlife species. Removal of this vegetation could reduce valuable habitat. Implementation of the proposed project would result in the removal of up to 0.1 acre of the ground and shrub layers. Integration of Specific Project Requirement Bio 10, Project Revegetation Plan and implementation of Mitigation Measure Bio 1 will reduce impacts to a less than significant level.

Level of Significance Before Mitigation: Significant.
Mitigation Measure: Bio 1

- Removal of approximately 0.1 acre of ground and shrub cover adjacent to the small perennial stream at the beginning of the Road would be mitigated at a ratio of 3:1 through the restoration of native riparian vegetation adjacent to the work site which is currently dominated by non-native ground cover. Native species appropriate for the site would be selected for planting of the mitigation area.

Level of Significance After Mitigation: Less Than Significant

Impact Statement Bio 3 – Construction activities associated with the proposed project could have a potential adverse effect on federally protected wetlands as defined by the Clean Water Act (Section 404), including, but not limited to marsh, vernal pool, coastal, etc., through direct removal, filling, sedimentation, hydrological interruption, or other means.

Marine Environment and Partington Creek Watershed
The proposed project description includes a dewatering plan approved by the California Department of Fish and Game. However, water runoff from and through the project area either directly flows into the marine system or, in the upper portions of Tin House Road, flows into the Partington Creek watershed. There are a number of sensitive species that occur in Partington Creek and near shore marine habitats that could be negatively impacted by sedimentation from the project area. Integration of Standard Project Requirement Bio 9, Dewatering Plan and Hydro 1, Best Management Practices into design plans to decrease erosion will reduce this impact to a less than significant level.

Level of Significance before Mitigation: Less than significant
Mitigation Measure: None

Impact Statement Bio 4: Construction activities associate with the proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Sudden Oak Death
As described in Section 4.3.1 above, many of the tanoaks in the park and surrounding locations have been affected by Sudden Oak Death (SOD), caused by the pathogen *Phytophthora ramorum,* resulting in numerous dead and dying trees. Within the project area this is limited to forested areas in the central and upper portions of the Road and a few isolated stands of tanoaks and live oaks along the lower portion of the road.

Sudden Oak Death (SOD) is transported to new areas when infected plants or infested soil is moved. *Phytophthora ramorum* thrives in wet or moist climates with cool temperatures. These organisms and their spores can be found in soil and water as well as plant material. The risk of SOD spread is greatest in muddy areas and during rainy weather where spore-producing hosts are present. Monterey County is one of 14 California counties to have confirmed SOD findings and is under State and federal quarantine regulations. Quarantined areas are subject to specific regulations regarding the movement and use of susceptible plants. County Agricultural Commissioners enforce both State and federal regulations. Integration of Standard Project Requirement Bio 1, Sudden Oak Death BMPs, into design plans will reduce impacts to a less than significant level.

Level of Significance Before Mitigation: Less than significant.
Mitigation Required: None

4.3.5 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No Habitat Conservation Plans (HCP) or Natural Community Conservation Plans (NCCP) are underway or approved which address the project area. Therefore, the proposed remediation would result in no effect to HCP or NCCP.

4.3.6 Findings

The proposed project could result in potentially significant impacts to the Redwood Alliance vegetation that borders the creek. However, with integration of project requirements and implementation of the proposed mitigation measures, most of the biological impacts would be less than significant.

4.4 CULTURAL RESOURCES

This section includes specific information on the historical and archaeological resources in the project's area of potential effect and potential impacts to these resources from the proposed rehabilitation of the Tin House Road Improvement Project at Julia Pfeiffer Burns State Park.

4.4.1 Existing Conditions

Prehistory

Human occupation along the Big Sur coast is known to have occurred as long ago as 4400 BC. Even earlier dates are well established both in the Monterey Bay area to the north and in San Luis Obispo County to the south, but it is unclear exactly when the first people settled along this most rugged section of the coastline. The steep terrain and dense brush could have discouraged Native Americans as long as more hospitable environments were available. The Esselen, or their ancestors, may have been the first people to live along this section of the coast. They may have been pushed farther south when the Ohlone moved into the area. At the time of European Contact, the Ohlone (or Costanoan) group had been concentrated around San Francisco and Monterey bays, but they were also sparsely scattered along the northern Big Sur coast (Jones 1994; Breschini & Haversat 2004).

Ethnographic studies have identified the Esselen as one of the smallest groups of native people in California. Their territory was bounded on the north by Pt. Sur and extended southward to Big Creek. Their life ways and utilization of the natural resources were similar to the Rumsen. Mission records show that people from both the Rumsen and the Esselen were absorbed into the mission sphere. Kroeber thought that the Esselen had become extinct because he knew of no living people in 1902 (Henson and Usner, 1993).

Julia Pfeiffer Burns SP is completely within the traditional home of the Ekheahan band of Esselen, the only holders of coastal land in the tribe. Esselen villages are found along the coast and in various upland locations. At Julia Pfeiffer Burns SP, several prehistoric sites are recorded along the coast, but only one has been located inland on 'Orchid Flat' at about the 1900' AMSL elevation (Schwaderer 2007).

History

Tin House and its access road are potentially eligible for inclusion to the California Register of Historical Resources under Criterion (2) for its association with Lathrop and Helen Hooper Brown, and Criterion (3) for its use of distinctive building materials. Lathrop and Helen Hooper Brown were the last owners of the property before it was donated to the people of the State of California for use as a state park. The materials used to construct the Tin House, remnants of two former gas stations, were used because of building material shortages during World War II. Tin House Road, the access road to the Tin House, is a significant contributor to this potentially historic site.

The Tin House was built as a vacation residence by Lathrop (a two-term U.S. Representative from New York) and Helen Hooper Brown. It, was part of the Brown's long-term development of the property they called Saddle Rock Ranch; the nucleus of today's Julia Pfeiffer Burns State Park. Construction of the home began about 1944-45,

and may never have been fully completed before the gift of the property to the State of California in 1961.

The Browns began purchasing properties that constitute today's Julia Pfeiffer Burns State Park in 1924. Much of that land had been homesteaded by members of the McWay and Waters families in the late 19th century. The Tin House, however, occupies a 160-acre parcel originally acquired by Jacob Eberhard in 1892, as a cash sale. In the 1920s the Eberhard parcel was acquired by a development company, Partington Canyon Properties, which promoted the residential subdivision on nearby Partington Ridge. When bought by the Browns, the property was undeveloped except for the historic trail system remaining from the 19th century.

Under the Browns' ownership, the property was used for cattle grazing exclusively until the concept of building a second home on the ranch was implemented. Mrs. Brown, who suffered from asthma, hoped that the Tin House location would be high enough in elevation to provide escape from the summer fog along the shoreline below, where the Browns had earlier constructed Waterfall House.

The road to the Tin House site was constructed circa 1944-45, after which work began on building the house, water system, caretaker's house, and gardens. Prior to the outbreak of World War II the Browns acquired the prefabricated elements of two Richfield Oil Company service stations to use in the construction of Tin House. At the time, building materials were in short supply because of war-time demands in Europe and the Browns took advantage of the availability of the surplus service station remains. The Browns referred to their vacation residence as "Topside," because it was above the fog. After it was constructed, locals called it the "Gas Station House." The use of the name "Tin House" is indicative of "a reversion to a common generic name for almost any metal structure" (Norman 2007).

As the Tin House was improved, the Browns used it as an unusual venue to entertain their guests. There was a live-in chef and modern kitchen; walls were hung with sophisticated modern art. The ocean and mountain views were (and are) spectacular. After Lathrop Brown died in the late 1950s, Mrs. Brown never returned to Big Sur. She donated her land to the Division of Beaches and Parks, and this land formed the basis of the present Julia Pfeiffer Burns SP.

After selecting a site for the house, Brown ordered the construction of a road to access the site. This road not only provided construction access to the house but also served as the driveway once the house was assembled.

Tin House Road retains its integrity of setting, feeling, and association, as well as location and design. The road retains its original alignment and continues to serve the purpose for which it was originally designed: to provide access to the Tin House site.

4.4.2 Regulatory Setting

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires projects that are approved or funded by state agencies to assess the effects of project work on historical resources. A Historic Resource is defined as any cultural resource determined eligible for listing or listed on the California Register of Historical Resources (CRHR). Historic Resources are also defined in the California Public Resources Code (PRC), Section 5020.1(j) as,

included but not limited too, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. California PRC 5020.1 also includes NRHP-listed or eligible Historic Properties as Historic Resources.

Additional CEQA Regulations for Inadvertent Discoveries of Human Remains and Funerary Objects:

As defined by California State Health and Safety Code, Section 7050.5, and PRC 5097.98, the inadvertent discovery of human remains requires cessation of project work relative to the find until an assessment of the remains, including determination of origin and deposition, is completed by the County Coroner, in consultation with the NAHC and/or appropriate Tribal representative(s). In the event of inadvertent discoveries, an on-going program of Native American consultation provides an opportunity for such groups to participate in the identification, evaluation, and mitigation of impacts to human remains and funerary objects.

California Register of Historical Resources

The CRHR is a statewide list of Historic Resources with qualities assessed significant in the context of the state's heritage. The register is maintained by OHP and listings are managed in much the same way as described for the NRHP. Criteria for evaluating the historical significance of Historic Resources at the state level, including integrity, are also similar to NRHP requirements. As defined by PRC 5024.1(a), the CRHR functions as an authoritative guide that is intended to be used by state and local agencies to indicate types of cultural resources that require protection, to a prudent and feasible extent, from project-related substantial adverse changes.

Steps in Determining a Substantial Adverse Change to a Historic Resource

California PRC 5020.1(q) defines a substantial adverse change as one in which the demolition, destruction, relocation, or alteration of a cultural resource is such that its historical significance is impaired. CEQA requires all state funded or approved projects, as well as those implemented by state agencies, that could result in impacts to Historic Resources to consider alternative plans and/ or measures for mitigation. As defined by PRC Title 14, Chapter 3, Section 15064.5, CEQA guidelines for determining if a proposed project would result in substantial adverse changes to Historic Resources is much the same as defined under federal regulations for Section 106 and entails the following actions:

- Identify cultural resources and previously documented Historic Resources/ Historic Properties in the proposed ADI through a combination of background research, field survey, and consultation with appropriate Native American groups and other appropriate parties.
- Prepare a studied evaluation of the historical significance of cultural resources in the proposed ADI that determines the resource status as Historic Resources/ Historic Properties eligible for listing on Federal and state registers.
- Prepare a determination of project impacts to eligible and listed Historic Resources/ Historic Properties and implement alternative project plans and/ or

measures for mitigating substantial adverse changes to such properties.

Executive Order W-26-92

As of June 30, 2007, DPR controls and administers 258 classified units and 20 major unclassified properties for a total of 278 areas, which collectively contain thousands of historic resources. Executive Order W-26-92 requires all state agencies, including DPR, in furtherance of the purposes and policies of the state's environmental protection laws and historic resource preservation laws, to the extent prudent and feasible within existing budget and personnel resources, to preserve and maintain the significant heritage (cultural and historical) resources of the state. Each state agency, including DPR, is directed to:

1. Administer the cultural and historic properties under its control in a spirit of stewardship and trusteeship for future generations;
2. Initiate measures necessary to direct its policies, plans, and programs in such a way that state-owned sites, structures, and objects of historical, architectural, or archeological significance are preserved, restored, and maintained for the inspiration and benefit of the people;
3. Ensure the protection of significant heritage resources are given full consideration in all of its land use and capital outlay decisions; and
4. Institute procedures to ensure that state plans and programs that contribute to the preservation and enhancement of significant non-state owned heritage resources in consultation with OHP (*Executive Order W-26-92* Section 1).

4.4.3 Thresholds of Significance

The following thresholds have been prepared based on the CEQA Guidelines Section 15064.5 and Appendix G. The Project would have a significant impact on Cultural resources if it:

- Cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines §15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource, pursuant to§15064.5
- Disturb any human remains, including those interred outside of formal cemeteries

4.4.4 Environmental Impacts, Project Requirements, and Mitigation Measure

Impact Statement Cult 1: Construction activities associated with the proposed project could cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines §15064.5.

Tin House Road improvements would be beneficial to the maintenance and preservation of both Tin House Road and the Tin House itself. Improving the road would not only preserve the historic alignment of Tin House Road, a contributing element of the potentially significant Tin House, but it would also enable parks maintenance staff to continue to carry out maintenance and preservation work on Tin House. Integration of Cult 1, Secretary of the Interior's Standards for Rehabilitation will

maintain the current trail alignment and reduce impacts to the Tin House to less than significant.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: None

Impact Statement Cult 2: Construction activities associated with the proposed project could cause a substantial adverse change in the significance of an archaeological resource, pursuant to§15064.5:

Although archaeological sites have not been located in the project area, project activities to realign the creek, reduce erosion and improve drainage could unearth previously undocumented cultural resources. Integration of Project Requirement Cult 2, previously undocumented resources, will decrease impact to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: None

Impact Statement Cult 3: Construction activities associated with the proposed project could disturb human remains, including those interred outside of formal cemeteries

No human remains have been documented or are expected to be found in the immediate vicinity of the project site. However, as stated in the Environmental Setting "Julia Pfeiffer Burns SP is completely within the traditional home of the *Ekheahan* band of Esselen,…", there is potential of discovering undocumented human remains. Integration of the Project requirement Cult 3 will reduce this impact to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: None

4.4.5 Findings

Prehistoric Resources

There are no significant prehistoric cultural resources within the footprint of this project.

Historic Resources

The Tin House Road is a contributing feature to the Tin House, a resource that is potentially eligible for the California Register of Historical Resources. Its historic alignment and vehicular access to the Tin House must be maintained for it to retain its contributor status.

4.5 GEOLOGY AND SOILS

This section provides information on the geology and soils that occur or could occur within the proposed project site; identifies geologic hazards in the vicinity of the proposed project location, such as earthquake and landslide potential; and analyzes issues related to project activities, including potential exposure of people and property to geologic hazards, landform alteration, and erosion. This analysis is based on review

of technical studies performed specifically for the project, published geologic information, and field reviews. Related issues, including hydrologically-based soil erosion and impacts to water quality, are also discussed in Section 4.7, Hydrology and Water Quality.

4.5.1 Existing Conditions

Regional Setting

Julia Pfeiffer Burns SP (JPBSP) is located along the Big Sur coast in Monterey County, 37 miles south of Carmel. The Tin House Road (Road) Improvement Project area is east of Highway 1 and north of the main entrance to JPBSP. The Road begins at Highway 1 and climbs, steeply in areas, 2 miles to the Tin House ruins. The Road continues slightly past the Tin House along the ridgeline to where DPR maintains a radio repeater station. The project involves a road improvements to provide better drainage and reduce erosion and road failures including installation of rolling dips to channel stormwater runoff, and removal of landslide debris from the creek channel at the hairpin turn in Redwood Canyon, about 300 feet uproad from the road's intersection with Highway 1 (Vaughan 2004).

Topography

The Road climbs from an elevation of approximately 440 feet msl (mean sea level) at Highway 1 to a total elevation of 2,000 feet msl at the project end. The topography of the Park is a reflection of the relative hardness of the underlying rock, which contains occasional planes of weakness, leaving the possibility of large slides of relatively intact rock (Vaughan 2004). The Tin House is located on a ridgeline nose at an elevation of approximately 1,880 feet msl. The Road traverses slopes ranging from about 35% to 100% grade. Many slopes below the Road range from about 50% to 80% grade. A substantial portion of the lower half of the Road was constructed above a break-in-slope from about 40% to about 75% grade. The Road generally was constructed on a cut bench, and oversteepened fills generally flank the road (Vaughan 2004).

Regional and Site Geology

Julia Pfeiffer Burns SP is located at the western base of the Santa Lucia Mountains, in the southern portion of the Coast Range Geomorphic Province, a northwest-trending complex of mountain ranges and intervening valley formed by movements along the San Andreas and associated fault systems. The Santa Lucia Mountains are part of the Salinian Block, a displaced terrane consisting of granitic rocks with associated metamorphosed sedimentary rocks. The Salinian Block is bounded by strike -slip faults of the San Andreas Fault Zone on the northeast and on the southwest by the Sur-Nacimiento /San Gregorio Fault Zone. Overlying the granitic basement rocks is a sequence of dominantly marine sedimentary rocks of Tertiary age and marine and non-marine deposits of Quaternary age (Vaughan 2004). The Salinian Block has been moved northward by strike-slip faulting along the San Andreas Fault system. During transport, the rocks have been folded, faulted along smaller inter-block faults, uplifted and eroded. Franciscan assemblage rocks have been accreted along the western coastal margin.

According to the geologic map by Hall (1991) the project area is underlain by pre-Cretaceous metamorphic rocks with minor plutonic intrusions. Other authors have

described the project area rocks as charnockitic tonalite, a dark greenish gray, coarsely crystalline, slightly to highly foliated igneous rock composed predominately of plagioclase, hornblende, actinolite and chlorite with lesser quartz and biotite (Vaughan 2004).

Paleontological Resources

There are no known paleontologic resources within the project area. The igneous rocks in the project area are not fossil-bearing.

Faults and Seismicity

The Park is located in the seismically active Coast Range, surrounded by several faults that are considered active or potentially active. The San Gregorio-Sur-Palo Colorado Fault lies the closest, approximately one mile west of the Park, and has the capacity to generate an earthquake of 7.0 magnitude. The Park is located approximately 17 miles from the Monterey Bay-Tularcitos Fault Zone, capable of generating a maximum earthquake of magnitude 6.8 (CGS 2003). The nearest segment of the San Andreas Fault lies about 42 miles northeast of the project area. This segment, referred to as the central creeping segment, has no rating for a maximum credible earthquake, as it continually creeps at rates up to 32 millimeter/year. It is bounded by fault segments that last ruptured in 1906 to the north and 1857 to the south (USGS 2007). The area also contains faults which are less important to the site because of distance or low recurrence interval, but which may also affect the site. These include the Sargent-Berrocal Fault, the King City-Reliz-Riconada Fault, the Cypress Point Fault, and the Zayante Fault (Vaughan 2004).

Table 4.5.1 - Active Faults in the Vicinity of Julia Pfeiffer Burns State Park

Fault	Approximate Distance from Site (miles)	Slip Rate mm/year	Maximum Credible Earthquake*	Historical Seismicity
San Gregorio-Palo Colorado-Sur	1	1-3	7.0	Approximately 1270-1400 AD based on offset archaeological deposit.
Monterey Bay-Tularcitos	17	0.5	7.1	No historic events, Holocene offset.
San Andreas (Creeping Segment)	42	33	N/A	No historic events; evidence of Late Holocene to historic offset.
Zayante-Vergeles	55	0.2-1.0	6.8	No historic events; evidence of Late Quaternary displacement.
Sargent-Berrocal	50	1.5	6.8	No historic events, middle to late Holocene offset.
Reliz-Rinconada	20	0.2-1.0	Not rated	No historic events, Pleistocene offset of alluvium, possible Holocene.
Cypress Point	35	0.01	Not rated	No historic events, Quaternary deposits offset.

Sources: CGS 2003; Bryant, W. A 2001 & 2002, Rosenberg, L.I., and Bryant, W.A., 2003a & b, Bryant, W. A, and Lundburg, M. Matthew, 2002, Bryant and Cluett, S.E. 1999

Due to the project's location in a seismically active region, the potential for seismic-induced effects such as ground shaking and landslides are highly likely in the future. The California Geological Survey (CGS) has predicted that this area has a 10% chance to experience a mean peak horizontal ground acceleration of 0.2g to 0.3g (acceleration due to gravity) within the next 50 years (CGS 2003).

Soils and Erosion

Julia Pfeiffer Burns SP is located in the Northwest Coast Ranges Soil Region (Soil Region I), characterized by steep mountain ranges and small valleys (Martin 1990). The soil type in the project area, as mapped by the U.S. Department of Agriculture Soil Conservation Service (DPR 2005) and shown on DPR maps (no date) are Gamboa-Sur complex, Los Gatos gravely loam, Pfeiffer Rock Outcrop complex, and Rock outcrop-Xerorthents Association. These soils predominately have rapid to very rapid runoff and the erosion hazard is very high. These soils are all poorly suited to the development of buildings, roads, and recreation facilities such as trails and camp areas, and are given "severe" ratings by the U.S. Soil Conservation Service (DPR 2005).

Table 4.5.2 Soil Information

Map Unit Name & Number	Soil Permeability and Runoff	Erosion Hazard	Shrink/Swell Potential	Location
Gamboa-Sur complex	Excessively drained, moderately rapid to rapid permeability, very rapid runoff.	Very High	Low potential, not expansive.	Northeast oriented portion of road up to Tin House
Los Gatos Gravely Loam	Well drained, moderately slow permeability, very rapid runoff.	Very high	Moderate, moderate expansivity	Ridge tops near the Tin House
Pfeiffer-Rock Outcrop Complex	Well drained, moderately rapid permeability, very rapid runoff.	Very high for Pfeiffer component	Pfeiffer low potential, not expansive	On ridgeline – lower road before it turns northeast.
Rock outcrop-Xerorthents Association	Variable drainage and permeability, rapid runoff.	Very high where soil is exposed.	Low potential (rock)	Lower portion of the road

Data Sources: Martin, 1990, and NRCS, 2007

Landslides

This area is prone to landslides, due to the nature of the rocks and the steep topography. In 1983, a massive landslide just north of the project area closed Highway 1 for almost a year; the scar is still visible today. Wildfires also contribute to increased susceptibility to landslides, due to vegetation removal and hardening of the soil that limits infiltration. Shallow-seated landslides (debris flow landslides) have occurred in the general vicinity of the project area along various areas of the Road, as mapped by Wills, et al (2001) and observed by Vaughan (2004). These failures tend to occur at the heads of colluvial-filled drainages, after sustained intense rainfall produces saturated conditions.

In describing the stability characteristics of this segment of Highway 1 (post mile 35. 7 to 43.0, McWay Canyon to Castro Canyon), Wills et al. (2001) noted that they mapped fewer landslides than elsewhere along the Big Sur coast, suggesting that this segment

is comparatively stable. They estimate a moderate potential for landslides, mostly small rockfalls and debris slides, although larger landslides may occur along zones of weakness in the bedrock.

During the 2004 investigation by Vaughan, the Road did not display evidence of recent, large scale catastrophic failure. A few recent debris slides were observed in the fill, some of which were associated with road drainage. Many of the water bars were breached and continuous rills were observed in the more open stretches of the Road. The Road was graded after the 2005-2006 storm season and a small rockfall blocking the Road was removed

Hairpin Turn Conditions

This description of conditions at the lower hairpin turn location is based on observations by Vaughan (2004). The hairpin turn occurs at a location where the left valley wall of Redwood Canyon turns approximately forty degrees in plan view and the width of the valley widens somewhat from the upper channel reach. The upper channel natural grade is filled with debris flow materials consisting of damp, cobbly brown sandy clay with minor charcoal and damp, gravelly, clayey fine sand with common charcoal. Large redwoods, 30 inch diameter at breast height (dbh) and 36 inch dbh, are growing in the deposits. Debris is trapped on the uphill side of the three 12-inch dbh trees and the 36–inch dbh redwood. More details of the conditions in the Redwood Canyon stream channel can be found in the Section 4.7, Hydrology and Water Quality Section.

4.5.2 Regulatory Setting

Federal Regulations

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935 which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

Clean Water Act

Section 402 The National Pollutant Discharge Elimination System (NPDES) regulations for discharges to navigable waters are administered in California by the State Water Resources Control Board and the nine Regional Water Quality Control Boards. Under the Construction Storm Water NPDES Program, dischargers whose projects disturb one or more acres of soil are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ). The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

State Regulations

Alquist Priolo Earthquake Fault Zone Act

The Alquist-Priolo Special Studies Zone Act was passed in 1972 to mitigate surface faulting hazards associated with structures intended for human occupancy. Passage of this law was a direct result of the 1971 San Fernando Earthquake, which caused extensive damage due to surface fault ruptures. In 1994, it was renamed the Alquist-Priolo Earthquake Fault Zoning Act (APEFZ Act). The primary purpose of the APEFZ Act is to mitigate the hazard of fault rupture by prohibiting the location of structures for human occupancy across the trace of an active fault. The APEFZ Act defines an active fault as one that has ruptured within the last 11,000 years. Many of these faults have documented surface displacement within historical records. According to the current APEFZ maps the project site does not lie within a Special Studies Zone.

Seismic Hazards Mapping Act:

Prompted by damaging earthquakes in northern and southern California, in 1990 the State Legislature passed the Seismic Hazards Mapping Act (SHMA). The Governor signed the Act, codified in the Public Resources Code as Division 2, Chapter 7.8 (see Appendix A), which became operative on April 1, 1991.

The purpose of the Act is to protect public safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act, which addresses only surface fault-rupture hazards.

The California Geological Survey (CGS) is the principal State agency charged with implementing the 1990 SHMA. Pursuant to the SHMA, the CGS is directed to provide local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. Cities and Counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the project site are investigated and appropriate mitigation measures, if any, are incorporated into development plans. Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

Monterey County Local Coastal Program (Monterey County 2006)

Regulation within the coastal zone is covered under Title 20 of the County Code. This provides statutory guidelines for the Monterey County Local Coastal Program (LCP). To carry out the Coastal Act policies relating to coastal hazards, the certified Monterey County LCP has provisions to address shoreline hazards, steep slopes and unstable areas, wildland fire, and coastal flooding. The LCP identifies high hazard areas specific to each coastal planning area. The North County Land Use Plan (LUP) identifies seismic and geologic high hazard areas as:

- Zones 1/8 mile wide on each side of active or potentially active faults;
- Areas of Tsunami Hazard;
- Areas indicated as “Underlain by Recent Alluvium” and “Relatively Unstable Upland Areas” in the County Seismic Safety Element;
- Geotechnical Evaluation Zones IV, V, and VI on the County Seismic Safety Element maps;

- Geotechnical Evaluation Zones V and VI on the Monterey Peninsula Map of the County;
- Seismic Safety Element; and
- The 100-Year Flood Plain and areas classified as having a high to extreme fire hazard through application of the Department of Forestry and Fire Protection criteria are listed as high hazard areas.

DPR is exempt from local regulations, including general plans, specific plans and zoning ordinances (California Constitution Article XI, Section 7), although the project must comply with applicable state and federal rules such as the Coastal Act.

4.5.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on geologic resources if it will:

- Expose persons or property to potential substantial adverse effects from an earthquake, including the risk of loss, injury, or death due to fault rupture, ground shaking, liquefaction, or landslides;
- Result in substantial soil erosion or loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project; resulting in ground failures;
- Permit development on expansive soils;
- Permit the use of septic or alternative wastewater systems in areas where soils are incapable of supporting such systems; or
- Directly or indirectly destroy a unique paleontological resource or site, or a unique geologic feature.

4.5.4 Environmental Impacts, Project Requirements, and Mitigation Measures

Impact Statement Geo 1: Construction activities associated with the proposed project could result in potential soil erosion or loss of topsoil

The soils in the project area are highly susceptible to erosion, and the area is prone to landslides, including debris flows and mudflows. Ground disturbance during the project construction could result in increases in erosion and unstable soil conditions. Integration of Standard project Requirement Hydro 1 to reduce erosion will reduce impacts to less than significant.

Level of Significance Before Mitigation Less than significant
Mitigation Measure: None

4.5.5 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

- Seismic Impacts: In this seismically active area of California, strong shaking can be expected in the event of a seismic event. Strong ground shaking generated by an

earthquake could cause landslide movement and other ground collapse, especially in alluvial areas (DPR 2005) or in steeper areas, especially during saturated conditions. This is an ongoing occurrence in this area and would not be increased due to any of the alternatives. The project area has a low potential for liquefaction, settlement, subsidence or lateral spreading due to a seismic event.

- Unstable Soils: The project is located in a steep area with potentially unstable soils that are prone to slope failures. This is an existing condition and would not be increased due to any of the alternatives.
- Expansive Soils: The soils types present in the project area are all rated with low to moderate (Los Gatos Loam only) shrink swell potential (Martin 1990). Therefore, the project would not be developed on nor affected by expansive soils.
- Septic Systems: The project area soils are rated as severe for the use of septic systems with leach fields. The project does not involve the use or construction of a septic or alternative wastewater system; therefore there would be no impact due to any of the project alternatives.
- Unique Geologic Features: No unique paleontological or geologic resources exist within the project site.

4.5.6 Findings

For geology and soil resources evaluated as part of this environmental document, the potential exists for releases of sediment during road and creek channel work. Temporary unstable soil conditions could also occur. Full implementation of all proposed minimization measures would reduce any erosion and sediment releases to a negligible level. The main focus of the project is to stabilize and improve the road to prevent future erosion issues, as well as restore Redwood Creek into its natural condition and prevent impacts to the creek from the Road at the hairpin turn. Rock falls and other landslide events that occur upslope of the Road cannot be mitigated as part of this project; they are an ongoing occurrence in this area.

4.6 HAZARDS AND HAZARDOUS MATERIALS

Hazards and hazardous material potentially occurring along or in the vicinity of the Tin House Road at Julia Pfeiffer Burns SP will be addressed in this section. It is important to explore the possible hazards that could occur to provide measures that avoid or minimize their impact.

According to the California Health and Safety Code, a hazardous material is defined as:

> *… any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment. (Division 20, Chapter 6.95, Article 1, Section 25501)*

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency. It is also considered hazardous by such an agency if materials or mixtures of materials are classified as corrosive, ignitable, reactive, or toxic. The health effects related to hazardous material are dependant on the path of entry into the body, the dosage amount including concentration, frequency of exposure, and individual susceptibility.

4.6.1 Existing Conditions

The proposed project site at Julia Pfeiffer Burns State Park (JPBSP) encompasses the length of the Tin House Road (Road) Improvement Project approximately two miles from Highway 1 to the terminus at Tin House. This unimproved road starts off in a northwesterly direction from Highway 1 at about 400 feet in elevation and rises to approximately 2,000 feet. The Road is primarily used by visitors hiking in JPBSP. Traversing the Road, multiple vegetative community types are encountered such as redwood/tanoak, annual grassland, chaparral, coast live oak, and coastal scrub. Carved into the side of the ridge, the road is steep with sharp turns and segments where slides have previously occurred. The Road could be used for limited access during wildland fire emergencies as the current condition of the Road would only permit fire crews working with hand tools. Periodically, DPR vehicles drive on the Road for maintenance reasons.

Hazardous Materials

There has been no known industrial use or construction of buildings along the Road that could have been a source of hazardous materials. The Tin House (outside of the footprint for this project) was made from two gas stations patched together (Iverson 2007). In the past there may have been minor spills or releases of vehicle fluids within the roadbed.

Hazardous Materials Sites

No part of JPBSP is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 (CDTSC 2006). No area within the project site is currently restricted or known to have hazardous materials present.

Transportation Corridors

State Route 1

Highway 1 runs along the coast of California from Dana Point (at the southern end) to Leggett (in the north). Highway 1 has been designated as a Scenic Highway approximately 180 miles between Las Cruces and Half Moon Bay. The segment of Highway 1 (78 miles), referred to as the Big Sur Coast Highway, runs along the coastline of Monterey past Julia Pfeiffer Burns SP (Caltrans 2007a).

In the vicinity of Julia Pfeiffer Burns SP, Highway 1 is a major arterial two-lane road that hugs the rugged coastline of the Pacific. The Highway is included as part of the Truck Network for the State as a route for California legal trucks with a kingpin to rear axel of 30 feet or less (Caltrans 2007b). Within Monterey County, Highway 1 is also designated as an emergency evacuation route (Monterey County 2007).

Airports
The proposed project on the Tin House Road within Julia Pfeiffer Burns SP is not located in the vicinity of an airport land use plan or a private airstrip. The closest airport is the Carmel Valley Airport approximately twenty-two miles north northeast of the project area. Park visitors taking advantage of recreational activities available within the Park would not be impacted by airport or aircraft hazards.

Schools
There are no open schools located within one-quarter mile of the Julia Pfeiffer Burns SP. The closest open schools, Apple Pie Pre-School and Captain Cooper Elementary School, are located approximately fourteen miles northwest on State Route 1 (Monterey County 2004). The Seaview School located closer to the project site is listed as abandoned on the Partington Point USGS 7 ½ minute quadrangle.

Natural Hazards
Natural hazards that could impact project implementation are compounded by the remote location of the Park. Unstable soils and wildland fires are the two natural hazards that have the potential to impact the project area. Documented failures along the road alignment infer future mast wasting (rock slides, rock falls, debris flows and/or debris slumps). The extent and significance of the slope stability would be recognized and assessed for potential impacts in Section 4.5, the Geology and Soils.

The vegetation types the Road passes through are highly susceptible to wildland fires. Those community types include redwood and tanoak, coastal scrub, chaparral, annual grassland, and coast live oak. With the spread of sudden oak death, the community types that support oak species offer higher fuel levels. Once the rain stops, generally in mid-April to early May, vegetation dries out during periods of low relative humidity and little precipitation. Under these conditions, the chance of wildland fires increases dramatically, especially in forested recreation areas. The project area and its surroundings are designated by the California Department of Forestry and Fire Protection (CalFire) as a high fire hazard severity zone (Monterey County 2004).

CalFire is responsible for administering fire prevention and suppression services for the Park, as the area is part of the State Responsibility Lands (USGS 2004). The closest CalFire stations are located in Lockwood and Carmel Valley approximately 50 miles from Tin House Road (Google Maps 2007). In support of the ground forces, the CalFire emergency response air program includes several pieces of air attack equipment (CalFire 2007). All CalFire Aircraft are strategically located throughout the State at 13 air attack and 9 helitack bases (CalFire 2007). The Bear Valley Helitack facility located in Paicines is located approximately 45 miles northeast of the Park (USGS 2004).

Julia Pfeiffer Burns State Park is part of the Big Sur Fire Protection District (MCLCP 2004). The Big Sur Volunteer Fire Brigade serve as the first responders for wildland fires within the Park (BSVFB 2005). The Brigade's main fire station is located on Post Ranch Inn property, approximately nine miles north of the project site (Post Ranch Inn 2007).

4.6.2 Regulatory Setting

Federal, State, and Local Agencies

Laws and regulations governing environmental hazards and hazardous materials may originate with Federal or State regulatory agencies, but are generally implemented and enforced at the local or regional level. The Monterey County Environmental Health Division offers hazardous materials management regulations and enforcement (MCHD 2002). The Monterey County Office of Emergency Services (MCOES) is tasked with initiating and coordinating disaster and emergency preparation, response, and mitigation procedures for the county (Monterey County 2006). During an emergency situation, the MCOES is designated as the lead agency. Health and Safety Codes § 25503 discuss the formation of emergency response plans for the accidental release of hazardous material. This includes standards for the notification and coordination of local, state, and federal agencies. Determining which State and Federal agencies could be involved during an emergency response would depend on the type of hazardous spill, where the spill occurred, and what environmental resources the spill could impact.

Big Sur Land Use Plan

This Local Coastal Plan for Big Sur includes Julia Pfeiffer Burns SP. This Land Use Plan has applicable policies in the Hazardous Areas section of the document (MCPBI 1986). Those policies that apply to this road improvements project within the Park are as follows:

> **Key Policy 3.7.1** – Land use and development shall be carefully regulated through the best available planning practices in order to minimize risk to life and property and damage to the natural environment.
>
> **Specific Policy C – Fire Hazard**
>
> - **Policy 1**: The fire hazard policies contained in the Safety Element of the Monterey County General Plan shall be regularly reviewed and consistently applied.
> - **Policy 5**: Monterey County should support and assist the efforts of the various fire protection agencies and districts to identify and minimize fire safety hazards to the public.
>   - **Recommended Action 2**: The County shall review and periodically revise the County-wide Disaster Contingency Plan. All appropriate County and public agencies shall be included in all phases of disaster contingency planning.

DPR is exempt from local regulations, including general plans, specific plans and zoning ordinances (California Constitution Article XI, Section 7), although the project must comply with applicable state and federal rules, such as the Coastal Act.

4.6.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on hazards and hazardous materials resources if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
- Locate the project within an airport land use plan or, where such a plan has not been adopted; within two miles of a public airport or public use airport; or within the vicinity of a private airstrip, in such a manner as to result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.6.4 Environmental Impacts, Project Requirements, and Mitigation Measures

Impact Statement Hazards 1: Construction activities associate with the proposed project could have the potential to create an adverse impact to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Impact Statement Hazards 2: Construction activities associate with the proposed project could have the potential to create an adverse impact to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment.
Construction activities associated with the proposed project would require the use of certain hazardous materials, such as fuels, oils, or other fluids associated with the operation and maintenance of vehicles and equipment. These materials would generally be contained within vessels engineered for safe storage. Large quantities of these materials would not be stored at or transported to the construction site. However, spills, upsets, or other construction-related accidents could cause an inadvertent release of fuel or other hazardous substances, resulting in a significant hazard to the public and the environment. Integration of Project Requirement Hazmat-1 would reduce the potential for adverse impacts from these incidents to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: None

Impact Statement Hazards 3: Construction activities associate with the proposed project could have the potential to expose people or structures to an advers risk

of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. As stated above, the vegetation types bordering the Tin House Road are highly susceptible to wildland fires. Heavy equipment can get very hot with extended use; this equipment would sometimes be in close proximity to flammable vegetation. In addition, work would generally occur during periods of low relative humidity and little precipitation. Improperly outfitted exhaust systems or friction between metal parts and/or rocks could generate sparks, resulting in a wildland fire, exposing people or structures to a significant risk of loss, injury, or death. Integration of project requirement Hazmat-2 would reduce the potential fire-related impacts from this project to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: None

4.6.5 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan: The proposed project activities would occur within the Park. Although Tin House Road can be used by Fire crews to access portions of Partington Ridge in the event of a wildlfire, the trail is not part of an emergency response or evacuation plan.
- Schools, hazardous material sites, and airports do not occur within Park boundaries or within two miles of the proposed project site. Therefore the implementation of this project would not reach significant environmental thresholds regarding schools, hazardous material sites, or airports.

4.6.6 Findings

For hazards and hazardous materials evaluated as part of this environmental document, the potential exists for an inadvertent release of fuel or other hazardous substances, resulting in a significant hazard to the public and the environment; ignition of a wildland fire, exposing people or structures to a significant risk of loss, injury, or death, as a direct or indirect result of project activities. However, integration of Standard and Specific Project Requirements into the project description eliminates or substantially reduces these potentially significant environmental effects to a less than significant level.

4.7 HYDROLOGY AND WATER QUALITY

This chapter contains a description of the existing hydrologic conditions and water resources in the project area, and evaluates the potential impacts to water quality associated with the proposed Tin House Road Improvement Project.

4.7.1 Existing Conditions

The project site is located in the northern portion of Julia Pfeiffer Burns SP within the Santa Lucia Hydrologic Unit. No major groundwater basins are located along the Big Sur Coast. Locally limited, outflow is almost entirely the product of precipitation and runoff. Redwood Creek, like other perennial streams in the area, is a small stream whose headwaters are located in the upper reaches of the Santa Lucia Range where annual rainfall ranges from ten to twenty inches. The other watercourses along the Tin House Road Jeep Trail are intermittent, holding water only during the wet season.

4.7.2 Regulatory Setting

4.7.2.1 Federal

Federal Clean Water Act

The federal CWA was established in 1972 to maintain the chemical, physical, and biological integrity of the nation's waters (Federal Water Pollution Control Act/Clean Water Act, 33 U.S.C. 1251 *et seq.*). It was also intended to provide a mechanism for regulating discharges of pollutants into the Waters of the U.S. and gave the U.S. EPA authority to implement pollution control programs, such as setting wastewater standards for industry and water quality standards for all contaminants in surface waters.

Section 400 *et seq.* of the CWA applies to permits and licenses required for activities that may impact the nation's surface water (Waters of the U.S.). Waters of the U.S. are subject to Section 404 of the CWA. Section 404 establishes a requirement to obtain a permit prior to any activity that involves any discharge of dredged or fill material into the Waters of the U.S., including wetlands. In general, if the fill to be placed into Waters of the U.S. is limited to an area of no more than 0.5 acres, such fill can be approved through the United States Army Corps of Engineers (USACE) Nationwide Permit (NWP) program.

The SWRCB and RWQCB enforce Section 401 of the federal CWA, including administration of the NPDES permits for various discharges into Waters of the U.S. (CWA §402). The new NPDES Stormwater Phase II requires implementation of Best Management Practices (BMPs) to maintain water quality by controlling run-off from construction and post construction operations. A Notice of Intent (NOI) to discharge stormwater is filed with the SWRCB when a project is subject to a NPDES permit and a Stormwater Pollution Prevention Plan (SWPPP) must be approved prior to the start of work (for ground disturbance over 1 acre in size).

United States Army Corp of Engineers

USACE is responsible for implementing regulatory control and guidance using two statutory authorities, the Rivers and Harbor Act (Sections 9 and 10) which governs specified activities in "navigable waters" of the United States and the CWA (Section 404) which governs specified activities in "other waters of the United States" (USACE 2009). In addition, USACE districts use NWPs to authorize categories of activities with minimal effects on the aquatic environment.

The USACE defines wetlands as lands that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Typically, USACE jurisdictional wetlands meet three criteria:

hydrophytic vegetation, hydric soils, and wetland hydrology. Activities that could result in any discharge into navigable waters are also covered under CWA Section 401.

4.7.2.2 State

California Department of Fish and Game (CDFG)

CDFG regulates activities within watercourses, lakes and in-stream reservoirs. Under California Fish and Game Codes 1600-1603, an entity proposing an activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the CDFG must receive a Lake or Streambed Alteration Agreement from the CDFG pursuant to Section 1601 of the California Fish and Game Code. Typically, this requirement applies to any work proposed within the 100-year floodplain of a stream or river and associated riparian areas. Construction activities within the channel of Redwood Creek are subject to CDFG's Section 1601 jurisdiction.

State Water Resources Control Board

SWRCB has jurisdiction over water quality for both surface water and groundwater at the Park. SWRCB Resolution 68-16, commonly referred to as the non-degradation policy, requires maintenance of the existing water quality within a specific surface-water or groundwater system. SWRCB Order No. 2003-0003-DWQ addresses the discharge of "low-threat" waters from activities such as construction dewatering. Individual RWQCBs operate under the SWRCB.

Central Coast RWQCB

The RWQCB manages water quality issues in both surface and groundwater. The RWQCB has adopted Water Quality Control Plan for the Central Coastal Basin, (RWQCB 1994). In addition, the RWQCB is responsible for managing the implementation of the SWRCB resolutions.

4.7.3 Thresholds of Significance

The following thresholds have been prepared based on Appendix G and Section 15065 of the State CEQA Guidelines. The Tin House Road Improvement Project would have a significant impact on hydrology or water quality if it would:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation.
- Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding.

- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Substantially degrade water quality.
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map.
- Place structures that would impede or redirect flood flows within a 100-year flood hazard area.
- Expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam.
- Result in inundation by seiche, tsunami, or mudflow.

4.7.4 Environmental Impacts, Project Requirements, and Mitigation Measures

Impact Statement Hydro 1: Construction activities associate with the proposed project could have the potential to Violate Water Quality Standards or Waste Discharge Requirements

Water Quality Standards/Waste Charge Requirements
Julia Pfeiffer Burns SP is within the jurisdiction of the California Regional Water Quality Control Board (CRWQCB), Central Coast Region. The project would be in compliance with all applicable water quality standards and waste discharge requirements. (See Project Requirement Hazmat-1 regarding potential impacts from accidents, spills, or upset). Project emphasis is primarily to reconstruct and stabilize existing dirt road locations and improve natural drainage conditions. Changes to existing drainage patterns would not increase flow or result in increased sedimentation in existing drainages. Ground disturbance would be minimal outside the existing road footprint. Additionally, most work would be accomplished during the dry season, further lessening any chance of impact to surface water quality. The proposed project scope does not include waste discharge work of any kind and would not increase or alter existing conditions. Project location, design, and timing, in combination with the Project Requirements Hydro 1, Erosion and Sediment Control, and Hazmat-1 Hazardous Material Control and Bio 10, Revegetation Plan, will control soil erosion and surface water runoff and ensure no water quality standards are violated. These measures will result in a less than significant impact to water quality and waste discharge.

Level of Significance Before Mitigation: Less than Significant
Mitigation Measures: None

Impact Statement Hydro 2: Construction activities associate with the proposed project could have the potential to adversly alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation.

The absorption rate of the site would be improved by the project. Currently, water flows down the degraded roadbed itself, preventing natural drainage dissipation. Watershed coupling is a term that is used to describe a road system or network that captures water

unnaturally. Outsloping the Road and constructing drivable drainage swales would facilitate surface flow across the road surface, preventing water from flowing down the roadbed. The project includes removing debris from Redwood Creek. The debris poses a serious erosion threat in its current condition. The excavated debris would be used locally to recontour roadways where it cannot wash back into the creek or be removed for off-site disposal. Woody debris would be placed on finished surfaces and rock would be placed within the normal high water line. Boulders and large woody debris would be incorporated into new banks to reduce channel velocity through the project site. Potential for erosion would be significantly reduced at the site. Some short-term disturbance of the channel is necessary in order to remove the landslide debris. Integration of Project Requirement Hydro 1, Erosion and Sedimentation Control and Project Requirement Bio 10, Revegetation Plan will reduce impacts to less than significant.

Level of Significance Before Mitigation: Less than Significant
Mitigation Measures: None

Impact Statement Hydro 3: Construction activities associate with the proposed project could have the potential to create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff

The proposed project would not alter drainage patterns in a manner that would result in on-or off-site flooding. Some redirection of stormwater runoff would occur as erosion problems and inadequate drainage systems are corrected. Restoration of Redwood Creek by removing landslide debris from within the normal high water zone of the creek would reduce the potential of flooding related to Redwood Creek. Integration of Project Requirement Hydro 1, Erosion and Sedimentation Control, will reduce impacts to a less than significant.

Level of Significance Before Mitigation: Less than Signficant
Mitigation: None

Impact Statement Hydro 4: Construction activities associate with the proposed project could have the potential to result in inundation by mudflow.

The potential for inundation from a mudflow (in the form of a small landslide) may occur due to earthmoving activities, especially in conjunction with heavy rains and/or saturated soil. Integration of Project Requirement Hydro-1 in combination with Hazmat-1 will reduce any potential impact to a less than significant level.

Level of Significance Before Mitigation: Less than Signficant
Mitigation: None

4.7.5 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

- Could potentially deplete groundwater supplies or potentially interfere with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted): The proposed project would not substantially deplete groundwater supplies or create a net deficit in any aquifer; no major aquifers occur within the project boundaries. Water supplies for the park would not be affected by the proposed project.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The project improves drainage; it does not increase drainage into existing or planned systems or provide additional runoff.
- Place structures or housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map: Housing is not a component of the proposed project.
- Expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam: There is no levee or dam in any location that could threaten people or structures within Julia Pfeiffer Burns SP, with or without the project. The existing wood wall in Redwood Creek near the hairpin turn would be removed along with sediment and landslide debris, thereby reducing risk associated with a failure of the wall.
- Result in inundation by seiche, tsunami, or mudflow: The project location within Julia Pfeiffer Burns SP is bordered by Highway 1 which is bordered by the Pacific Ocean. Any location along the coastline could be at risk of inundation by a tsunami, including the area in and around Julia Pfeiffer Burns SP, although the higher elevations of the unit would be less at risk. A number of major faults extend on a northwesterly line along the foot of the hills east of the park, as well as numerous small fracture faults throughout the area, both on- and off-shore. Several of these can be considered active. Due to the elevation of the project site the chance of inundation by a tsunami is highly unlikely in this area, and therefore, this project would not substantially increase the exposure of people or structures to risk of loss, injury, or death as a result of these events. Although those working on the project would be exposed to any event that might occur, all coastal locations within a substantial distance of the park would experience a similar event; exposure would be much the same, whether working on the project or simply living or visiting in the area. No impact from seiche or tsunami inundation.

4.7.6 Findings

For hydrological conditions and water quality evaluated as part of this environmental document, the potential exists for significant degradation of water quality from erosion, sedimentation, and release of hazardous materials into surface waters; and increased stormwater runoff that could substantially increase the risk of flooding or become a source of increased polluted runoff, as a direct or indirect result of proposed project activities. However, integration of Standard and Specific Project Requirements into the project description eliminates or substantially reduces these potentially significant environmental effects to a less than significant level.

4.8 LAND USE AND PLANNING (INCLUDES AGRICULTURE, MINERALS, AND RECREATION)

This section provides information on land use and planning conditions and issues, as well as Recreation within the Park. Agriculture operations are not allowed within the Park; Mineral Resource extraction is also not allowed in the park; therefore, these topics require no further discussion.

4.8.1 Land Use and Planning

4.8.1.1 Existing Conditions

Situated along Highway 1 south of Big Sur, Julia Pfeiffer Burns State Park is a nearly 2,200 acre park of varied habitats and spectacular views. Areas along the Pacific Ocean are within the Coastal Zone and are subject, in most cases, to the 1976 Coastal Act and the Coastal Zone Management Act, as administered by the California Coastal Commission. Julia Pfeiffer Burns State Park does not have an approved General Plan; however, the project is necessary for DPR to comply with a court supervised settlement agreement, as well as to repair and rehabilitate the road.

4.8.1.2 Regulatory Framework

State

California Coastal Act

Pursuant to the California Coastal Act (Public Resources Code Section 30000 et seq.), the coastal portion of Monterey County is designated as a "coastal zone."

The California Coastal Act protects public access to coastal and upland areas in the coastal zone for recreational uses (Public Resources Code Sections 30211 and 30223). Policies for land use and development within the Monterey County coastal zone have been defined in four land use plans that comprise the county Local Coastal Program (LCP) certified by the California Coastal Commission. Monterey County retains land use jurisdiction within the coastal zone, with the Coastal Commission having appeal authority over certain issues.

The proposed project area is located within the coastal zone managed under the Big Sur Coast LUP (Monterey County 2006b).

4.8.1.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on Land Use Planning if it will:

- Physically divide an established community.
- Conflict with the applicable land use plan, policy, or regulation of any agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

- Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.8.1.4 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

The proposed project is not located within a community nor does it conflict with any applicable land use plan, habitat conservation plan, or natural community conservation plan.

4.8.2 Agriculture

The proposed project is located completely on State Park land and does not support any agricultural operations – no discussion necessary.

4.8.3 Minerals

The proposed project is located completely on State Park land and does not support any mineral extraction operations – no discussion necessary.

4.8.4 Recreation

4.8.4.1 Existing Conditions

Tourism is the primary source of revenue for the Big Sur region (Monterey County 1999) and the scenic, rugged coastline and mountains draw visitors who take advantage of a diverse range of recreational experiences. Some of the recreational opportunities available in the area include hiking, camping, biking, horseback riding, aquatic activities (e.g., sea kayaking), off-highway vehicle use, hang-gliding, wildlife watching, fishing, hunting, photography, and other artistic pursuits.

Park Attendance

Visitor surveys estimate the following numbers of people visited Julia Pfeiffer Burns SP during the 2000-2006 calendar years:

Table 4.8.4.1 - Park Attendance

Calendar Year	Total Attendance
2000	40,437
2001	66,593
2002	134,782
2003	151,968
2004	125,487
2005	138,441
2006	82,680
Total Attendance	740,388
Average Attendance	105,770

Source: DPR Northern Field Division

The proposed road is located in a natural area of the park. Overall park attendance should not increase or decrease as a result of this project.

Public Lands

Approximately 14% of Monterey County is comprised of public land operated by governmental agencies and open to visitors for recreational purposes. Park and recreation land and facilities include local and county parks, state parks, national parks, national forests, and land

managed by the Bureau of Land Management (BLM) (Monterey County 2006a). The following public lands are situated in the vicinity of the proposed project site and are open for recreational use.

- National Forest: Los Padres National Forest, managed by the U.S. Forest Service, borders the eastern boundary of Julia Pfeiffer Burns State Park. The national forest encompasses a total of 1.75 million acres in two land divisions, the northernmost of which is situated in Monterey and San Luis Obispo counties (USFS 2007a). The national forest provides seventeen drive-in day use picnic areas, seventy-four drive-in campgrounds and numerous primitive backcountry campsites, 1,257 miles of maintained trails for day use and backpacking, 459 miles of roads and trails for off-highway vehicle use, 400 miles of streams,,37 reservoirs and many miles of coastline for fishing, hunting and target shooting areas, and several recreational facilities (e.g., Brazil Ranch) at which guided hikes and other activities are available (USFS 2007b. In addition, the Ventana Wilderness is part of the Los Padres National Forest northern land division, is situated completely within Monterey County, and contains 240,026 acres straddling the Santa Lucia Mountains (USFS 2007c). The wilderness area is available for primitive backcountry activities such as hiking, horseback riding, and backpack camping.
- State Parks: Julia Pfeiffer Burns State Park is one of approximately a dozen state parks situated along the Pacific Coast in Monterey County. Visitors to Julia Pfeiffer Burns State Park could camp, use picnic facilities, explore designated trails, and kayak or SCUBA dive in the underwater portion of the park. Designated trails in the park include the (a) Waterfall Trail to McWay Falls, (b) Ewoldsen Trail between McWay Canyon and Tin House, (c) Tan Bark Trail from the Partington Point area up to Tin House, and (d) Tin House Road from Highway 1 up to the Tin House. The Tan Bark Trail and Jeep Trail intersect uphill at the Tin House, allowing hikers to walk a loop that includes 0.8 miles on State Route 1 back to their vehicles parked near Partington Point (Cole 2007). Generally, Tin House Road is too steep for mountain biking (McMenamy 2007) and a locked gate at the entrance blocks motor vehicle and equestrian access. No developed recreational facilities are located along the road alignment, including on the proposed project site.

  Other state parks close by and within a twenty mile radius of the proposed project location include Point Sur State Historic Park and Andrew Molera and Pfeiffer Big Sur State Parks to the north, as well as John Little State Reserve and Limekiln State Park to the south. These parks provide a variety of recreational activities from picnicking and hiking to camping and lodge accommodations (Table 4.8.4.2).

Table 4.8.4.2: Recreation Opportunities on Public Lands in Vicinity of the Proposed Project Area						
State Parks In Vicinity of the Proposed Project	Park Size (acres)	Trail Miles (Non-Motorized)	Picnic Sites	Individual Camp Sites	Group Camp Sites	Lodge Facility
Andrew Molera SP	4,766	16.95	5	24	--	--
John Little SR	21	--	--	--	--	--
Julia Pfeiffer Burns SP	3,762	10.70	7	2	--	--
Limekiln SP	711	3.80	--	33	--	--
Pfeiffer Big Sur SP	1,107	11.90	39	203	2	61
Point Sur SHP	81	0.84	--	--	--	--

(DPR 2006)

4.8.4.2 Regulatory Setting

California Coastal Act

Pursuant to the California Coastal Act (Public Resources Code Section 30000 et seq.), the coastal portion of Monterey County is designated as a "coastal zone."

The California Coastal Act protects public access to coastal and upland areas in the coastal zone for recreational uses (Public Resources Code Sections 30211 and 30223). Policies for land use and development within the Monterey County coastal zone have been defined in four land use plans that comprise the county Local Coastal Program (LCP) certified by the California Coastal Commission. Monterey County retains land use jurisdiction within the coastal zone, with the Coastal Commission having appeal authority over certain issues.

The proposed project area is located within the coastal zone managed under the Big Sur Coast LUP (Monterey County 2006b). There are no formal policies in the Big Sur Coast LUP that apply to recreational use on Tin House Road. Policies pertaining to recreation that could be applicable to the proposed project are as follows (Monterey County 1986).

- Land Use and Development (Big Sur Coast LUP, Chapter 5)
  - Development Policies: Specific Policies (SP) for Recreation Management
    SP #1: Management of recreation uses in Big Sur shall emphasize the enjoyment of the natural scenic environment and shall preserve the rural, wilderness, and inspirational qualities for which the Big Sur coast is famous. A high standard of resource protection is required to maintain the valuable resources of the Big Sur coast in perpetuity.
    SP #2: Additional funding should be allocated by the State and Federal governments to manage and maintain existing public recreation areas before more public land is opened to recreational use by these same agencies.

SP #3: Management policies for Outdoor Recreation areas shall be to limit levels of use in environmentally sensitive areas and redirect recreational activities to other areas able to support anticipated use with minimal environmental impacts.

- Public Access (Big Sur Coast LUP, Chapter 6)
  - General Policies (GP):
    GP #6: Trails should be located in areas able to sustain public use without damage to natural resources or other conflicts. Therefore, new and existing trails should be sited or rerouted to avoid safety hazards, sensitive habitats, and incompatible land uses.
  - Specific Policies for Providing and Managing Trails
    SP #6: The State Department of Parks and Recreation and the U. S. Forest Service are the primary agencies responsible for trail planning, construction, restoration, maintenance, management and liability. These agencies have a special responsibility to coordinate and assure continuity to and through State and Federal lands. The County's role would generally be confined to assisting in the provision of access easements, and in the review and guidance of plans related to trails construction and use management.

4.8.4.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact to Recreation if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities that could have an adverse physical effect on the environment.

4.8.4.4 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

Physical Deterioration: Visitors who hike Tin House Road would be displaced during construction because the road alignment would be closed to the pubic temporarily. Improving the road or converting it to a trail to prevent rutting and/or erosion would enhance the surface for hiking and any other approved recreational activities. During closure, visitors who would normally use the road could utilize the Tan Bark, Ewoldsen, or Waterfall trails within Julia Pfeiffer Burns State Park. All other trails within the park that are not within the project area would remain open during construction.

Expansion of Recreational Facilities: The proposed project provides repair and maintenance for the road which would continue to be used as a hiking byway after project completion. The road would be closed temporarily during project-related activities; during the closure, the small number of visitors who use the road could instead utilize the Partington and McWay Canyon trails, as well as comparable trails in

nearby parks and the Los Padres National Forest. Any increase in use of other recreational facilities would be minimal and would not require the expansion of facilities along the road alignment, in other areas of the park, or on other public lands. The road alignment would continue to be used as a recreational hiking trail after project completion.

4.8.4.5 Findings

The Project would not divert Park visitors to neighborhood and regional parks or other recreation facilities such that substantial physical deterioration of the facilities would occur or be accelerated. The Project's scope does not include construction or expansion of recreational facilities that could have an adverse physical effect on the environment.

4.9 NOISE

This section contains a description of the existing noise conditions in the project area, and evaluates the potential impacts to noise associated with the proposed Tin House Road Improvement Project.

4.9.1 Existing Conditions

Noise Defined

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally defined as unwanted sound. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound wave. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The unit of sound pressure ratioed to the faintest sound detectable by a keen human ear is called a decibel (dB).

Because sound or noise can vary in intensity by over one million times within the range of human hearing, a logarithmic loudness scale similar to the Richter scale used for earthquake magnitude is used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions in a process called "A weighting," written as "dBA." Any further reference to decibels in this report written as "dB" should be understood to be A-weighted values.

Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called Leq), or, alternately, as a statistical description of the sound pressure level that is exceeded over some fraction of a given observation period. Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL).

Measuring Noise

Many methods have been developed for evaluating community noise to account for, among other things:

- Variation in noise levels over time;
- Influence of periodic individual loud events; and
- Community response to changes in the community noise environment.

Numerous methods have been developed to measure sound over a period. These methods include:

- Equivalent Sound Level (Leq);
- Community Noise Equivalent Level (CNEL);
- Day/Night Average Sound Level (Ldn)

These methods are described and defined below.

Equivalent Noise Level (Leq)

Leq is the measurement of sound energy over a specified time (usually 1 hour), and represents the amount of variable sound energy received by a receptor over a timed interval in a single numerical value. For example, a one-hour Leq noise level measurement represents the average amount of acoustical energy that occurred in one hour. In addition, variations in sound levels may be addressed by statistical methods. The simplest of these are the maximum (Lmax) and minimum (Lmin) noise levels, which are the highest and lowest levels observed. Other variations include the L50, identifying percentage of time that the noise level standard is exceeded during fifty percent of an hour (i.e. 30 minutes) or the L25 identifying the percentage of time that the noise level standard is exceeded during twenty-five percent of an hour (i.e. 15 minutes), etc.

Community Noise Equivalent Level (CNEL)

The CNEL noise metric is based upon 24 hours of measurement, the CNEL measurement applies a time-weighted factor that is designed to emphasize noise events that occur during the evening (7 p.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) hours. Noise produced during the evening hours are penalized by 5 dBA while noise that occurs during the nighttime hours is penalized by 10 dBA.

*Day Night Average (L*dn*)*

Another commonly used method is the day/night average level or Ldn. The Ldn is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the Leq. The Ldn is calculated by averaging the Leqs for each hour of the day at a given location after penalizing the sleeping hours (defined as 10:00 p.m. to 7:00 a.m.) by 10 dBA to account for the increased sensitivity of people to noises that occur at night. The maximum noise level recorded during a noise event is typically expressed as Lmax. The sound level exceeded over a specified time can be expressed as Ln (i.e., L90, L50, L10, etc.). L50 equals the level exceeded 50 percent of the time; L10 equals the level exceeded ten percent of the time, etc.

As previously mentioned, people tend to respond to changes in sound pressure in a logarithmic manner. In general, a 3 dB change in sound pressure level is considered a

"just detectable" difference in most situations. A 5 dB change is readily noticeable and a 10 dB change is considered a doubling (or halving) of the subjective loudness. A 3 dB increase or decrease in the average traffic noise level is realized by a doubling or halving of the traffic volume, or by about a 7 mile per hour increase or decrease in speed.

For each doubling of distance from a point noise source, the sound level decreases by 6 dB. In other words, if a person is 100 feet from a machine and moves 200 feet from that source, sound levels drop by approximately 6 dB. Moving 400 feet away, sound levels drop approximately another 6 dB. For each doubling of distance from a line source, such as a roadway, noise levels are reduced 3 to 5 decibels depending on the ground cover between the source and the receiver.

Noise Exposure

An interior CNEL of 45 dB is mandated by the State of California Noise Insulation Standards (California Code of Regulations [CCR], Title 24, Part 6, Section T25 28) for multiple-family dwellings and hotel and motel rooms. In 1988, the State Building Standards Commission expanded that standard to include all habitable rooms in residential use, including single-family dwelling units. Since normal noise attenuation within residential structures with closed windows is about 20 dB, an exterior noise exposure of 65 dB CNEL allows the interior standard to be met without any specialized structural attenuation (dual paned windows, etc.). A noise level of 65 dB is also the level at which ambient noise begins to interfere with one's ability to carry on a normal conversation at reasonable separation without raising one's voice. Table 4.9.1 below summarizes typical noise sources, levels, and responses (the Response column does not contain an entry for each Noise Source because they are intended only to show representative examples).

Table 4.9.1 – Weighted Sound Levels and Representative Examples of Human Response

Noise Source	Noise Level db(A)	Response
none	0	none
Whisper	10	Barely audible
Library	30	Very Quiet
Bedroom	40	Somewhat quiet
Light Automobile Traffic	50	Quiet
Air Conditioning Unit at 20 feet	60	Intrusive
Freeway traffic at 50 feet	70	Telephone Use Difficult
Freight Train at 50 feet	80	Annoying
Heavy Duty Truck at 50 feet	90	Very Annoying
Jet Takeoff at 2,000 feet Garbage Truck Operation	100	Very Annoying Hearing Damage at Sustained Exposure
Un-muffled Motorcycle Car horn at 3 feet	110	Maximum Vocal Effort Physical Discomfort
Jet Takeoff at 200 feet	120	
	130	Pain Threshold

Carrier Jet Operation	140	Harmfully Loud

Source: County of Monterey, Monterey County Draft EIR, 2007.

Existing Noise Sources and Conditions

Major sources of noise in Monterey County include roadways, aviation facilities, railroads, industrial/agricultural land uses, and recreational venues.

Roadways

The predominant source of noise in the proposed project area is vehicular traffic on Highway 1, which has an existing noise contour greater than 60 CNEL (Monterey County 2006b). Roadway noise is a function of traffic levels, vehicle mix, and traffic speeds. High traffic volumes generate more noise than low volumes. A vehicle mix with a high percentage of trucks is noisier than a mix composed of mostly passenger automobiles. Higher traffic speeds generate more noise that lower speeds. These variables indicate that roads with high volumes of mixed traffic traveling at high speeds are prime sources of roadway noise.

Aviation Facilities

There are four general aviation and commercial airports, two military airstrips, and numerous private airstrips and helipads in Monterey County. Per the 2006 Monterey County General Plan EIR, none of the airports or helipads has an affect on the existing noise conditions of the proposed project area.

Railroads

The Union Pacific Railroad's Coast Line spans the length of the County, north to south, traversing the unincorporated communities of Aromas, Pajaro, Castroville, Chualar, San Lucas, San Ardo, and Bradley and the cities of Salinas, Gonzales, Soledad, Greenfield, and King City. This line is used primarily for freight traffic, though Amtrak operates a daily train in each direction. The 14-mile Monterey Branch line diverges from the Coast Line in Castroville and serves the Monterey Peninsula. This line is currently inactive. A branch line also diverges off the Coastline north of Castroville to serve the industrial uses in the Moss Landing area. Per the 2006 Monterey County General Plan EIR none of the above mentioned lines contributes to the existing noise levels in the proposed project area.

Industrial/Agricultural Land Uses

Industrial and/or agricultural processing areas in the unincorporated County area include Castroville, Moss Landing, and Pajaro, and incorporated cities with industrial areas include Marina, Salinas, Seaside, Soledad, and King City. These areas include a mix of industrial uses and agricultural processing plants. Nearby residential areas and other noise sensitive uses in these communities may currently be impacted by noise from industrial activities including associated truck traffic. Isolated agricultural processing plants also exist in the Salinas Valley.

Recreational Venues

In Monterey County the largest (and loudest) recreational venues are Laguna Seca Raceway, located near Fort Ord on Highway 68, and the Pebble Beach Resorts

(consisting of four 18-hole golf courses) in the Del Monte Forest. Both venues host major events on an annual basis involving which can attract more than 100,000 spectators each, with a corresponding level of spectator and vehicular noise.

Project Area

Julia Pfeiffer Burns State Park is one of the 20 State Parks, 9 Regional Parks, and over a million acres of federally owned recreational lands in Monterey County. It encompasses over 2,200 acres of varied habitats and spectacular views. The Park borders State Route 1, a State Scenic Highway, on the south and west. The closest town is Big Sur, located approximately 12 miles to the north. The nearest community is the Partington Ridge community, located approximately one-half (½) mile to one mile north of the project area. The closest housing compound to the south is approximately one-quarter (¼) mile from the main work site. The area is rural in nature, with pockets of small community development.

The proposed project area is located within Julia Pfeiffer Burns State Park. The primary noise source in the proposed project area is surface traffic from the nearby Highway 1 which forms the southern boundary of the project site. A two-lane state highway with heavy residential and recreational traffic, State Route 1 is utilized by trucks, semis, school buses, tour buses, as well as smaller residential vehicles. Heaviest usage in the project vicinity occurs during normal work/school commute hours and seasonally during holiday weekends.

Noise from the Southern Pacific rail line to the northeast is inconsequential given the distance between the project site and the track alignment, and therefore would not contribute to the overall ambient noise environment of the proposed project site. Aircraft overflights might be audible, but are intermittent and of limited duration. There are no other significant fixed or industrial noise sources that would contribute significantly to the ambient noise environment in the proposed plan area.

The project site is relatively undeveloped and no noise-sensitive land uses are located in the immediate vicinity of any of the proposed construction. Construction activities associated with the project would occur within the park boundaries with the exception of the activities associated with restoring the property boundary to its historic location.

Noise Analysis

Based on a community noise equivalent level (CNEL), expressed in decibel units (dB or dBA). Monterey County established the compatibility and acceptable planning limits of exterior noise for land uses within the County. These community standards are consistent with the State (California) Office of Noise Control Guidelines. The exterior noise limits at recreational facilities and regional parks, such as Julia Pfeiffer Burn SP, are 90 dBA from 7 am to 7 pm; 75 dBA from 7 pm to 7 am.

Existing noise contours found in the Monterey County General Plan use an existing noise level of 60 CNEL along Highway 1 in the park vicinity. Portions of the proposed project locations associated with this project would be at least within 60 feet (20 meters) from Highway 1.

4.9.2 Regulatory Setting

California Coastal Act

Pursuant to the California Coastal Act (Public Resources Code Section 30000 et seq.), the coastal portion of Monterey County is designated as a "coastal zone." The California Coastal Act protects public access to coastal and upland areas in the coastal zone for recreational uses (Public Resources Code Sections 30211 and 30223). Policies for land use and development within the Monterey County coastal zone have been defined in four land use plans that comprise the county Local Coastal Program (LCP) certified by the California Coastal Commission. Monterey County retains land use jurisdiction within the coastal zone, with the Coastal Commission having appeal authority over certain issues.

The proposed project area is located within the coastal zone managed under the Big Sur Coast Land Use Plan (LUP) (Monterey County 2006c). There are no formal policies in the Big Sur Coast Land Use Plan that apply to noise related issues within the Tin House Road project area.

DPR is exempt from local regulations, including general plans, specific plans and zoning ordinances (California Constitution Article XI, Section 7), although the project must comply with applicable state and federal rules such as the Coastal Act.

4.9.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on noise if it will:

- Generate or expose people to noise levels in excess of standards established in a local general plan or noise ordinance, or in other applicable local, state, or federal standards;
- Generate or expose people to excessive groundborne vibrations or groundborne noise levels;
- Create a substantial permanent increase in ambient noise levels in the vicinity of the project (above levels without the project);
- Create a substantial temporary or periodic increase in ambient noise levels in the vicinity of the project, in excess of noise levels existing without the project;
- Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? If so, would the project expose people residing or working in the project area to excessive noise levels;
- Be in the vicinity of a private airstrip. If so, would the project expose people residing or working in the project area to excessive noise levels.

4.9.4 Environmental Impacts, Project Requirements, and Mitigation Measures

Impact Statement Noise 1: Construction activities associated with the proposed project could create an adverse temporary or periodic increase in ambient noise levels in the vicinity of the project, in excess of noise levels existing without the project.

Construction noise levels at and near the project area would fluctuate, depending on the type and number of construction equipment operating at any given time, and would exceed ambient noise standards in the immediate vicinity of the work for brief periods of time. This work would require a relatively short construction period, resulting in short-term, construction-related, impacts to ambient noise levels. Removal of the fill in the creek would require an excavator, generating approximately 81-85 dBA (Lmax 50 feet) during its periods of usage, resulting in short-term impacts to the ambient noise levels in the area of the project. Work on the road would call for the use of a grader, generating approximately 85 dBA (Lmax 50 feet) during its periods of usage, and soil compaction equipment would generate approximately 83 dBA (Lmax 50 feet). The types of equipment to be used for this project are, at this point, only generally known and the specific number of the pieces of equipment cannot yet be determined.

The distances from residences and small commercial ventures adjacent to the property boundaries to the proposed work sites are sufficient to prevent an objectionable level of noise. There are approximately 30 houses located across Partington Canyon and there are also homes located at the lower end of Tin House Road. The established distance at which noise levels noted above were measured (50 feet) places the homes outside of the range at which noise levels would be considered a significant impact. Additionally, the topography and vegetation of the canyon walls and the alignment of Tin House Road would also effectively reduce the noise levels generated by the equipment. However, depending on the specific construction activities being performed, short-term increases in ambient noise levels could result in speech interference at the work site and a potential increase in annoyance to staff. As a result, construction-generated noise would be considered to have a potentially significant short-term impact. Integration of Standard Project Requirement Noise 1 would reduce potential temporary construction noise impacts to a less than significant level.

Level of Significance Before Mitigation: Less than significant
Mitigation Measure: None

4.9.5 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

- Generate or expose people to noise levels in excess of standards established in a local general plan or noise ordinance, or in other applicable local, state, or federal standards.
- Generate or expose people to excessive groundborne vibrations or groundborne noise levels.
- Create a substantial permanent increase in ambient noise levels in the vicinity of the project (above levels without the project).
- Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? If so, would the project expose people residing or working in the project area to excessive noise levels.

- Be in the vicinity of a private airstrip. If so, would the project expose people residing or working in the project area to excessive noise levels.
- Normal use of Julia Pfeiffer Burns SP does not involve activities that would increase ambient noise levels at, and adjacent to, the proposed project location. Any potential increase in ambient noise levels would generally be limited to visitor conversations and passing vehicle traffic on nearby HIghway 1. No sensitive receptors are located in the proposed project's area of potential effect and screening provided by on-site vegetation would also reduce the transmission of noise from the facility.

4.9.6 Findings

For noise sources and levels evaluated as part of this environmental document, the potential exists for potentially significant short-term, construction-generated noise impacts, as a direct or indirect result of proposed project activities. However, changes in project scope and mitigation measures have been required as part of the project which avoid or substantially lessen these potentially significant environmental effects. Full implementation of all proposed mitigation measures would reduce any noise-related potential impacts to a less than significant level.

4.10 Public Services and Utilities

This section provides information on public services and utilities and service systems serving the local and regional population that occur, and could be impacted by project activities at Julia Pfeiffer burns State Park (JPBSP). Pertinent elements include law enforcement, fire protection, other emergency response, and institutional resources such as schools and hospitals. The Public Services section also identifies measures designed to avoid or reduce the significance of any potential impacts to performance levels or objectives, response times, or to available public resources.

4.10.1 Public Services

Public services are provided for public use and benefit, and include fire and police protection, libraries, and other institutions. This section identifies existing services, infrastructure, and current levels of service or capacity.

4.10.1.1 Existing Conditions

JPBSP is in a relatively isolated and undeveloped area of the Big Sur Coast. Generally, access to Tin House Road is limited to state park ranger patrol cars and to foot traffic by a gate that is locked by DPR (McMenamy 2007). The Road could provide limited access for fire fighting hand crews in the event of wildland fire emergencies. However, for much of its length the road is steep and narrow and contains several tight turns, making it inaccessible to large emergency vehicles. The Tin house Road does not serve any in-par residence or development for fire protection.

Law Enforcement

Due to the remoteness of the area, state park rangers are generally the first responders to most emergency situations that occur within the park. Rangers can call for additional or specialized support to other law enforcement and emergency agencies if needed

(McMenamy 2007). These law enforcement agencies and their standard responsibilities and distance from the park are discussed below.

- State Park Rangers: State park rangers assigned to Julia Pfeiffer Burns State Park are law enforcement officers who are certified in Peace Officer Standards and Training (POST 2007). Rangers are responsible for maintaining a peaceful and safe environment within the park and provide immediate police protection twenty-four hours per day by patrolling the park boundaries and public use areas, enforcing the Public Resource Code (PRC), and guarding against misuse of park property and resources. This includes the property containing the proposed project site.

- Monterey County Sheriff: The Monterey County Sheriff provides a range of law enforcement and emergency response services throughout the county, including in remote, unincorporated areas such as the Big Sur Coast. The Sheriff's Patrol Division Coastal Station is based in the city of Monterey and serves 750 square miles, including 100 miles of coastline from Marina to the southern boundary of Monterey County. One commander and approximately twenty-two deputies staff the Coastal Station. The Sheriff's Search and Rescue Team, Dive Team, and equestrian Mounted Unit are also based out of the Coastal Station (Office of the Sheriff 2007). The approximate distance from the Coastal Station to Julia Pfeiffer Burns State Park is forty-one miles (Google Maps 2007).

- California Highway Patrol (CHP): The CHP enforces the California Vehicle Traffic Code and other laws in order to prevent crime, manages traffic and emergency incidents, assists other public agencies with law enforcement duties, and provides protection to the public, state employees, and state infrastructure (CHP 2006a). The CHP Coastal Division office serves 325 miles of Central and Southern California coastline, including the Big Sur Coast. The Coastal Division has approximately 700 employees, of whom 530 are uniformed officers. Employees staff eleven offices, one residential post, and two commercial inspection facilities. The closest office to Julia Pfeiffer Burns State Park is the Monterey Area Office located in Salinas (CHP 2006b). The approximate distance from the Monterey Area Office to the park is fifty-five miles (Google Maps 2007).

Fire Protection and Other Emergency Services

Over half of the land area within Monterey County is rugged and mountainous (Monterey County 2006a). Much of the Big Sur Coast, including the vicinity of the proposed project area, is rural or protected in its natural state and is vegetated with plants that are easily combustible.

Fire fighting and prevention services are provided by special fire protection districts (FPD) and community service districts throughout many rural areas of Monterey County. Julia Pfeiffer Burns State Park and the proposed project site are situated within the area covered by the Big Sur FPD of Monterey County. The Big Sur Volunteer Fire Brigade is the local fire protection service. Under certain circumstances, the brigade would also work cooperatively with the California Department of Forestry and Fire Protection (CalFire), U.S. Forest Service, and military

for fire and other emergency responses. These emergency responders and their standard responsibilities, and locations are discussed below.

- Big Sur Volunteer Fire Brigade: The Big Sur Volunteer Fire Brigade consists of about forty members and three stations. The brigade's service area includes approximately sixty miles of the Big Sur coastline along State Highway 1 from Hurricane Point south to the Monterey – San Luis Obispo county line. The main fire station is located at the Post Ranch Inn, nine miles north of Julia Pfeiffer Burns State Park (Google Maps 2007). Equipment is divided up and housed at three stations and includes several water tender trucks, a small quick-response emergency truck, and standard emergency gear. In addition, the Post Ranch Inn station includes a Monterey County ambulance and twenty-four hour on-call paramedic team. The fire brigade performs high angle rescues and responds to residential and business structural fires, wildfires, medical calls, vehicle accidents, and coastal and hazardous materials incidents. In regard to major incidences such as large wildfires, the brigade cooperates with other county, state, and federal government agencies (Big Sur Volunteer Fire Brigade 2006).

- California Department of Forestry and Fire Protection (CalFire): CalFire personnel are equipped and trained to respond to many types of emergencies, but they are primarily responsible for fire protection and stewardship of over thirty-one million acres of California's privately-owned wildlands, otherwise known as State Responsibility Areas. CalFire also contracts with thirty-six of California's fifty-eight counties, including Monterey County, to provide fire and other emergency services (CDF 2006a). In emergencies, CalFire personnel are organized using an Incident Command System (ICS).

  Under the California Disaster and Civil Defense Master Mutual Aid Agreement, CalFire assists other municipalities, such as fire departments, fire protection districts, and resource conservation districts when CalFire resources are available (CDF 2006c). When CalFire resources are overextended during wildfire season, additional agreements with the California Military Department allow the California Army National Guard to deploy for fighting wildfires (CalFire 2006c, California Army National Guard 2006). National Guard resources include but are not limited to personnel, communication equipment, helicopters, and C-130 aircraft with 3,000 gallon water/retardant tanks (i.e., Modular Airborne Firefighting Systems). Also see the State Fire Responsibility Act below for more information.

  In addition to providing firefighting equipment and personnel, CalFire contracts with counties and local governments to provide assistance during other emergency situations. CalFire may provide medical aid during emergencies and assist during hazardous materials spills, search and rescues, swift water rescues, civil disturbances, train wrecks, floods, and earthquakes (CalFire 2006c).

  Julia Pfeiffer Burns State Park is situated in the San Benito-Monterey Administrative Unit of the Calfire Central Sierra Region (i.e., CalFire Region IV) and in a State Responsibility Area. The San Benito-Monterey Unit Headquarters is in Monterey and headquarters personnel oversee or participate in the management of fifteen forest fire stations and other resources throughout the two-county unit (CalFire

2007d). Seven of these CalFire forest fire stations are in Monterey County. Of these, the closest CalFire Forest Fire Station to Julia Pfeiffer Burns State Park is the Carmel Hill in Pebble Beach (Fire Resource Assessment Program 2005). The Carmel Hill Station is thirty-nine miles north of park (Google Maps 2007). In addition, air support is situated throughout the state to reach most locations in their respective coverage areas within approximately twenty minutes (CDF 2006b). The closest CalFire air resources are the Air Attack Base in Hollister, which is approximately 150 air miles northeast of the park unit and the Bear Valley Helitack Base in Paicines, which is about 110 air miles east. Air tankers and helicopters are equipped to carry fire retardant or water, but helicopters can also transport firefighters, equipment and injured personnel.

- U.S. Forest Service (USFS): The USFS manages the Los Padres National Forest which encompasses a total of 1.75 million acres and overlies portions of six counties. A portion of the northern section of the national forest is situated east and adjacent to Julia Pfeiffer Burns State Park (USFS 2007a). The national forest is under the jurisdiction of the USFS, a federal agency; therefore, a Federal Responsibility Area for fire management. The USFS maintains firefighting personnel and equipment and is responsible for preventing and detecting wildfires, attacking fires promptly, addressing hazardous fuels problems, assisting at-risk communities along the wildland-urban interface, and maintaining effective coordination with local fire departments and state agencies (USFS 2007b).

  The USFS bases fire management resources in Monterey County, as well as in San Luis Obispo, Santa Barbara, Ventura, Los Angeles, and Kern counties. The specific locations for equipment and personnel may change from year to year. However, during the 2006 fire season the following firefighting resources were kept in Monterey County (USFS 2007c):
  - Fire engines are located in five places including Big Sur, Pacific Valley, Nacimiento, Arroyo Seco, and at Fort Hunter Liggett. The closest equipment to Julia Pfeiffer Burns State Park is situated in the town of Big Sur, which is about twelve miles and typically fifteen minutes north of the park (Google Maps 2007).
  - A twenty-person hand crew is staffed at Fort Hunter Liggett. Fort Hunter Liggett is about forty miles and typically one hour and forty-five minutes southeast of the park (Google Maps 2007).
  - Three patrol units operate out of Pacific Valley, Big Sur, and Arroyo Seco. The Big Sur unit is closest to the park (Google Maps 2007).

  In addition, the USFS maintains an air fleet for fighting wildfires. The closest USFS Air Attack Base to Julia Pfeiffer Burns State Park is located approximately 175 air miles south at the Santa Barbara Airport. The base supports an air attack plane and fire retardant equipment to service additional firefighting aircraft.

  In preparation for each summer wildlfire season, the USFS increases its Los Padres National Forest fire management personnel and conducts strategic planning for emergency situations. During the summer, fire management personnel nearly double to approximately 300 staff. In order to quickly mobilize for emergencies, the

USFS also conducts yearly strategic planning with cooperating government agencies based on ICS (USFS 2007c).

- Monterey County Office of Emergency Services (Monterey County OES): Monterey County OES is the lead agency that coordinates disaster and emergency preparation, response, and recovery efforts within Monterey County. Monterey County OES maintains county incident and regional emergency plans that describe actions and goals for responding to emergencies. The agency, located in Salinas, operates the county's Emergency Operations Center (EOC), and activates EOC staff and facilities during emergency scenarios. Day to day, Monterey County OES employs four staff and has a volunteer emergency communications coordinator. However, during emergency situations EOC staffing may increase to approximately ninety personnel from other county agencies, emergency response organizations, utility companies, and volunteers. In addition, Monterey County OES works in coordination with local, state, and federal government agencies to manage emergency situations (Monterey County Office of Emergency Services 2007).

  The Monterey County Department of Emergency Communications (DEC) is also housed at the Salinas facility. The primary purpose of the DEC is to receive and process 911 emergency calls and non-emergency requests for service and then coordinate response equipment and personnel from the appropriate medical, law enforcement, or other appropriate response agency. The DEC serves all cities and unincorporated areas of Monterey County (Monterey County Department of Emergency Communications 2003).

- Governor's Office of Emergency Services (California OES):
  The California OES is the lead agency for mobilizing the state's resources and requesting federal aid during an emergency such as a catastrophic fire, flood, or earthquake. While the primary responsibility for an emergency belongs to local agency, county, or other agency with jurisdiction, the California OES may facilitate the overall response when multiple government jurisdictions are involved. It oversees the Statewide Mutual Aid System, the process that local governments use to request additional assistance. In addition, California OES maintains the State Emergency Plan that defines the process for how local and state agencies coordinate their emergency response and communications. Julia Pfeiffer Burns State Park is situated in the southernmost portion of the California OES Coastal Administrative Region (California OES 2007). The Coastal Region administrative office is located north of the Big Sur Coast in the city of Oakland.

Schools

Carmel Unified School District is located approximately 120 miles south of San Francisco. It serves students in a remote 594 square mile area, including Carmel-by-the-Sea, Carmel Valley, Pebble Beach, and Big Sur (Carmel Unified School District 2007a). No open schools in the Carmel Unified School District are located within one-quarter mile of Julia Pfeiffer Burns State Park. Apple Pie Pre-school and Captain Cooper Elementary School are situated together on the same campus about fourteen miles northwest of the park and adjacent to State Route 1. Captain Cooper Elementary School serves students in kindergarten through fifth grade. Together, the pre-school

and elementary school house approximately ninety students (Captain Cooper Elementary School 2006). Several designated school bus stops for Captain Cooper Elementary School and Carmel High School (located in Carmel about forty miles north of the proposed project site) are located along State Route 1 in the vicinity of Julia Pfeiffer Burns State Park (Carmel Unified School District 2007b). The Julia Pfeiffer stop is at the park entrance, the Grey Rock stop is north of the park entrance in a designated vehicle pull out, and the Partington Point stop is at the northernmost end of the park ((Canepa 2007). There are no designated Carmel Unified School District bus stops at or near the entrance of Tin House Road.

Other Public Services and Facilities

- Hospitals and Other Medical Treatment Facilities: The two closest medical facilities that serve the Big Sur Coast are the 233 bed Community Hospital of the Monterey Peninsula and the Big Sur Health Center. The full service Community Hospital of the Monterey Peninsula (CHOMP) is located on Holman Highway in the city of Monterey and is approximately thirty-nine miles north of Julia Pfeiffer Burns State Park (Google Maps 2007). CHOMP added 200,000 square feet in a recent expansion which included additional emergency treatment, operating, intensive care, and other hospital rooms, facilities, and diagnostic equipment (Community Hospital of the Monterey Peninsula 2007).

  The Big Sur Health Center, located near the town of Posts, is a community healthcare facility serving Big Sur Coast residents, workers, and visitors. It is approximately thirteen miles north of Julia Pfeiffer Burns State Park (Google Maps 2007). Big Sur Health Center is the only medical facility along a 100 mile stretch of coastline south of Carmel and could become the only medical facility available during emergency situations and natural disasters when State Route 1 is blocked. The health center is equipped to provide basic medical care, emergency care, hospice support, certain medical testing, prescription drug services, and minor surgical procedures. Two physicians, a physician assistant, and a registered nurse staff the facility (Coast Property Owners Association 2004).

4.10.1.2 Regulatory Framework

State Fire Responsibility Act

Pursuant to PRC Section 4.15 *et seq*., commonly known as the State Fire Responsibility Act, the State Board of Forestry classifies all lands within the state, based on factors such as vegetative cover and fire risks and hazards. The three fire hazard levels are moderate, high, and very high. This fire hazard classification system is used to determine areas where state government is primarily responsible for preventing and suppressing fires. The Monterey County Big Sur Fire Protection District (FPD), which contains Julie Pfeiffer Burns State Park and Tin House Road, is classified as a high fire hazard area.

Furthermore, state-adopted fire protection regulations establish minimum wildfire protection standards to reduce the potential for wildland fires, decrease response times, and improve firefighters' chances of extinguishing wildland fires. These regulations are applicable in all SRA served by CaFire, including the Big Sur region and the proposed project area. They do not apply to existing structures, roads, streets, or private drives

and facilities. However, they do apply to provisions for emergency access; road width, grades, radius, and turnarounds; signage; one-way road designs; gate entrances; emergency fire use; fuel breaks, and greenbelts.

California Coastal Act
Pursuant to the California Coastal Act (Public Resources Code Section 30000 et seq.), the coastal portion of Monterey County is designated as a "coastal zone."
The California Coastal Act protects public access to coastal and upland areas in the coastal zone for recreational uses (Public Resources Code Sections 30211 and 30223). Policies for land use and development within the Monterey County coastal zone have been defined in four land use plans that comprise the county Local Coastal Program (LCP) certified by the California Coastal Commission. Monterey County retains land use jurisdiction within the coastal zone, with the Coastal Commission having appeal authority over certain issues.

The proposed project area is located within the coastal zone managed under the Big Sur Coast LUP (Monterey County 2006b). The Big Sur Coast LUP addresses the need for and improvements on non-emergency and non-recreational public services. However, there are no formal policies in the LUP that apply to these public services on the Tin House Road. The LUP also recognizes the high threat of wildfire to the region's human population, property, and natural resources. There are no formal policies in the Big Sur Coast LUP that apply to emergency response and related public services on the proposed project site. However, some of the policies pertaining to emergency response and minimizing fire hazards generally could be applicable to the proposed project and are listed below (Monterey County 1986).

- Resource Management (Big Sur Coast LUP, Chapter 3)
  - Key Policy (KP):
    KP #3.7.1: Land use and development shall be carefully regulated through the best available planning practices to minimize risk to life and property and damage the natural environment.

DPR is exempt from local regulations, including general plans, specific plans and zoning ordinances (California Constitution Article XI, Section 7), although the project must comply with applicable state and federal rules such as the Coastal Act.

4.10.1.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project will have a significant impact on public services if it will

- Result in significant environmental impacts from construction associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, to maintain acceptable service ratios, response times, or other performance objectives.

4.10.1.4 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

Construction and completion of the proposed project could place additional demand on California Department of Forestry and Fire with the addition of construction equipment in flammable grasslands; however, this demand would be temporary in nature and considered less than significant.

4.10.1.5 Findings

Impacts to Public Service associated with the Project are either non-existent or less than significant.

4.10.2 Utilities

This section assesses the impacts of the Project on utilities and service systems, including water service; wastewater collection and treatment; solid waste generation and disposal service; and electrical, natural gas, and telephone services.

Water Service

4.10.2.1 Existing Conditions

Potable water is not available in the area of the park where the project is proposed. Water supplies for the project would be brought in as needed.

4.10.2.2 Regulatory Framework

See Hydrology and Water Quality (Section 4.7) for a discussion of the applicable regulatory framework.

4.10.2.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on water services if it will:

- Require or result in the construction of new water treatment facilities or expansion of existing facilities that would cause a significant adverse environmental impact during construction or operation
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities that would cause a significant adverse environmental impact during construction or operation; and/or
- Have insufficient water supplies available to serve the Project from existing entitlements and resources or require new or expanded entitlements.

4.10.3.4 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

All Project Activities would have sufficient water supplies available to serve the Project from existing entitlements and resources and would not require new or expanded entitlements.

4.10.3.5 Findings

Project activities would not require water beyond the minor amount needed for dust control.

4.10.4 Wastewater Collection and Treatment

4.10.4.1 Existing Conditions

The Park is not connected to any municipal wastewater service. DPR utilizes septic systems and leach fields for the treatment and removal of wastewater that originates from inside the Park (DPR 2008).

4.10.4.2 Regulatory Framework

See Hydrology and Water Quality (Section 4.7) for a discussion of the applicable regulatory framework.

4.10.4.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on wastewater collection and treatment services if it will:

- Exceed wastewater treatment restrictions or standards of the applicable RWQCB;
- Result in a determination, by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to service the project's anticipated demand, in addition to the provider's existing commitments; and/or
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities in conditions that would cause a significant adverse environmental impact during construction or operation.

4.10.4.4 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

The Park does not receive services from a wastewater treatment provider nor would the Park require construction of a new wastewater treatment facility. Therefore, effects to thresholds of significance above will be less than significant

4.10.4.5 Findings

The Park is not served by a wastewater treatment provider. Project activities would not require the expansion of the Park's existing wastewater collection (leach fields) and treatment facility. The Park's existing system does not exceed wastewater treatment restrictions or standards of the RWQCB.

4.10.5 Solid Waste Generation and Disposal Service

4.10.5.1 Existing Conditions

DPR personnel collect trash from public use, day facilities, and Park residences and transport it to large bins where it is removed by Waste Management International (WMI) to an approved off-site disposal facility (DPR 2008).

4.10.5.2 Regulatory Framework

See Hydrology and Water Quality (Section 4.7) for a discussion of the applicable regulatory framework.

4.10.5.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on solid waste collection and/or disposal services if it will:

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; and/or
- Violate federal, state, and local statutes and regulations as they relate to solid waste.

4.10.5.5 Findings

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

Project activities would not generate an excessive amount of solid waste above that which is already generated at the Park.

4.11 Transportation, Circulation, and Traffic

This section describes existing local and regional conditions and the potential impacts of the proposed Tin House Road Improvement Project on transportation, circulation, and traffic, along with pertinent traffic standards and regulations, and mitigations proposed to reduce the significance of potential impacts. The analysis focuses primarily on impacts to vehicle traffic on roadways providing access to Julia Pfeiffer Burns State Park.

4.11.1 Existing Conditions

Highway 1 traversing the Big Sur Coast is a special road of local, state, and national significance. It was built primarily for scenic travel and recreational enjoyment and has been managed with this purpose always in mind. Monterey County takes a strong and active role in guiding future use and improvement of Highway 1 and all categories of land use related to and dependent on the highway. The County's objective is to maintain and enhance the highway's aesthetic beauty and to protect its primary function as a recreational route. As stipulated by the California Coastal Act, Highway 1 along the rural Big Sur Coast is to remain a two-lane facility.

The California Department of Transportation (CalTrans) manages more than 45,000 miles of California's highway and freeway lanes, provides inter-city rail services, assists more than 100 public general aviation airports and works with local agencies. The department is primarily responsible for planning, designing, constructing, maintaining and operating the state highway system. Caltrans is made up of twelve districts including the Central Coast known as District 5, which includes Santa Barbara, San Luis Obispo, Monterey, San Benito and Santa Cruz Counties. Maintenance and operation of State Route 1, a state-designated highway that encompasses the entire Big Sur Highway is the responsibility of CalTrans.

The highest percentage of highway trips has always been based in tourism and recreation. The Monterey County Big Sur Coast Land Use Plan states that recreation-oriented traffic is estimated to comprise 95% of all trips during the peak summer months and that driving for pleasure accounts for most of the recreational trips. More trips along the Big Sur Coast originate in the Monterey Peninsula than in San Luis Obispo County. Additionally, views from the southbound (outside) lane are more spectacular as the traveler looks out from the outermost edge of the land to the ocean. The vehicle mix includes passenger cars, recreational vehicles (some with trailers), tour buses, motorcycles and bicycles. This portion of the highway is an Advisory Route for trucks, meaning that travel is not advised if the distance from kingpin to rear axle exceeds 30 feet. Buses are limited to 40 feet in length.

South of Pfeiffer Big Sur State Park, annual average daily traffic (AADT) is under 3,000 and has increased by less than five percent over the past 10 years. By contrast AADT is more than 4,000 between Big Sur and Malpaso Creek; while north of Malpaso Creek the AADT is more than 8,000. The current capacity of Highway 1 through Big Sur is 1600 vehicles per lane per hour. Current peak hour volumes are in the 620-740 range and are projected to remain below capacity through the year 2025.

4.11.1.1 Roadway System

Level of service (LOS) measures how the route operates during peak hour traffic. Level of service summarizes the effects of speed, travel time, traffic interruptions, freedom to maneuver and other factors. On a two-lane highway such as Route 1, the primary measures of service quality (LOS) are percent time-spent-following and average travel speed. LOS C (see table below) is the target level of service for a two-lane rural highway.

Performance of the County's roads and highways is evaluated based on level of service (LOS) calculations. Six levels of service represent varying roadway conditions ranging from ideal: LOS "A," to forced flow: LOS "F." The Monterey County Transportation Commission objective for optimum driving conditions is LOS "C" or better (Monterey GP, Circulation).

Table 4.11.1 Level of Service Description	
LOS	Description
A	Represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable.
C	Stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
D	Represents high density, but stable flow.
E	Represents operating conditions at or near the capacity level.
F	Represents forced or breakdown flow.
Source: Monterey County General Plan	

4.11.1.6 Pedestrian and Bicycle

Highway 1 along the Big Sur Coast is also part of the Pacific Coast Bike Route. For the most part, bicycle trips are recreational in nature and do not serve as functional substitutes for motorized travel (i.e., commuting). However, experienced bicyclists on cross-country trips or day tours do use the highway in low numbers. The highway is a Class III bicycle route meaning that cyclists share the road with vehicles and do not have designated bike lanes. Cyclists must ride as far to the right of the road as is safe.

4.11.2 Regulatory Setting

State

California Department of Transportation

California Department of Transportation (Caltrans) manages interregional transportation, including management of construction activities within or above the California highway system. In addition, Caltrans is responsible for permitting and regulating the use of state roadways. The Project area includes several roadways that fall under Caltrans' jurisdiction (I-80, SR 20/49, and SR 174).

Caltrans requires that permits be obtained for transportation of oversized loads and transportation of certain materials, and for construction-related traffic disturbances. Caltrans regulations would apply to the transportation of oversized loads on state roadways (e.g., I-80, SR 20/49, and SR 174) associated with the construction of the proposed Project.

4.11.3 Thresholds of Significance

The following thresholds have been prepared based on the State CEQA Guidelines (Appendix G) and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on transportation, circulation, and traffic of the area if it will:

- Cause a substantial increase in traffic, in relation to existing traffic and the capacity of the street system (i.e., a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- Exceed, individually or cumulatively, the level of service standards established by the county congestion management agency for designated roads or highways;
- Cause a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks;
- Contain a design feature (e.g., sharp curves or a dangerous intersection) or incompatible uses (e.g., farm equipment) that would substantially increase hazards;
- Result in inadequate emergency access;
- Result in inadequate parking capacity; or
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

4.11.4 Effects Considered No Impact or Less Than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

Project activities are limited to ground disturbing activities. No aircraft would be used and therefore no change in air traffic patterns would occur; no design or improvement changes to the local roadway network are proposed therefore no new roadway hazards would occur; and no design changes or improvements to the local roadway networks are proposed. Traffic impacts would be temporary and short-term; therefore, the existing conditions to all forms of transportation around the site would remain unchanged.

4.11.5 Findings

For transportation, circulation, and traffic conditions evaluated as part of this environmental document, project activities would not cause a substantial increase in traffic, exceed the LOS standards of Monterey County, cause a change in air traffic patterns, include a design that would increase hazards, result in inadequate emergency access, or parking, or conflict with adopted policies, plans or programs supporting alternative transportation.

5.0 Growth-Inducing and Cumulative Impacts

This section discusses ways that the Tin House Road Improvement Project (Project) could foster economic or population growth or increase the need for new housing construction. This section also traces any chain of cause and effect arising from project-related economic or social changes that could result in physical changes to the environment. Also, it identifies the Project's potential cumulative impacts, including the Project's temporary construction and long-term operational impacts. In addition, this section identifies additional impacts from Projects planned, or in the process, in the general vicinity that, combined with impacts from the Project, could result in a significant environmental impact.

5.1 Growth-Inducing Impacts (Population, Housing, and Employment)

CEQA requires a discussion of the ways that a proposed project could induce growth either locally or regionally. The CEQA Guidelines § 15126.2 (d) consider a project to be growth-inducing if it fosters economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Per the Guidelines, new employees from commercial and industrial development and new populations from residential development represent direct forms of growth. The expansion of urban services into a previously un-served or under-served area, the creation or extension of transportation links, or the removal of major obstacles to growth are examples of projects that are growth-inducing. Growth-inducing projects could have a secondary effect of expanding the size of local markets and attracting additional economic activity to the area (14 CCR § 15126.2 (d)).

Typically, the growth-inducing potential of a project would be considered significant if it fosters growth or a concentration of population above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth impacts also could occur if the project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies (14 CCR § 15126.2 (d)).

5.1.1 Existing Conditions

Julia Pfeiffer Burns State Park borders Highway 1, a State Scenic Highway, on the south and west. The nearest community is the Partington Ridge community, located north of the project area. The area is rural in nature, with pockets of small community development. Growth in the area is very limited. Primary access to the area is via Highway. 1. A portion of the project would be conducted in a creek on the property line between DPR and an adjacent property owner to restore proper placement of the property line.

5.1.2 Regulatory Framework

There are no applicable federal, state or local regulations regarding population, housing and employment.

5.1.3 Thresholds of Significance

The Project would be considered to have a potentially significant adverse environmental impact to population and housing if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere; and/or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

5.1.4 Effects Considered No Impact or Less than Significant without Project Requirements

No Impact and Less Than Significant impact determinations based on the CEQA Guidelines Section 15064.5 and Appendix G.

- The proposed project (see Section 2.0, Project Description) would not induce substantial population growth, either directly or indirectly. The Project does not include the construction of new houses or the commencement of new businesses. Over the long term, the Project would have no impact on population growth, as no significant long-term growth employment would result from the Project. This increase in local employment, while economically beneficial, would not be of a sufficient magnitude to result in a substantial increase in local population that is not otherwise accounted for in regional planning documents.
- No impacts would occur to existing off-site housing; project activities would be implemented within the Park's boundaries. The proposed project would not result in the displacement of existing housing.
- The Project would not displace a substantial number of people, thereby necessitating construction of replacement housing. The proposed project would be implemented within the Park's boundaries; therefore, no impact would occur to off-site displacement of people.

5.1.5 Findings

The proposed project would have a no impact on population growth (either directly or indirectly). Any increase in the workforce would not reach a level that would result in a substantial increase in local population not otherwise accounted for in regional planning documents. Nor would project activities have an impact on the displacement of a substantial numbers of housing or people; therefore, construction of replacement housing would not be required at, or in the vicinity of, the Park.

5.2 Cumulative Impacts

CEQA Guidelines require that all EIRs contain an analysis of cumulative impacts that a project might contribute. An EIR must discuss the "cumulative impact" of a project when its incremental effect would be cumulatively considerable. Section 15355 defines cumulative impacts as "two or more individual effects which, when considered together,

are considerable or which compound or increase other environmental impacts" (14 CCR § 15355). A cumulative impact "consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts" (14 CCR § 15130(a)(1)). The discussion of cumulative impacts "shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone" (14 CCR § 15130(b)). By requiring an evaluation of cumulative impacts, CEQA attempts to minimize the possibility that an EIR will overlook large-scale environmental impacts by only focusing on the effects of a single project.

Further, the Guidelines state "[l]ead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used" (Section 15130(b)(1)(B)(3)). The cumulative impacts analysis "shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects" (Section 15130(b)(5)). With some projects, "the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis" (Section 15130(c)).

Section 15130(a)(3) also states that an EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable, and thus not significant, if a project is required to implement or fund its fair share of mitigation measure(s) designed to alleviate the cumulative impact.

CEQA requires that one of two methods of establishing this future baseline be used:

- A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency (14 CCR, § 15130 (b)).

Cal Trans generally has maintenance projects scheduled on Highway 1 as funds are available; in addition DPR often has smaller maintenance programs and rehabilitation project planned for a par unit; however, as of publication of this DEIR, no past, present, and probable future projects producing related or cumulative impacts were identified.

5.3 Findings

Impacts from environmental issues addressed in this DEIR do not overlap with these additional projects in such a way as to result in cumulative impacts that are greater than the sum of the parts. Full implementation of all Standard and Specific Project Requirements, mitigation measures, with this and other projects would reduce any potential cumulative impact to a less than significant level.

6.0 SIGNIFICANCE OF ENVIRONMENTAL IMPACTS

In accordance with CEQA Guidelines §15126.2, this DEIR identifies and analyzes the environmental effects of the proposed project and their significance, based on the physical conditions existing at and surrounding the proposed project location at the time the Notice of Preparation was published with the State Clearinghouse (SCH#2005091024), on June 15, 2007. Both direct and indirect potentially significant project-related effects are clearly described and the duration of these effects (long- or short-term) are noted. These include conditions specific to the proposed project area, physical changes, changes to ecological systems, human use and development of the land, public service demands, health and safety issues, and overall natural, cultural, and aesthetic impacts.

6.1 Cumulative Impacts

Most Project impacts addressed in this DEIR do not overlap with additional projects in a manner that would result in cumulative impacts that are greater than the sum of the parts. Full implementation of all Project Requirements and mitigation measures will reduce any potential cumulative impact to a less than significant level.

6.2 Environmental Effects Found to be No Impact

There was no potential for impacts to Land Use Planning (§4.10.2) [includes, Agriculture (§4.8.2), Minerals (§4.8.3), and Recreation (§4.8.4)]; Utilities (§4.10.2); Traffic (§4.11); or Growth Inducing/Cumulative (§5.0) [includes, Population, Employment, and Housing].

6.3 Environmental Effects Found to be Less Than Significant Impact

The following areas of potential environmental concern were found to have no potential for adverse impact or the potential for environmental impact was less than significant. "Significant" is defined in CEQA Guidelines §15382 as "...a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself would not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant. "Additional information on existing conditions and basis for determining significance can be found in the referenced sections of this document.

The potential for significant adverse environmental impacts to Aesthetics and Visual Resources (§4.1); Cultural Resources (§4.4), Geology and Soils (§4.5), Hazards and Hazardous Materials (§4.6), Hydrology and Water Quality (§4.7), Noise (§4.9) and Public Services (§4.10) was found to be less than significant.

6.4 Environmental Effects Found to be Significant

The proposed project was evaluated for potential significant adverse impacts to the natural environment. DPR determined that the project would have the potential to:

- **Biological Resources:** Project activities along the border of the creek and on the north facing slope of the Tin House Road along the upper portion of the road,

identified as Redwood Alliance, provides valuable riparian habitat for various species of native wildlife. Removal of this vegetation would reduce valuable habitat

Full implementation of the proposed mitigation measures included in this DEIR would reduce potential project-related adverse impacts to a less than significant level.

6.4 Cumulative Impacts

Impacts from environmental issues addressed in this DEIR do not overlap with these additional projects in such a way as to result in cumulative impacts that are greater than the sum of the parts. However, full implementation of all mitigation measures, conditions, and constraints associated with this and other projects, and consistency with the development density established by existing zoning, community plan, and general plan policies would reduce any potential cumulative impact to a less than significant level.

6.5 Overriding Consideration

This section addresses Section 15093 of the CEQA Guidelines requiring the public agency "to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered 'acceptable'" (14 CCR §15093). This is known as a statement of overriding considerations. This statement of overriding considerations could be made where changes or alterations in the Project that would avoid or substantially lessen the significant environmental effects are within the responsibility and jurisdiction of another public agency, or where specific economic, legal, social, technological or other considerations, which make mitigation measures or project alternatives infeasible.

The proposed project contains only one significant impact to biological resources, Redwood Alliance Vegetation that would be reduced to a less than significant level with mitigation. A Statement of Overriding Consideration is not necessary for the Tin House Road Improvement Project.

7.0 REPORT PREPARATION

7.1 List of Preparers

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Appendix A
Maps

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Julia Pfeiffer Burns State Park Area Map

Partington Ridge 7.5 min Quad Map

Appendix B
Notice of Preparation

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

NOTICE OF PREPARATION

Julia Pfeiffer Burns State Park, Tin House Road Improvements Project Environmental Impact Report

The California Department of Parks and Recreation (DPR) is the Lead Agency for the Tin House Road Improvements project at Julia Pfeiffer Burns State Park, as defined by the California Environmental Quality Act (CEQA), and is preparing a draft Environmental Impact Report (EIR) for the project identified above. We need to know the views of your agency as to the scope and environmental requirements, relevant to your agency's statutory responsibilities, in connection with the proposed project. The project description, location, and possible environmental effects are included with this notice.

Your response must be sent to the address below no later than thirty (30) days after this notice is filed with the Governor's Office of Planning and Research/State Clearinghouse (June 15, 2007). Please provide us with the name, phone number, and email address of a contact person for your agency as well.

Department Of Parks And Recreation - Contact Person

Patricia DuMont, Environmental Coordinator
Northern Service Center
One Capital Mall - Suite 500
Sacramento, California 95814
Telephone: (916) 445-9081 Fax: (916) 445-9100
Email: CEQANSC@parks.ca.gov (Subject Line: 'Tin House Road')

Project Description

The project site is located in Julia Pfeiffer Burns State Park, in the Big Sur area of Monterey County, California. The Tin House Road is located north of the Park's main entrance on Highway 1 at Post Mile 36.9. The proposed site covers approximately 2.2 miles of Tin House Road.

This project proposes to remove the road shoulder adjacent to the creek and remove fill from the native creek channel. Installation of a crib wall would allow for the road to remain while the fill in the channel is removed. When the proposed project is completed the creek channel will occupy the native channel and the Tin House Road will continue be on DPR property in its present location adjacent to the creek. To accomplish this goal, DPR proposes to reconfigure the grade across the Tin House Road to improve drainage and minimize erosion on the road and adjacent lands. Work will:

- Remove fill from channel and relocate to area upslope and away from the creek. The excess material will be used to re-grade the road bed upslope from the creek area. This section of road is currently graded to the inside edge of the road and has many signs of erosion. The excess fill material will be used to bank the road bed to the outside edge and reduce transportation of runoff along the road.
- Install a wood with metal hardware crib wall to retain the Tin House Road and restore the natural creek channel. Visible exterior components will be primarily

wood. Crib wall will be backfilled with free draining angular rock and will include a geo-textile fabric barrier to prevent soil from migrating through the wall while allowing for good drainage.

- Stabilize the road bed adjacent to the creek to prevent rutting and erosion Stabilizing the road bed will consist of compacting the base layers in 6 inch thick lifts to 95 % relative compaction and spreading and compacting aggregate base material on the top surface along with out slope grading and drivable road dips.
- Temporarily reroute creek water to allow work within the normal high-water zone of the creek. Work required within the limits of the normal high water zone will be completed in conjunction with a California Department of Fish and Game approved dewatering plan.
- Replace damaged, undersized culverts with large-diameter culverts made of plastic storm drain pipe with double wall construction or corrugated metal pipe. Final pipe selection will be determined when pipe is sized for rainfall runoff. Depending on runoff quantities the material will be selected that is most economical and best suited for installation in the remote location.
- Improve natural drainage patterns across Tin House Road to reduce erosion potential and encourage water flows, across rather than down the road
    - Grade the road bed to an out-sloped condition and eliminate inboard ditches by packing with fill material
    - Construct swales and dips to direct overland flow across the road and into natural drainage.
- Stabilize all project-disturbed areas. Compact areas of fill to approximately 90% relative compaction in 6 inch thick lifts. Top surface of cut and fill areas will be mulched with woody mulch to prevent raveling from rainfall. Seed will be applied with mulch to reestablish native plant cover.
- Surface drainage will avoid concentrated runoff coursing over newly graded slopes. Where concentrated runoff is expected the drainage course will be armored with a layer of 6 inch size or smaller rock.
- Re-vegetate appropriate areas with native plants grown from seeds collected in the project area.

Possible Effects and Mitigations

Construction activities would temporarily impact site aesthetics, air quality, and noise levels in the area of the project site. These impacts would be reduced with the use of operational Best Management Practices (BMPs), including dust and emission controls, seasonal noise restrictions, and mufflers and noise damping equipment, consistent with local, state, and federal standards and regulations. In addition, work would generally be restricted to 8-5, Monday through Friday, except as necessary to address emergencies or unexpected work conditions, such as extreme weather.

Coast buckwheat, habitat for the federally listed Smith's Blue Butterfly (*Euphilotes enoptes simthi*), is known to occur in the project area. Additionally, spreading dudleya (*Dudleya cymosa ssp. pumila*) a potential habitat plant for Doudorf's Elfin butterfly (Incisalia mossi doudoroffi), a species of special concern, also occurs in the project area as well as Lewis' clarkia (Clarkia lewisii), a CNPS list 4 species.

California condor, California spotted owl, nesting raptors, and migratory bird species forage in the general vicinity of the project area and may nest within one-half mile of the proposed project site. Surveys of the area for nesting sites or habitat trees would occur prior to the start of construction and buffer zones established to protect nests or habitat as appropriate. Red-legged frog, a federally listed threatened species, also potentially occurs in the project area.

Grading and excavation activities proposed as part of this project could result in increased erosion and/or sedimentation into Redwood Creek. DPR approved BMPs would be used in all areas to control soil and surface water runoff during all ground-disturbing activities and would continue until all disturbed soil has been stabilized (recompacted, re-vegetated, etc.). Work to re-establish the original drainage patterns in the watershed would result in short-term soil disturbance. Best Management Practices would be consistent with those found in the Stormwater Best Management Practice Handbook, Construction (CSQA, 2003), to prevent soil loss and siltation.

Staging and material storage areas would be identified in advance and construction debris would be promptly removed. Temporary DPR-approved BMPs would be implemented to reduce overall construction impacts. Permanent BMPs, including compacting of disturbed areas, and revegetation of disturbed soil areas, would also be implemented as needed.

All potential impacts are expected to be reduced to a less than significant level.

Appendix C
Natural Resource Tables

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Table. Special-Status Species list from the U.S. Fish and Wildlife Service Monterey County list and CNDDB (2007) database in the 9 USGS 7.5 minute quadrangles surrounding the project area, and additional species with the potential to occur near the project area.

Name	Status-Federal/ State/ /Other	General Habitat Description	Potential for Occurrence in Project Area.
BUTTERFLIES			
Smith's blue butterfly *Euphilotes enoptes smithi*	E/--/--/--	Wind protected coastal dune and sage scrub along the central CA coast. *Eriogonum latifolium* and *E. parvifolium* are host plants for all life stages.	Known to occur in the project area. Many *Eriogonum parvifolium* plants occur along the middle portion of the Tin House road.
Monarch butterfly *Danaus plexippus*	--/--/--/C	Winters in large colonies along the CA coast; roosts are in *Eucalyptus* or other wind-protected tree groves.	Historic winter cluster location in McWay Canyon over one mile from the project area.
Doudoroff's elfin butterfly *Callophrys*[Incisalia] *mossii doudoroffi*	--/--/--/A	Endemic inhabits steep coastal canyons on rocky cliffs above streams. *Sedum* and *Dudleya* are host plants.	Known to occur in Los Padres National Forest and Landels-Hill Big Creek Reserve to the south.
Bay checkerspot butterfly *Euphydryas editha bayensis*	T/--/--/--	Native grasslands on outcrops of serpentine soil in vicinity of San Francisco Bay. *Plantago erecta* is the primary host; *Orthocarpus* secondary.	Suitable habitat does not occur in the project vicinity.
OTHER INVERTEBRATES			
Conservancy fairy shrimp *Branchinecta conservatio*	E/--/--/--	Large turbid vernal pools in the northern Central Valley.	No potential vernal pool habitat exists in or near the project area.
Long-horn fairy shrimp *Branchinecta longiantenna*	E/--/--/--	Vernal pools with clear to turbid waters.	No potential vernal pool habitat exists in or near the project area.
Vernal pool fairy shrimp *Branchinecta lynchi*	T/--/--/--	Vernal pools with clear to turbid waters.	No potential vernal pool habitat exists in or near the project area.
Globose dune beetle *Coelus globosus*	--/--/--/B	Inhabits coastal dune habitat. Burrows in sand, often under dune vegetation.	No dune habitat occurs in or near the project area.
Pinnacles riffle beetle *Optioservus canus*	--/--/--/C	Found in riffles of cool, clear streams along the coast of Monterey County and in Pinnacles National Monument.	Known to occur in Partington Creek.

Name	Status-Federal/ State/ /Other	General Habitat Description	Potential for Occurrence in Project Area.
Dolloff cave spider *Meta dolloff*	--/--/--/B	Occurs in caves from the mouth to the inner cave areas in isolated locations along the central coast.	No caves occur in the project area.
FISH			
Tidewater goby *Eucyclogobius newberryi*	E/--/--/--	Brackish water lagoon and river mouths with fairly still water.	No suitable habitat occurs in or near the project area.
Steelhead-south/central CA coast *Oncorhynchus mykiss irideus*	T/--/--/--	Rivers, streams and tributaries where cool, well oxygenated water is available year round. Redds in gravel substrate.	Known to occur in Partington Creek.
AMPHIBIANS			
California tiger salamander *Ambystoma californiense*	T/CSC/--/--	Vernal pools, stock ponds and other seasonal ponds in grasslands for breeding; need upland underground refuges, especially ground squirrel burrows for the majority of the year.	No suitable breeding habitat occurs in or near the project area. The closest suitable breeding habitat is in ponds located in the Salinas and Carmel River Valleys of northern and interior Monterey County.
California red-legged frog *Rana aurora draytonii*	T/CSC/--/--	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent vegetation; access to aestivation habitat.	Not expected to breed or occur near the project area due to absence of stock ponds or slow moving, deep water areas.
Foothill yellow-legged frog *Rana boylii*	--/CSC/--/--	Generally restricted to shallow, partly shaded, gently flowing streams with at least some cobble substrate. Seldom found more than a few feet from water.	Not expected due to absence of suitable habitat in the project area. Closest known location is in the Big Sur River drainage.
Coast range newt *Taricha torosa torosa*	--/CSC/--/--	Breeds in ponds, reservoirs and slow-moving portions of streams. Occasionally in faster moving portions of streams. Frequents upland habitats.	Unlikely to occur in the project area, but there is limited marginal breeding habitat in Partington Creek.

Name	Status-Federal/ State/ /Other	General Habitat Description	Potential for Occurrence in Project Area.
REPTILES			
Western pond turtle *Emys* (=Clemmys) *marmorata*	--/CSC/--/--	Ponds, marshes, streams, rivers, and irrigation ditches with aquatic vegetation; basking sites in open upland areas for egg-laying required.	Not expected due to absence of suitable habitat in the project area.
California legless lizard *Anniella pulchra*	--/CSC/--/--	Moist, warm loose soil areas of beach dunes, chaparral, desert scrub, pine-oak woodland and sandy washes.	Potentially present in JPB, but loose, sandy soil areas are not present in the project area.
Coast horned lizard Phrynosoma coronatum	--/CSC/--/--	Open, sandy soil areas with basking sites.	Suitable sandy soil habitat within JPB, but not within the project area.
Two-striped garter snake *Thamnophis hammondii*	--/CSC/--/--	Highly aquatic, found in/near perennial streams with riparian vegetation.	No suitable habitat occurs in the project area. Redwood creek supports no prey base for this species.
BIRDS			
California condor *Gymnogyps californianus*	E/E/--/--	Open, arid foothills and mountainous areas. Nest on cliffs, in caves, or in very large cavities in redwood trees.	Captive breeding effort attempting to re-establish condors along the Big Sur Coast. Can be seen flying over JPB and could be attracted to carcasses on the beach or highway. No suitable breeding habitat in the project area.
Golden eagle *Aquila chrysaetos*	BCC/CSC/--/--	Open foothill, mountain, and desert, areas. Nests in cliff-walled canyons and in large trees in open areas.	No breeding records near JPB, but there is limited potential open grassland habitat in upper portions of the project area. No cliffs or large trees suitable for nesting will be affected.
Bald eagle *Haliaeetus leucocephalus*	D/E/--/--	Ocean shores, lake margins and rivers for both nesting and wintering. Nests in large trees within 1 mile of water body.	Historically nested along the Big Sur Coast in lower portions of large canyons. No breeding records in JPB, but range expansion and reintroduction could result in future nesting in or near JPB. No suitable nest trees will be impacted.
Prairie falcon *Falco mexicanus*	BCC/CSC/--/--	Dry, open terrain; nests on open cliffs.	Known to nest in interior Monterey County, no nest sites known along the coast.

Name	Status- Federal/ State/ /Other	General Habitat Description	Potential for Occurrence in Project Area.
Peregrine falcon *Falco peregrinus anatum*	D/E/--/--	Wide variety of habitats near water. Nests on protected cliffs and ledges in forest and woodland habitats.	Known to nest along the Big Sur Coast. No suitable nesting areas will be impacted by this project.
Merlin *Falco columbarius*	--/CSC/--/--	Winters in grasslands, savannah, woodland and forest habitats	May occur in coastal areas in winter or on migration but does not nest in California.
Osprey *Pandion haliaetus*	--/CSC/--/--	Nests in large tree tops in close proximity water with productive fishery.	Uncommon migrant or winter resident on the Big Sur Coast. No suitable nesting or foraging habitat will be impacted.
Sharp-shinned hawk *Accipiter striatus*	--/CSC/--/--	Breeds in mountain coniferous forests and open oak woodlands. Widespread in winter.	Known to occur in JPB in winter. Probably a very uncommon summer resident but could potentially nest in JPB.
Cooper's hawk *Accipiter cooperii*	--/CSC/--/--	Riparian and oak woodland; occasionally in urban settings. Widespread in winter.	Most likely present in JPB in winter. Rare summer residents in Monterey County but could potentially nest in JPB.
Northern harrier *Circus cyaneus*	--/CSC/--/--	Grasslands, marshes and agricultural fields; nests on ground in shrubby vegetation usually at marsh edge.	Known to nest in interior Monterey County. No suitable nesting areas will be impacted by this project.
White-tailed kite *Elanus leucurus*	--/FP/--/--	Open grasslands, meadows, marshes, and agricultural lands close to isolated dense topped trees for nesting.	Resident in some areas of Monterey County, especially north of the Big Sur River. Very unlikely, but could potentially occur in JPB.
California spotted owl *Strix occidentalis occidentalis*	BCC/CSC/--/--	Mixed conifer forests with high canopy cover. Often in shaded north-facing slopes near water.	Known to occur in JPB in the upper reaches of the south fork of Partington Creek.
Burrowing owl *Athene cunicularia*	BCC/CSC/--/--	Open grasslands characterized by low growing vegetation; dependent on burrowing mammals.	Occur in northern Monterey County. No records in or near JPB. No suitable habitat will be impacted.
Long-eared owl *Asio otus*	--/CSC/--/--	Dense riparian woodland or forest. Uses stick nests or tree cavities.	Suitable nesting habitat does not occur in the project area and no suitable nest trees will be impacted.

Name	Status- Federal/ State/ /Other	General Habitat Description	Potential for Occurrence in Project Area.
Black swift *Cypseloides niger*	BCC/CSC/--/--	Nests built in cliffs, often behind water falls.	Known to occur in JPB.
Olive-sided flycatcher *Contopus cooperi*	BCC/--/--/--	Mixed conifer forests. Nests built high in conifer trees.	Known to occur in JPB.
Loggerhead shrike *Lanius ludovicianus*	BCC/CSC/--/--	Open, light tree cover areas with fairly dense shrubs and brush for nesting.	Occurs in open interior and northern portions of Monterey County. No suitable habitat will be impacted by this project.
California horned lark *Eremophila alpestris actia*	--/CSC/--/--	Open grasslands and agricultural fields, short grass prairie, alkali flats.	Uncommon local resident in open grassland areas of Monterey County, very rare on coast but may be present in winter.
Purple martin *Progne subis*	--/CSC/--/--	Woodlands and low elevation conifer forests. Nests in cavities in tall isolated trees, often along ridges. Also nest in man-made structures.	Known to occur in JPB.
Bank swallow *Riparia riparia*	--/T/--/--	Colonial nester in riparian habitats. Requires near vertical loose or sandy soil banks near water for nesting.	Very local summer resident in the far north and east portions of Monterey County. No suitable nesting habitat occurs in the project area. There will be no impacts to this species.
Yellow warbler *Dendroica petechia*	--/CSC/--/--	Most often breeding in riparian areas with willow or cottonwoods or other riparian vegetation.	Breeds in interior Monterey County. Probably present in very small numbers on migration and during winter in JPB.
MAMMALS			
American badger *Taxidea taxus*	--/CSC/--/--	Open, uncultivated areas with friable soils; open shrub, forest and herbaceous habitats.	Known to occur along the rugged Big Sur Coast. May be present in grassland portions of JPB.
San Joaquin kit fox *Vulpes macrotis mutica*	E/T/--/--	Annual grasslands or open grassy areas with scattered shrub component.	No suitable habitat occurs in or near JPB. There will be no impacts to this species.

Name	Status- Federal/ State/ /Other	General Habitat Description	Potential for Occurrence in Project Area.
Ringtail *Bassariscus astutus*	--/FP/--/--	Riparian areas and scrub habitats.	Known to occur along the Big Sur Coast and may be present near the project area.
Monterey dusky-footed woodrat *Neotoma fuscipes luciana*	--/CSC/--/--	Woodland and forest habitats, especially in association with oaks.	Known to occur in JPB.
Townsends big-eared bat *Corynorhinus townsendii*	--/CSC/--/W	Open coniferous areas and more arid environments. Roost in caves and abandoned mines.	Potentially occur in JPB. No suitable roost sites will be impacted by this project.
Pallid bat *Antrozous pallidus*	--/CSC/--/W	Rocky outcrops near open, dry areas. Occasionally in evergreen forests. Roost in caves, overhangs, buildings and rock crevices.	Potentially occur in JPB. No suitable roost sites will be impacted by this project.
Western mastiff bat *Eumops perotis*	--/CSC/--/W	Arid regions with rocky outcrops and cliffs. Roost in crevices of rocky cliffs.	Potentially occur near and could forage in JPB. No suitable roost areas will be impacted by this project.
Hoary bat Lasiurus cinereus	S/--/--/--	Open grassy areas in forested habitats or near lakes.	Potentially occur near and could forage in JPB. No suitable roost areas will be impacted by this project.
Fringed myotis *Myotis thysanodes*	S/--/--/--	Woodlands and grasslands near water. Roost in caves, mines and buildings.	Potentially occur in JPB. The Tin House is the only suitable roost site and there will be no impacts to this structure.
Long-legged myotis *Myotis volans*	S/--/--/--	Primarily in coniferous forests near water bodies. Roost in caves, mines, trees, buildings or rock crevices.	Potentially occur in JPB. No suitable roost locations will be impacted by this project.
Long-eared myotis *Myotis evotis*	S/--/--/--	Forested areas adjacent to rocky or open areas. Roost in caves, mines, tree cavities, buildings or bridges.	Potentially occur in JPB. No suitable roost locations will be impacted by this project and no caves occur in the project area.
Yuma myotis *Myotis yumanensis*	S/--/--/--	Grassland and shrub habitats close to water. Roost on south-facing sides of buildings and trees and also in caves.	Potentially occur in JPB. No suitable roost locations will be impacted by this project.
Name	Status- Federal/ State/	General Habitat Description	Potential for Occurrence in Project Area.

	/Other		
MARINE ANIMALS			
Southern sea otter *Enhydra lutris nereis*	T/--/--/--	Nearshore marine environments with kelp forests and rocky substrates.	Known to occur along the Big Sur Coast. Erosion control measures will ensure no impacts to the marine environment. The project goal is to prevent future erosion problems resulting from improper drainage across the road.
Double-crested cormorant *Phalacrocorax auritus*	--/CSC/--/--	Colonial nester on offshore islands, coastal cliffs or along inshore lake margins and islands.	Historically nested on a small rock island a short ways offshore of JPB.
California brown pelican *Pelecanus occidentalis californicus*	E/E/--/--	Colonial nester on nearshore islands.	Known to nest in Monterey County but no known nesting areas in or near JPB. Erosion control measures will ensure no impacts to the marine environment and the goal of the proposed project is to prevent future erosion problems resulting from improper drainage across the road.
Western snowy plover *Charadrius alexandrinus nivosus*	T/E/--/--	Sandy beaches, shores of interior alkali lakes and riverine gravel bars.	No suitable nesting habitat occurs in or near the project area. Erosion control measures will ensure no impacts to the marine environment.
Marbled murrelet *Brachyramphus marmoratus*	T/E/--/--	Nests in old growth redwood-dominated forests.	Not known to nest in Monterey County. No Potential nest tree impacts. Erosion control measures will ensure no impacts to the marine environment.

*Status Explanations:

Federal

- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- PD= proposed for delisting under the federal Endangered Species Act.
- D = delisted
- S = sensitive
- BCC= U.S. Fish and Wildlife Service Bird of Conservation Concern

State

- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.

FP= California Department of Fish and Game Fully Protected Species.
CSC = California Species of Special Concern (CDFG).

Other

A = Species of Special Management Concern for State Parks in the Big Sur District.
B = International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Animals.
C = Wintering sites are considered sensitive resources and migration is an IUCN "threatened phenomenon".
W = Western Bat Working Group High Priority Species.

TABLE X: SPECIAL-STATUS PLANT SPECIES THAT ARE KNOWN OR THAT COULD POTENTIALLY OCCUR WITHIN OR NEAR THE PROJECT AREA

SCIENTIFIC NAME	COMMON NAME	FAMILY NAME	CNPS LISTING	STATUS	CNPS HABITAT TYPES	POTENTIAL FOR OCCURRENCE IN PROJECT AREA
Abies bracteata	bristlecone fir	Pinaceae	List 1B.3	None	broadleaved upland forest; chaparral; Lower montane coniferous forest/rocky open areas; 210-1600 m	No suitable habitat occurs in or near the project area.
Amorpha californica var. napensis	Napa false indigo	Fabaceae	List 1B.2	None	broadleaved upland forest, openings; chaparral; cismontane woodland; 120 - 2000 m	Unlikely
Arctostaphylos edmundsii	Little Sur manzanita	Ericaceae	List 1B.2	None	coastal bluff scrub; chaparral; sandy areas; 30 – 105 m	No suitable habitat occurs in or near the project area.
Astragalus tener var. titi	coastal dunes milk-vetch	Fabaceae	List 1B	CE / FE	Coastal bluff scrub (sandy), coastal dunes, coastal prairie (mesic): 1-50 m	No suitable habitat occurs in or near the project area.
California macrophylla	round-leaved filaree	Geraniaceae	List 1B.1	None	cismontane woodland, valley and grassland/ clay; 15 – 2000 m	No suitable habitat occurs in or near the project area.
Carex obispoensis	San Luis Obispo sedge	Cyperaceae	List 1B.2	None	closed-cone coniferous forest; chaparral; coastal prairie; coastal scrub; valley and foothill grassland; often serpentinite seeps; 10 – 790 m	Unlikely

Chlorogalum purpureum var. purpureum	purple amole	Liliaceae	List 1B	FT	Chaparral, cismontane woodland, valley and foothill grassland / gravelly, clay; 240-340 m	No suitable habitat occurs in or near the project area.
Chorizanthe pungens	Monterey spineflower	Polygonaceae	List 1b	FT	Chaparral (maritime), cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland / sandy; 3-450 m	No suitable habitat occurs in or near the project area.
Chorizanthe robusta var. robusta	Robust spineflower	Polygonaceae	List 1B	FE	Cismontane woodland (openings), coastal dunes, coastal scrub / sandy or gravelly; 3-330 m	No suitable habitat occurs in or near the project area.
Cirsium occidentale var. compactum	compact cobwebby thistle	Asteraceae	List 1B.2	None	chaparral; coastal dunes; coastal prairie; coastal scrub; 5 – 150 m	Possible
Clarkia jolonensis	Jolon clarkia	Onagraceae	List 1B.2	None	chaparral; cismontane woodland; coastal scrub; 20 – 660 m	Possible
Clarkia lewisii	Lewis' clarkia	Onagraceae	List 4.3	None	broadleaved upland forest; closed-cone coniferous forest; Chaparral; cismontane woodland; coastal scrub; known occurrence in project area	Known to occur in and adjacent to the project area
Corethrogyne leucophylla	branching beach aster	Asteraceae	List 3.2	None	closed cone coniferous forest; coastal dunes; 3 – 60 m	Reported to occur in the park; no suitable habitat occurs in or near the project area
Cryptantha rattanii	Rattan's cryptantha	Boraginaceae	List 4.3	None	cismontane woodland; riparian woodland; valley and foothill grassland; 245 – 915 m	Reported to occur in the park by Howitt and Howell (1964)
Cupressus goveniana ssp. goveniana	Gowen cypress	Cupressaceae	List 1B	FT	Closed-cone coniferous forest, chaparral (maritime); 30-300 m	No suitable habitat occurs in or near the project area.
Dacryophyllum falcifolium	tear drop moss	Hypnaceae	List 1B.3	None	North Coast coniferous forest; /carbonate (calcareous rock in redwood forests); 5 - 275 m	Known to occur in the park; no suitable habitat within the project area

Delphinium hutchinsoniae	Hutchinson's larkspur	Ranunculaceae	List 1B.2	None	broadleaved upland forest; chaparral; coastal prairie; coastal scrub; 0 – 427 m	Possible
Delphinium umbraculorum	umbrella larkspur	Ranunculaceae	List 1B.3	None	cismontane woodland; 400 – 1600 m	Unlikely
Eriogonum nortonii	Pinnacles buckwheat	Polygonaceae	List 1B.3	None	chaparral; valley and foothill grassland; sandy areas; 300 - 975 m	No suitable habitat occurs in or near the project area.
Erysimum menziesii ssp. menziesii	Menzies' wallflower	Brassicaceae	List 1B	CE / FE	Coastal dunes; 0-35 m	No suitable habitat occurs in or near the project area.
Erysimum menziesii ssp. yadonii	Yadon's wallflower	Brassicaceae	List 1B	CE / FE	Coastal dunes; 0-10 m	No suitable habitat occurs in or near the project area.
Fritillaria liliacea	fragrant fritillary	Liliaceae	List 1B.2	None	cismontane woodland; coastal prairie; coastal scrub; valley and foothill grassland/often serpentine; 3 – 410 m	Unlikely
Galium californicum ssp. luciense	Cone Peak bedstraw	Rubiaceae	List 1B.3	None	broadleaved upland forest; chaparral; cismontane woodland; lower montane coniferous forest; 400 – 1525 m	Unlikely
Galium clementis	Santa Lucia bedstraw	Rubiaceae	List 1B.3	None	lower montane coniferous forest; upper montane coniferous forest; /granitic or serpentinite, rocky; 1130 - 1780 meters	No suitable habitat occurs in or near the project area.
Gilia tenuiflora ssp. arenaria	Monterey gilia	Polemoniaceae	List 1B	CT / FE	Chaparral (maritime), cismontane woodland, coastal dunes, coastal scrub / sandy , openings; 0-45 m	No suitable habitat occurs in or near the project area.
Holocarpha macradenia	Santa Cruz tarplant	Asteraceae	List 1B	CE / FT	Coastal prairie, coastal scrub, valley and foothill grassland / often clay, sandy; 10-220 m	No suitable habitat occurs in or near the project area.
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	List 1B	FE	Cismontane woodland, playas (alkaline), valley foothill grassland, vernal pools / mesic; 0-470 m	No suitable habitat occurs in or near the project area.
Layia carnosa	beach layia	Asteraceae	List 1B	CE / FE	Coastal dunes, coastal scrub (sandy); 0-60 m	No suitable habitat occurs in or near the project area.

Lembertia congdonii	San Joaquin wooly-threads	Asteraceae	List 1B	FE	Chenopod scrub, valley and foothill grassland (sandy); 60-800 m	No suitable habitat occurs in or near the project area.
Lupinus albifrons var. abramsii	Abram's lupine	Fabaceae	List 3.2	None	broadleaved upland forest; lower montane coniferous forest; 450-2000m	Unlikely
Lupinus tidestromii	Tidestrom's lupine	Fabaceae	List 1B	CE / FE	Coastal dunes; 0-100 m	No suitable habitat occurs in or near the project area.
Malacothamnus palmeri var. lucianus	Arroyo Seco bush mallow	Malvaceae	List 1B.2	None	chaparral; meadows and seeps; 10 – 915 m	Possible; reported to occur in the park
Malacothrix saxatilis var. arachnoidea	Carmel Valley malacothrix	Asteraceae	List 1B.2	None	chaparral (rocky); 25 - 335 m	Unlikely
Pedicularis dudleyi	Dudley's lousewort	Scrophulariaceae	List 1B.2	CR	chaparral (maritime); cismontane woodland; North Coast coniferous forest; valley and foothill grassland; 60 – 900 m	Unlikely
Piperia yadonii	Yadon's piperia	Orchidaceae	List 1B	FE	coastal bluff scrub, closed-coned coniferous forest, chaparral (maritime) / sandy; 10-415 m	No suitable habitat occurs in or near the project area.
Plagiobothrys uncinatus	Hooked popcorn-flower	Boraginaceae	List 1B.2	None	chaparral (sandy); cismontane woodland; valley and foothill grassland; 300 – 760 m	Unlikely
Potentilla hickmanii	Hickman's potentilla	Rosaceae	List 1B	CE / FE	coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), marshes and swamps (freshwater); 10-135 m	No suitable habitat occurs in or near the project area.
Ribes sericeum	Santa Lucia gooseberry	Grossulariaceae	List 4.3	None	broadleaved upland forest; coastal bluff scrub; North Coast coniferous forest; 305 – 1220 m	Reported to occur in the park
Rosa pinetorum	pine rose	Rosaceae	List 1B.2	None	closed-cone coniferous forest; 2 - 300 m	No suitable habitat occurs in or near the project area.

Sanicula maritima	adobe sanicle	Apiaceae	List 1B.1	CR	chaparral; coastal prairie; meadows and seeps; valley and foothill grassland/clay, serpentinite; 30 – 240 m	No suitable habitat occurs in or near the project area.
Sidalcea hickmanii ssp. hickmanii	Hickman's checkerbloom	Malvaceae	List 1B.3	None	chaparral; 335 – 1200 m	Unlikely
Streptanthus albidus ssp. peramoenus	most beautiful jewel-flower	Brassicaceae	List 1B.2	None	chaparral; cismontane woodland; valley and foothill grassland/serpentinite; 94 – 1000 m	No suitable habitat occurs in or near the project area.
Trifolium trichocalyx	Monterey clover	Fabaceae	List 1B	CE / FE	Closed-cone coniferous forest (sandy, openings, burned areas); 30-240 m	No suitable habitat occurs in or near the project area.

CE – California Endangered
CR – California Rare
CT – California Threatened
FE – Federally Endangered
FT – Federally Threatened

Appendix D

Field Techniques for Forest and Range Road Removal

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