FINAL

Initial Study
Negative Declaration

Grizzly Creek State Park
Water Storage Tank, Water Line, and Septic Replacement Project(s)

December 2010

State of California
DEPARTMENT OF PARKS AND RECREATION
Acquisition and Development
One Capital Mall
Sacramento, CA 95814

Page LEFT INTENTIALY BLANK

FINAL NEGATIVE DECLARATION

PROJECT: **Water Storage Tank, Water line and Septic Replacement Project Grizzly Creek Redwoods State Park**

LEAD AGENCY: California Department of Parks and Recreation (DPR)

AVAILABILITY OF DOCUMENTS:

The initial Study for this Negative Declaration was made available throughout the 30-day public review period at the reference desk of the Humboldt County Library Coaster Bookmobile. It was also available at the public information desks of the DPR's Northern Service Center, the North Coast Redwoods District Headquarters, and Grizzly Creek Redwoods State Park. The Final Negative Declaration and all supporting materials will be available, by request, at DPR's Northern Service Center and the North Coast District Headquarters office.

PROJECT DESCRIPTION:

Water storage and line Replacement

- Install above ground approximately 2,800 feet of new 2-inch diameter HDPE pipe to replace the existing supply line from the water collection spring boxes to the water treatment plant and to the new 5,000 tank.
- Install associated valve connections and replace approximately 5 new concrete valve boxes.
- Trench approximately 200 feet to install water supply piping across two dirt roads and under the walkway of the park residence.
- Remove the leaking 5,000 gallon redwood water tank and replace with a 5,000 gallon polyethylene storage tank with seismic restraints.
- Excavate to pour a two foot wider concrete pad for the polyethylene water tank over the existing concrete slab.
- Repair spring water intake structures by replacing the wood boards and clean out sediment from the boxes.
- Make minor road improvements to provide vehicle access to the water tank site.
- Abandon in place the old water supply piping and parts of the old filtration system.

Septic Replacement

- Excavate to replace five septic tanks; One at each the park residences, One at the Combination building (shower/restroom), one at the restroom and one at the visitors center. The old concrete tanks will be removed and new approximately 12' long x 10' wide and by 8' deep concrete units will be installed in approximately the same locations.
- Abandon the septic tank that serves the seasonal cabins. The tank will be filled with the excavation spoils and/or fill material.
- Trench 200 feet to connect the seasonal cabins to the septic tank at the maintenance shop.

- Excavate by mechanical and/or hand a trench up to 400 feet long within or along the Campground Road to connect the new septic tanks at the shower and restroom buildings to the leach field.
- Excavate two (8' x 8') to areas (one at the combination building and one at the comfort building in the campground) to install effluent well and pump systems to move effluent to the leach field.
- Remove approximately 400 square feet of asphalt and associated fixtures (fire ring table, etc.) from campsites 11 and 13 and convert these combined sites to a new leach.
- Excavate to install approximately 20 leach field chambers approximately 3' deep west of the restroom/shower building. Leach field will be approximately 180' wide x 25' to 45" long.
    - Trench to install piping that would connect the galleries together and install manholes to access valves to control the amount of leach field chambers in use.
- Purchase 4 chemical toilets for high use periods.

FINDINGS:
An Initial Study has been prepared to assess the proposed project's potential impacts on the environment and the significance of those impacts and is incorporated in the Draft ND. Based on this initial Study, it has been determined that the proposed project would not have any significant impacts on the environment, once all proposed project requirement have been implemented. The conclusion is supported by the following findings:

- There is no potential for adverse impacts on Agricultural Resources, Land Use and Planning, Mineral Resources, Population and Housing and Recreation associated with the proposed project.
- Potential adverse impacts resulting from the proposed project were found to be less than significant in the following areas, Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Public Services, Transportation, and Utilities and Service systems.

PROJECT REQUIREMENTS:
The following Project Requirements have been incorporated into the scope of work for the Water Storage Tank, Water line, and Septic Replacement Project(s) and will be fully implemented by DPR to avoid or minimize adverse environmental impacts identified in the Negative Declaration.

Project Action	Project Requirement
Air Quality	
Air SPR 1 - Increased Emissions of Fugitive Dust	All construction areas (dirt/gravel roads and surrounding dirt/gravel area) will be watered at least twice daily during dry, dusty conditions.
	All trucks hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard.
	All construction-related equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all State and federal requirements.
	Earth or other material that has been transported onto paved roadways by trucks, construction equipment, erosion, or other project-related activity will be promptly removed.
Biological Resources	
PSR Bio-1: Southern torrent salamander and western tailed frog	Prior to commencement of construction activities a DPR-approved biologist would survey the clean-out areas of the water intake structures for presence of these species. If Southern Torrent Salamander (STS) or western tailed frog (WTF) were located in the clean-out areas then they would be temporarily relocated to adjacent habitat unaffected by project activities. A fine screen would be installed to separate unaffected habitat from the work area.
	A DPR-approved biologist would monitor all construction activities at the water intake structures.
	Temporarily relocated STS or WTF.
	Habitat disturbance from clean-out activities would not extend upstream of the water intake structures.
	A size and shape of gravel appropriate for amphibian habitat would be placed in the bottom of the water intake structures following clean-out. A thin layer of sediment retained from the clean-out would be placed on the surface of the gravel to provide necessary habitat for amphibian species.
SPR Bio-2: marbled Murrelet, Northern	All construction activities creating noise above ambient levels would occur during the non-breeding season (September 16 – January 31).

Spotted Owl, and Sensitive Migratory Birds and Raptors	The U.S. Fish and Wildlife Service's "Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California" (dated July 31, 2006) may be used by a DPR-approved biologist to allow limited construction activities that do not create noise disturbance above ambient levels between the beginning of the northern spotted owl nesting season and the beginning of the marbled murrelet nesting season (February 1 – March 23).
PSR Bio-3: Heartleaved twayblade (*Listera cordata*)	The heartleaved twayblade occurrence within and adjacent to the project area will be flagged by DPR in advance of construction activities and avoided.
	Remove heart-leaved twayblade plants in areas of proposed soil disturbance and transplant to adjacent areas of similar soil and habitat type.
SPR Bio-4: Sudden oak death	All project activities that could spread *Phytophthora ramorum* to new locations will be subject to BMP's developed by the California Oak Mortality Task Force and available online at http://www.suddenoakdeath.org/html/best_management_practices.html.
	• At a minimum BMP's would:
	Inform personnel that they are working in a Sudden Oak Death (SOD)-infested area, unauthorized movement of plant material is prohibited, and the intent of these prevention measures is to prevent spread of SOD.
	Utilize paved and graveled roads to the extent possible.
	Before arriving and leaving project area, remove or wash-off accumulations of plant debris, soil, and mud from shoes, boots, vehicles, and heavy equipment, etc. Clean with denatured alcohol or similar materials.
Cultural Resources	

Cultural SPR 1 – Previously Undocumented Resources **Cultural SPR 2 – Archaeological Monitoring of Ground Disturbing Work**	In the event that previously undocumented cultural resources (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic trash) are encountered during proposed project construction by anyone, the state representative will temporarily halt at that specific location and direct contractors to other proposed project-related tasks. The Project or District Archaeologist will record and evaluate the find and work with state representative to implement avoidance, preservation, or recovery measures as appropriate prior to any work resuming at that specific location.
	If the Project or District Archaeologist determines that the find(s) are significant, a qualified historian, archaeologist, and/or Native American representative (if appropriate) will monitor all subsurface work including trenching, grading, and excavations in that area.
	The Project or District Archaeologist will monitor all ground disturbing phases of this proposed project at his/her discretion. Monitoring will include all demolition as well as ground preparation work required for constructing trenching and/or utility supply lines.
Cultural SPR 3 – Human Remains Discovery	If archaeological resources are discovered, all ground disturbing work at the location of the find will cease until the archaeologist designs and implements appropriate treatments in accordance with the Secretary of the Interiors Standards and Guidelines for archaeological resource protection.
	Any work around or near the four spring boxes may require archaeological monitoring depending on the work required to attach and fit the existing spring boxes to the new supply lines.
	In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor will notify the appropriate DPR personnel. Any human remains and/or funerary objects will be left in place or returned to the point of discovery and covered with soil. 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 (or Tribal Representative). If a Native American monitor is on-site at the time of the discovery, the monitor will be responsible for notifying the appropriate Native American authorities.

	The local County Coroner will make the determination of whether the human bone is of Native American origin.
	If the Coroner determines the remains represent Native American interment, the NAHC in Sacramento and/or tribe will be consulted to identify the most likely descendants and appropriate disposition of the remains. 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. Formal consultation with the State Historic Preservation Office and review by the Native American Heritage Commission/Tribal Cultural representatives will occur as necessary to define additional site mitigation or future restrictions.
Geology and Soils	
PSR GEO-1 – Seismic Restraint Requirements	The new water tanks will be anchored in place to meet seismic restraint requirements.
SPR GEO-2 Erosion Control BMPs	Prior to the start of construction, Contractor will prepare a Water Pollution Control Plan (WPCP) for DPR approval that identifies the Best Management Practices to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, or trenching.
	BMP's must be in place at all times including covering (tarping) any stockpiled materials or soils and by constructing silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and disturbed areas.

Hazardous and Hazardous Materials	
SPR Hazard 1- Hazardous Material Spills	Prior to the start of construction, the contractor will clean all equipment before entering the project site. Equipment will be cleaned and repaired (other than emergency repairs) outside the project site boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.
	Prior to the start of construction, the contractor will inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from the project site.
	Prior to the start of construction, DPR will prepare a Spill Prevention and Response Plan (SPRP) as part of Water Pollution Control Plan to provide protection to on-site workers, the public, and the environment from accidental leaks or spills of vehicle fluids or other potential contaminants. This plan will include (but not be limited to): • a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur. • a list of items required in a spill kit on-site that will be maintained throughout the life of the project. • procedures for the proper storage, use, and disposal of any solvents or other chemicals used in the restoration process. • identification of lawfully permitted or authorized disposal outside of the project site.
SPR Hazard 2 - Fire Safety	Prior to the start of construction, the Project Contractor will develop a DPR-approved Fire Safety Plan. The plan will include the emergency calling procedures for both the Local Fire Department.
	Spark arrestors or turbo chargers (which eliminate 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 mineral soil, asphalt, or concrete to reduce the chance of fire.
SPR Hydro - 1	• DPR-approved Best Management Practices (BMP's) would be implemented for the Water Treatment Tank & Water Lines Source to Plant Repairs and Septic Rehabilitation projects for the prevention of soil erosion and runoff, for stockpile management, and for spill prevention from vehicle and equipment fluids and any construction materials. • For contracted project work a Water Pollution Control Plan (WPCP) would be prepared and implemented prior to the start of construction. This plan would include DPR-approved Best Management Practices for the prevention of soil erosion and runoff, for stockpile management, and for spill prevention from vehicle and equipment fluids and any construction materials.
PSR Hydro - 2	A water diversion plan would be prepared and implemented prior to the clean-out of the water intake structures.
Noise	
SPR Noise 1 - Noise Level Reduction	Construction activities will generally be limited to the daylight hours, Monday – Friday; however, weekend work may 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 p.m.
	Internal combustion engines used for any purpose at the job site will be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction will utilize the best available noise control techniques (e.g. engine enclosures, acoustically-attenuating shields, or shrouds, intake silencers, ducts, etc.) whenever feasible and necessary.

	Stationary noise sources and staging areas will be located as far away from sensitive receptors as possible. If they must be located near sensitive receptors, stationary noise sources will be muffled to the extent feasible and/or, where practicable, enclosed within temporary sheds.

CHANGES TO DOCUMENT:

No changes were made to this document.

This document along with the Draft Initial Study/Negative Declaration (SCH#201001148), corrections and the Notice of Determination constitute the Final Negative Declaration for the Water Storage, Water Line, and Septic Replacement Project.

Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Parks and Recreation (DPR) has independently reviewed and analyzed the initial Study and Negative Declaration for the proposed project and finds that these documents reflect the independent judgment of DPR.

Stephanie Coleman
Environmental Coordinator
Northern Service Center

12/27/10
Date

Stephen R. Lehman
Deputy Director
Acquisition and Development

12/29/10
Date

NEGATIVE DECLARATION

PROJECT: **Water Storage Tank, Water Line, and Septic Replacement Project(s)**

LEAD AGENCY: California Department of Parks and Recreation

AVAILABILITY OF DOCUMENTS: The Initial Study for this Negative Declaration is available for review at:

- Northern Service Center
  California Department of Parks & Recreation
  One Capitol Mall - Suite 410
  Sacramento, CA 95814

- North Coast Redwoods District Headquarters
  California Department of Parks & Recreation
  3431 Fort Avenue
  Eureka, CA 95503-3828

- Humboldt County Library
  Coaster Bookmobile – Van Duzen - 2nd Tuesday of the Month
  Bridgeville, Dinsmore, and Carlotta CA

- California Department of Parks and Recreation Internet Website
  http://www.parks.ca.gov/?page_id=980

PROJECT DESCRIPTION:

Water storage and line Replacement

- Install above ground approximately 2,800 feet of new 2-inch diameter HDPE pipe to replace the existing supply line from the water collection spring boxes to the water treatment plant and to the new 5,000 tank.
- Install associated valve connections and replace approximately 5 new concrete valve boxes.
- Trench approximately 200 feet to install water supply piping across two dirt roads and under the walkway of the park residence.
- Remove the leaking 5,000 gallon redwood water tank and replace with a 5,000 gallon polyethylene storage tank with seismic restraints.
- Excavate to pour a two foot wider concrete pad for the polyethylene water tank over the existing concrete slab.
- Repair spring water intake structures by replacing the wood boards and clean out sediment from the boxes.
- Make minor road improvements to provide vehicle access to the water tank site.
- Abandon in place the old water supply piping and parts of the old filtration system.

Septic Replacement

- Excavate to replace five septic tanks; One at each the park residences, One at the Combination building (shower/restroom), one at the restroom and one at the visitors center. The old concrete tanks will be removed and new approximately 12' long x 10' wide and by 8' deep concrete units will be installed in approximately the same locations.
- Abandon the septic tank that serves the seasonal cabins. The tank will be filled with the excavation spoils and/or fill material.
- Trench 200 feet to connect the seasonal cabins to the septic tank at the maintenance shop.
- Excavate by mechanical and/or hand a trench up to 400 feet long within or along the Campground Road to connect the new septic tanks at the shower and restroom buildings to the leach field.
- Excavate two (8' x 8') to areas (one at the combination building and one at the comfort building in the campground) to install effluent well and pump systems to move effluent to the leach field.
- Remove approximately 400 square feet of asphalt and associated fixtures (fire ring table, etc.) from campsites 11 and 13 and convert these combined sites to a new leach.
- Excavate to install approximately 20 leach field chambers approximately 3' deep west of the restroom/shower building. Leach field will be approximately 180' wide x 25' to 45" long.
    - Trench to install piping that would connect the galleries together and install manholes to access valves to control the amount of leach field chambers in use.
- Purchase 4 chemical toilets for high use periods.

A copy of the Initial Study is attached. Questions or comments regarding this Initial Study/Negative Declaration should be submitted in writing to:

Stephanie Coleman – Environmental Coordinator
California Department of Parks & Recreation
Northern Service Center
One Capitol Mall - Suite 410
Sacramento, CA 95814

E-Mail Address: CEQANSC@parks.ca.gov
Include "Water Tank and Lines" on the subject line.

Fax: 916-445-8883

Submissions must be in writing and postmarked, or received by fax or e-mail, no later than December 18, 2010. The originals of any faxed document must be received by regular mail within ten (10) working days following the deadline for comments, along with proof of successful fax transmission.

Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Parks and Recreation (DPR) has independently reviewed and analyzed the

Initial Study and Negative Declaration for the proposed project and finds that these documents reflect the independent judgment of DPR. DPR, as lead agency, also confirms that the project requirements in these documents are feasible and will be implemented as stated in the Negative Declaration.

_____ _____

Stephanie Coleman Date
Environmental Coordinator
Northern Service Center
Acquisition and Development

_____ _____ _____

Kathy Amann Date
Assistant Deputy Director
Acquisition and Development

TABLE of CONTENTS

Appendices

CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

The Initial Study/Negative Declaration (IS/ND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Water Storage Tank, Water Line and Septic System Replacement Project(s) at Grizzly Creek Redwoods State Park, Humboldt County, California. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 *et seq*., and the State CEQA Guidelines, California Code of Regulations (CCR) §15000 *et seq*.

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment [CEQA Guidelines §15063(a)]. If 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 that revisions in the project plans or proposals made by or agreed to by the applicant mitigate the potentially significant effects to a less-than-significant level, a Mitigated Negative Declaration may be prepared instead of an EIR [CEQA Guidelines §15070(b)]. The lead agency prepares a written statement describing the reasons a proposed project would not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/ND conforms to the content requirements under CEQA Guidelines §15071.

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." The lead agency for the proposed project is DPR. The contact person for the lead agency is:

Gary Leach
Project Manager
California Department of Parks and Recreation
Northern Service Center
One Capitol Mall, Ste. 410
Sacramento, CA 95814
916-445-8665

Questions or comments regarding this Initial Study/Negative Declaration should be submitted to:

Stephanie Coleman – Environmental Coordinator
California Department of Parks & Recreation

Northern Service Center
One Capitol Mall - Suite 500
Sacramento, CA 95814

E-Mail Address: CEQANSC@parks.ca.gov
Include "Water Tank and Lines" on the subject line.

Fax: 916-445-8883

Submissions must be in writing and postmarked, or received by fax or e-mail, no later than December 18, 2010. The originals of any faxed document must be received by regular mail within ten (10) working days following the deadline for comments, along with proof of successful fax transmission.

1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this document is to evaluate the potential environmental effects of the proposed Water Storage Tank, Water Line, and Septic System Replacement Project(s) at Grizzly Creek Redwoods State Park. Project Requirements have also been incorporated into the project to eliminate any potentially significant impacts or reduce possible impacts to a less-than-significant level.

This document is organized as follows:

- Chapter 1 - Introduction.
  This chapter provides an introduction to the project and describes the purpose and organization of this document.

- Chapter 2 - Project Description.
  This chapter describes the reasons for the project, scope of the project, project objectives and identifies standard or specific project requirements applied to the project design to reduce potential impacts to the environment.

- Chapter 3 - Environmental Setting, Impacts, and Project Requirements.
  This chapter describes the environmental setting for each environmental issue, and evaluates the project description including project requirements for potential impacts based on the CEQA Environmental (Initial Study) Checklist and identifies the significant of environmental impacts.

- Chapter 4 - Mandatory Findings of Significance
  This chapter identifies and summarizes the overall significance of any potential impacts to natural and cultural resources, cumulative impacts, and impact to humans, as identified in the Initial Study.

- Chapter 5 – Summary of Required Project Requirements
  This chapter summarizes the requirements integrated into the project as a result of the Initial Study and an explanation to why mitigation measures are not required.

- Chapter 6 - References.
  This chapter identifies the references and sources used in the preparation of this IS/ND. It also provides a list of those involved in the preparation of this document.

- Chapter 7 - Report Preparation
  This chapter provides a list of those involved in the preparation of this document.

1.4 SUMMARY OF FINDINGS

Chapter 3 of this document contains the Environmental (Initial Study) Checklist that identifies the potential environmental impacts (by environmental issue) and a brief discussion of each impact resulting from implementation of the proposed project. Based on the IS and supporting environmental analysis provided in this document, the proposed Water Storage Tank, Water Line, and Septic System Replacement Project(s) would result in less-than-significant impacts for the following issues: aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, public services, and transportation/traffic.

In accordance with §15064(f) of the CEQA Guidelines, a ND shall be prepared if the proposed project will not have a significant effect on the environment after the inclusion of project requirements in the project. Based on the available project information and the environmental analysis presented in this document, there is no substantial evidence that, after the incorporation of the project specific requirements, the proposed project would have a significant effect on the environment. It is proposed that a Negative Declaration be adopted in accordance with the CEQA Guidelines.

CHAPTER 2
PROJECT DESCRIPTION

2.1 INTRODUCTION

This Initial Study/Negative Declaration (IS/ND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Water Storage Tank , water Line, and septic system Replacement Project(s) at Grizzly Creek Redwoods State Park (GCRSP), located in Humboldt County, California. The proposed project would replace the water storage tank and water lines to the water chlorination system and the water storage in GCRSP. It would also replace the septic systems located within GCRSP.

2.2 PROJECT LOCATION

Located 20 miles south of Eureka on U.S. Route 101, and an additional 17 miles east on State Route (SR) 36, the inland Grizzly Creek Redwoods State Park, is nestled where Grizzly Creek meets the Van Duzen River. This small verdant grove of Coastal Redwoods, surrounded by ferns and local flora offers a peripatetic journey into the most inland of the California Redwood State Parks.

2.3 BACKGROUND AND NEED FOR THE PROJECT

The existing water storage tank for the residence is over 70 years old and steel pipe distribution lines are over 30 years old. Each has exceeded their designed 30-40 year life expectancy and routine maintenance cannot keep pace with the systems deterioration. The majority of the septic tanks and leach fields in GCRSP have exceeded there life expectancy and need to be replaced before they fail to prevent health

Without this replacement, the water intake lines could fail leaving no potable water for both visitors and staff living within the Park or fire suppression activities.

2.4 PROJECT OBJECTIVES

The mission of the California Department of Parks and Recreation 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. This is also stated in the California's Recreation Policy adopted by the California State Park and Recreation Commission on September 23, 2005.

The intent of this project is to improve the water storage, water supply lines, and septic system to protect public health and safety.

The recommended work is also expected to save water that is currently escaping from leaking water tank and supply lines.

2.5 PROJECT DESCRIPTION

Water Storage and line Replacement

- Install above ground approximately 2,800 feet of new 2-inch diameter HDPE pipe to replace the existing supply line from the water collection spring boxes to the water treatment plant and to a new 5,000 tank. The above ground HDPE pipe will be strapped to the abandoned steel pipe for support approximately every 15-20 feet.
- Install associated valve connections and replace approximately 5 concrete valve boxes.
- Trench approximately 200 feet to install water supply piping across two dirt roads and under the walkway of the park residence.
- Remove a leaking 5,000 gallon redwood water tank and replace with a 5,000 gallon polyethylene storage tank with seismic restraints. Planks from the old water tank may be used to support the new HDPE piping as its being routed from the water intakes to the water storage tank(s).
- Excavate to pour a two foot wider concrete pad for the new water tank over the existing concrete slab.
- Repair spring water intake structures by replacing the wood boards and clean out sediment from the boxes.
- Make minor road improvements to provide vehicle access to the water tank site. Equipment used up at the location would be limited to small compact and rubber tire mounted machines that may include flat trailers for hauling, backhoe for lifting and moving heavy materials, winches, water tank, or a bobcat.
- Abandon in place the old water supply piping and parts of the old filtration system.

Septic Replacement

- Excavate to replace five septic tanks; One at each the park residences, One at the Combination building (shower/restroom), one at the restroom and one at the visitors center. The old concrete tanks will be removed and new approximately 12’ long x 10’ wide and x 8’ deep concrete units will be installed in approximately the same locations.
- Abandon the septic tank that servers the seasonal cabins. The tank will be filled with the excavation spoils and/or fill material.
- Trench 200 feet to connect the seasonal cabins to the septic tank at the maintenance shop.
- Excavate by mechanical and/or hand a trench up to 400 feet long within or along the Campground Road to connect the new septic tanks at the shower and restroom buildings to the leach field.
- Excavate two 8’ x8’ to areas (one at the combination building and one at the comfort building in the campground) to install effluent well and pump systems to move effluent to the leach field.
- Remove approximately 400 square feet of asphalt and associated fixtures (fire ring table, etc.) from campsites 11 and 13 to remove these sites from service for placement of the leach field at this location.
- Excavate to install approximately 20 leach field chambers approximately 3’ deep west of the restroom/shower building. Leach field will be approximately 180’ wide x 25’ to 45” long.

    - Trench to install piping that would connect the galleries together and install manholes to access valves to control the amount of leach field chambers in use.
- Purchase 4 chemical toilets for high use periods.

2.6 PROJECT IMPLEMENTATION

Construction work could start in December 2010, or soon thereafter, and continue for approximately 13 months. Work would occur only during daylight hours and would be scheduled to avoid impact to visitors; however, weekend work could be implemented to accelerate construction or address emergency or unforeseen circumstances.

Heavy equipment, such as backhoe, excavator, grader, bulldozer, compressor, and dump truck could be used during construction. Most equipment would be transported to the site and remain stored out of view from most visitors to the park until associated work is completed. Transport vehicles for material or equipment delivery trucks, and crew vehicles would also be present intermittently at the site. Staging areas for equipment would be confined to the existing parking areas and open spaces.

Best Management Practices (BMPs) would be incorporated into this project design to ensure that the natural and cultural resources in and around the project area are adequately protected during and after construction. The BMPs discussed in this document and used in the implementation of this project were obtained from the *California Stormwater Quality Association (CSQA), Stormwater Best Management Practices Construction Handbook.* Temporary BMPs would be used to keep sediment on-site throughout the duration of the project; during construction, BMPs would be checked daily, maintained, and modified as needed; and BMPs would be used after construction to stabilize the site and minimize erosion.

The Department of Parks and Recreation has consistently referenced CSQA BMPs and has identified them as an acceptable standard for use in all State Parks.

2.7 PROJECT REQUIREMENTS

Under CEQA, the Department of Parks and Recreation has the distinction of being considered a lead agency, a public agency that has a primary responsibility for carrying out or approving a project and for implementing CEQA; a responsible agency, a public agency other than the lead agency that has responsibility for carrying out or approving a project and for complying with CEQA; and a trustee agency, a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people for the Sate of California. With this distinction comes the responsibility to ensure that actions that protect both cultural and natural resources are implemented on all projects. Therefore, DPR has created a list of Project Requirements that are included in project design or description to reduce impacts to resources.

DPR has two types of Project Requirements, standard and specific. Standard Project Requirements (SPR) are assigned to all projects state-wide, while project specific requirements (PSR) are assigned based on the specific actions required to complete the project. For example, Fire Safety practices are included in all DPR projects; however,

inadvertent discovery of archaeological artifacts would only be assigned to projects that include ground-disturbing work.

In determining the appropriate analytical methodology for this ND, DPR followed the following steps:

Step 1: Integration of Standard and Specific Project Requirements

DPR reviewed potentially applicable Standard Project Requirements (environmental protection measures) that it has used for other projects throughout the State selected those deemed applicable and integrated them into the project description. Specific Project Requirements were integrated into the project description as needed based on project actions and the surrounding environment. Both Standard and Specific Project Requirements have been integrated into this Project.

Step 2: Impact Analysis

Following integration of both Standard and Specific project requirements; DPR evaluated the significance of potential impacts of the Project on the full range of CEQA resource topics. All potential impacts were determined to be less than significant.

The following Table lists Project Requirements that have been included in this project:

Project Action	Project Requirement
Air Quality	
Air SPR 1 - Increased Emissions of Fugitive Dust	All construction areas (dirt/gravel roads and surrounding dirt/gravel area) will be watered at least twice daily during dry, dusty conditions.
	All trucks hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard.
	All construction-related equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all State and federal requirements.
	Earth or other material that has been transported onto paved roadways by trucks, construction equipment, erosion, or other project-related activity will be promptly removed.
Biological Resources	
PSR Bio-1: Southern torrent salamander and western tailed frog	Prior to commencement of construction activities a DPR-approved biologist would survey the clean-out areas of the water intake structures for presence of these species. If Southern Torrent Salamander (STS) or western tailed frog (WTF) were located in the clean-out areas then they would be temporarily relocated to adjacent habitat unaffected by project activities. A fine screen would be installed to separate unaffected habitat from the work area.
	A DPR-approved biologist would monitor all construction activities at the water intake structures.
	Temporarily relocated STS or WTF.
	Habitat disturbance from clean-out activities would not extend upstream of the water intake structures.
	A size and shape of gravel appropriate for amphibian habitat would be placed in the bottom of the water intake structures following clean-out. A thin layer of sediment retained from the clean-out would be placed on the surface of the gravel to provide necessary habitat for amphibian species.

SPR Bio-2: marbled Murrelet, Northern Spotted Owl, and Sensitive Migratory Birds and Raptors	All construction activities creating noise above ambient levels would occur during the non-breeding season (September 16 – January 31).
	The U.S. Fish and Wildlife Service's "Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California" (dated July 31, 2006) may be used by a DPR-approved biologist to allow limited construction activities that do not create noise disturbance above ambient levels between the beginning of the northern spotted owl nesting season and the beginning of the marbled murrelet nesting season (February 1 – March 23).
PSR Bio-3: Heartleaved twayblade (*Listera cordata*)	The heartleaved twayblade occurrence within and adjacent to the project area will be flagged by DPR in advance of construction activities and avoided.
	Remove heart-leaved twayblade plants in areas of proposed soil disturbance and transplant to adjacent areas of similar soil and habitat type.
SPR Bio-4: Sudden oak death	All project activities that could spread *Phytophthora ramorum* to new locations will be subject to BMP's developed by the California Oak Mortality Task Force and available online at http://www.suddenoakdeath.org/html/best_management_practices.html.
	• At a minimum BMP's would:
	Inform personnel that they are working in a Sudden Oak Death (SOD)-infested area, unauthorized movement of plant material is prohibited, and the intent of these prevention measures is to prevent spread of SOD.
	Utilize paved and graveled roads to the extent possible.
	Before arriving and leaving project area, remove or wash-off accumulations of plant debris, soil, and mud from shoes, boots, vehicles, and heavy equipment, etc. Clean with denatured alcohol or similar materials.
Cultural Resources	

Cultural SPR 1 – Previously Undocumented Resources **Cultural SPR 2 – Archaeological Monitoring of Ground Disturbing Work**	In the event that previously undocumented cultural resources (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic trash) are encountered during proposed project construction by anyone, the state representative will temporarily halt at that specific location and direct contractors to other proposed project-related tasks. The Project or District Archaeologist will record and evaluate the find and work with state representative to implement avoidance, preservation, or recovery measures as appropriate prior to any work resuming at that specific location.
	If the Project or District Archaeologist determines that the find(s) are significant, a qualified historian, archaeologist, and/or Native American representative (if appropriate) will monitor all subsurface work including trenching, grading, and excavations in that area.
	The Project or District Archaeologist will monitor all ground disturbing phases of this proposed project at his/her discretion. Monitoring will include all demolition as well as ground preparation work required for constructing trenching and/or utility supply lines.
Cultural SPR 3 – Human Remains Discovery	If archaeological resources are discovered, all ground disturbing work at the location of the find will cease until the archaeologist designs and implements appropriate treatments in accordance with the Secretary of the Interiors Standards and Guidelines for archaeological resource protection.
	Any work around or near the four spring boxes may require archaeological monitoring depending on the work required to attach and fit the existing spring boxes to the new supply lines.
	In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor will notify the appropriate DPR personnel. Any human remains and/or funerary objects will be left in place or returned to the point of discovery and covered with soil. 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 (or Tribal Representative). If a Native American monitor is on-site at the time of the discovery, the monitor will be responsible for notifying the appropriate Native American authorities.
	The local County Coroner will make the determination of whether the human bone is of Native American origin.

	If the Coroner determines the remains represent Native American interment, the NAHC in Sacramento and/or tribe will be consulted to identify the most likely descendants and appropriate disposition of the remains. 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. Formal consultation with the State Historic Preservation Office and review by the Native American Heritage Commission/Tribal Cultural representatives will occur as necessary to define additional site mitigation or future restrictions.
Geology and Soils	
PSR GEO-1 – Seismic Restraint Requirements	The new water tanks will be anchored in place to meet seismic restraint requirements.
SPR GEO-2 Erosion Control BMPs	Prior to the start of construction, Contractor will prepare a Water Pollution Control Plan (WPCP) for DPR approval that identifies the Best Management Practices to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, or trenching.
	BMP's must be in place at all times including covering (tarping) any stockpiled materials or soils and by constructing silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and disturbed areas.
Hazardous and Hazardous Materials	
SPR Hazard 1- Hazardous Material Spills	Prior to the start of construction, the contractor will clean all equipment before entering the project site. Equipment will be cleaned and repaired (other than emergency repairs) outside the project site boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.
	Prior to the start of construction, the contractor will inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from the project site.

	Prior to the start of construction, DPR will prepare a Spill Prevention and Response Plan (SPRP) as part of Water Pollution Control Plan to provide protection to on-site workers, the public, and the environment from accidental leaks or spills of vehicle fluids or other potential contaminants. This plan will include (but not be limited to): • a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur. • a list of items required in a spill kit on-site that will be maintained throughout the life of the project. • procedures for the proper storage, use, and disposal of any solvents or other chemicals used in the restoration process. • identification of lawfully permitted or authorized disposal outside of the project site.
SPR Hazard 2 - Fire Safety	Prior to the start of construction, the Project Contractor will develop a DPR-approved Fire Safety Plan. The plan will include the emergency calling procedures for both the Local Fire Department.
	Spark arrestors or turbo chargers (which eliminate 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 mineral soil, asphalt, or concrete to reduce the chance of fire.
SPR Hydro - 1	• DPR-approved Best Management Practices (BMP's) would be implemented for the Water Treatment Tank & Water Lines Source to Plant Repairs and Septic Rehabilitation projects for the prevention of soil erosion and runoff, for stockpile management, and for spill prevention from vehicle and equipment fluids and any construction materials. • For contracted project work a Water Pollution Control Plan (WPCP) would be prepared and implemented prior to the start of construction. This plan would include DPR-approved Best Management Practices for the prevention of soil erosion and runoff, for stockpile management, and for spill prevention from vehicle and equipment fluids and any construction materials.

PSR Hydro - 2	A water diversion plan would be prepared and implemented prior to the clean-out of the water intake structures.
Noise	
SPR Noise 1 - Noise Level Reduction	Construction activities will generally be limited to the daylight hours, Monday – Friday; however, weekend work may 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 p.m.
	Internal combustion engines used for any purpose at the job site will be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction will utilize the best available noise control techniques (e.g. engine enclosures, acoustically-attenuating shields, or shrouds, intake silencers, ducts, etc.) whenever feasible and necessary.
	Stationary noise sources and staging areas will be located as far away from sensitive receptors as possible. If they must be located near sensitive receptors, stationary noise sources will be muffled to the extent feasible and/or, where practicable, enclosed within temporary sheds.

2.8 VISITATION TO GRIZZLY CREEK REDWOODS STATE PARK

Grizzly Creek Redwoods State Park receives an average of 28,101 visitors per year. The proposed project is a replacement in-kind and is not expected to increase attendance at the Park.

Grizzly Creek Attendance			
Year	Day-Use	Camping	Total Visitors
2002	13,239	9,473	22,712
2003	21,335	10,004	31,339
2004	19,530	10,943	30,473
2005	16,601	8,858	25,459
2006	18,070	8,349	26,419
2007	22,580	9,038	31,618
2008	20,730	7,477	28,207
2009	20,071	8,513	28,584
Average	19,020	9,082	28,101

2.9 CONSISTENCY WITH LOCAL PLANS AND POLICIES

The proposed project to replace the water tank, supply lines and septic system is consistent with local plans and policies including the County of Humboldt General Plan. Although GCRSP does not have a General Plan, work to repair, replace, or rehabilitate existing facilities or to protect public health and safety are permitted under PRC § 5002.2 (c). All proposed work would occur within the boundaries of GCRSP.

2.10 DISCRETIONARY APPROVALS

The California Department of Parks and Recreation retains approval authority for the proposed water tank and line replacement project at Grizzly Creek Redwoods State Park. However, this project requires consultation with:

- California Department of Fish and Game

Additional internal document reviews include Public Resources Code § 5024. The Department of Parks and Recreation would acquire all necessary reviews and permits prior to implementing any project components requiring regulatory review.

2.11 RELATED PROJECTS

The Department of Parks and Recreation often has smaller maintenance programs and rehabilitation projects planned for a park unit. There are no projects planned for the proposed project area in the foreseeable future.

CHAPTER 3
ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1. Project Title: Water Tank and Line Replacement

2. Lead Agency Name & Address: California Department of Parks and Recreation

3. Contact Person & Phone Number: Gary Leach, 916-445-8691

4. Project Location: Grizzly Creek Redwoods State Park

5. Project Sponsor Name & Address: California Department of Parks and Recreation
Acquisition and Planning Division
Northern Service Center
One Capital Mall - Suite 410
Sacramento, California 95814

6. General Plan Designation: Public Land

7. Zoning: Unclassified

8. Description of Project:

Water tank and line Replacement

- Install above ground approximately 2,800 feet of new 2-inch diameter HDPE pipe to replace the existing supply line from the water collection spring boxes to the water treatment plant and to the new 5,000 tank.
- Install associated valve connections and replace approximately 5 new concrete valve boxes.
- Trench approximately 200 feet to install water supply piping across two dirt roads and under the walkway of the park residence.
- Remove the leaking 5,000 gallon redwood water tank and replace with a 5,000 gallon polyethylene storage tank with seismic restraints.
- Excavate to pour a two foot wider concrete pad for the new water tank over the existing concrete slab.
- Repair spring water intake structures by replacing the wood boards and clean out sediment from the boxes.
- Make minor road improvements to provide vehicle access to the water tank site.
- Abandon in place the old water supply piping and parts of the old filtration system.

<u>Septic Replacement</u>

- Excavate to replace five septic tanks; The old concrete tanks will be removed and new approximately 12’ long x 10’ wide and x 8’ deep concrete units will be installed in approximately the same locations.
- Abandon the septic tank that serves the seasonal cabins.
- Trench 200 feet to connect the seasonal cabins to the septic tank at the maintenance shop.
- Excavate by mechanical and/or hand a trench up to 400 feet long within or along the Campground Road to connect the new septic tanks at the shower and restroom buildings to the leach field.
- Excavate two 8’ x8’ to areas (one at the combination building and one at the comfort building in the campground) to install effluent well and pump systems to move effluent to the leach field.
- Remove approximately 400 square feet of asphalt and associated fixtures (fire ring table, etc.)

from campsites 11 and 13 to remove these sites from service for placement of the leach field at this location.

- Excavate to install approximately 20 leach field chambers approximately 3' deep west of the restroom/shower building. Leach field will be approximately 180' wide x 25' to 45" long.

9. Surrounding Land Uses & Setting: Refer to Chapter 3 of this document (Section IX, Land Use Planning)

10. Approval Required from Other Public Agencies: Refer to Chapter 2 of this document (Section 2. 10 Discretionary Approvals)

1. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	☐ None

DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared. ☒

I find that, although the original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. A **MITIGATED NEGATIVE DECLARATION WILL** be prepared. ☐

I find that the proposed project **MAY** have a significant effect on the environment and an **ENVIRONMENTAL IMPACT REPORT** or its functional equivalent will be prepared. ☐

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents. ☐

I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required. ☐

_____ _____

Stephanie Coleman — Date

Environmental Coordinator

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers, except "No Impact", that are adequately supported by the information sources cited. A "No Impact" answer is adequately supported if the referenced information sources show that the impact does not apply to the project being evaluated (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on general or project-specific factors (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must consider the whole of the project-related effects, both direct and indirect, including off-site, cumulative, construction, and operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether that impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate when there is sufficient evidence that a substantial or potentially substantial adverse change may occur in any of the physical conditions within the area affected by the project that cannot be mitigated below a level of significance. If there are one or more "Potentially Significant Impact" entries, an Environmental Impact Report (EIR) is required.

4. A "Mitigated Negative Declaration" (Negative Declaration: Less Than Significant with Mitigation Incorporated) applies where the incorporation of mitigation measures, prior to declaration of project approval, has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact with Mitigation." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR (including a General Plan) or Negative Declaration [CCR, Guidelines for the Implementation of CEQA, § 15063(c)(3)(D)]. References to an earlier analysis should:

   a) Identify the earlier analysis and state where it is available for review.

   b) Indicate which effects from the environmental checklist were adequately analyzed in the earlier document, pursuant to applicable legal standards, and whether these effects were adequately addressed by mitigation measures included in that analysis.

   c) Describe the mitigation measures in this document that were incorporated or refined from the earlier document and indicate to what extent they address site-specific conditions for this project.

6. Lead agencies are encouraged to incorporate references to information sources for potential impacts into the checklist or appendix (e.g., general plans, zoning ordinances, biological assessments). Reference to a previously prepared or outside document should include an indication of the page or pages where the statement is substantiated.

7. A source list should be appended to this document. Sources used or individuals contacted should be listed in the source list and cited in the discussion.

8. Explanation(s) of each issue should identify:
   a) the criteria or threshold, if any, used to evaluate the significance of the impact addressed by each question **and**
   b) the mitigation measures, if any, prescribed to reduce the impact below the level of significance.

ENVIRONMENTAL ISSUES

I. AESTHETICS.

ENVIRONMENTAL SETTING

Located 20 miles south of Eureka, California on State Route 101, and an additional 17 miles east on State Route (SR) 36, the inland Grizzly Creek Redwoods State Park (GCRSP), is nestled where Grizzly Creek meets the Van Duzen River. This small verdant grove of Coastal Redwoods, surrounded by ferns and local flora offers a peripatetic journey into the most inland of the California Redwood State Parks. The Park offers 30 established campsites and six environmental campsites. GCRSP is still relatively undeveloped; and offers visitors great hiking, fishing, swimming, kayaking, and river activities. The redwoods of GCRSP are the very trees that inspired Owen R. Cheatham, founder of Georgia-Pacific Industries to preserve this grove for the public and established Cheatham Grove, a stand of redwoods near the Van Duzen River.

The proximity of the Pacific Ocean (approx. 25 miles west) provides for a temperate, Mediterranean climate, though GCRSP is far enough inland to experience higher temperatures in the summer months. An average rainfall of up to 65 inches during the winter months fills the many streams that flow down the redwood-lined canyons. Coastal fog cools the summer mornings, but it usually lifts by early afternoon; however, a damp, foggy morning can be followed by a warm afternoon. Average summer highs are 70-80°F; winter highs average 40-50°F.

The entrance to GCRSP is directly from SR 36. A bend of the Van Duzen River located at the western edge of Grizzly Creek Redwoods State Park is known as Devil's Elbow, a turnout located at Devil's Elbow provides a scenic vista and views of the Van Duzen River and Grizzly Creek Redwoods SP. Other views along this stretch of SR 36 include the Van Duzen River and Valley, redwood groves, white water, large rocks, and boulders exposed by river erosion, and monolithic monuments such as the large rocks visible near Devil's Elbow.

The California Legislature initiated the California Scenic Highway Program in 1963, with the goal of preserving and protecting the state's scenic highway corridors from changes that would reduce their aesthetic value. The State Scenic Highway System consists of eligible and officially designate routes. A highway may be identified as eligible for listing as a state scenic highway if it offers travelers scenic views of the natural landscape, largely undisrupted by development. Eligible routes advance to officially designated status when the local jurisdiction adopts ordinances to establish a scenic corridor protection program and receives approval from the California Department of Transportation. The 72-mile portion of SR 36 from near Alton to the intersection of SR 36 and SR 3 near Peanut is an eligible State Scenic Highway, although it has never been officially designated as such (Caltrans 2009).

This project proposes to upgrade and replace the water supply to the GCRSP water storage tanks currently supplied by two natural springs located within the Park. The existing spring boxes are failing due to age. All of the work for this the project would be completed within GCRSP. An aging redwood storage tank located within the Park will also be replaced; a portion of the GCRSP water supply system which provides water to the campground and to Park housing would also be upgraded. This project would provide safe, reliable water supplies for GCRSP staff and to the water storage tanks. The project would replace the underground septic tanks located at the two

State Park residences, the seasonal worker cabins, the restroom/shower (combination) building, and the park restroom building. Work would also replace the existing leach field by digging a new leach field system to west of the combination building between campsites 11 and 13. The campsites will be removed from service.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

DISCUSSION

a) During construction, and until all trenched areas are re-vegetated, the overall appearance of the project sites would be affected. The presence of construction equipment and fencing restricting access to the specific construction areas would present a limited, temporary adverse visual impact. No areas within Grizzly Creek Redwoods State Park are considered scenic vistas, nor will the project affect any scenic vistas located along SR 36 that overlook the Van Duzen River or Valley. No Impact.

b) This portion of SR 36 has been deemed eligible for inclusion in the Scenic Highway system; however it has not been officially designated. No work completed for this project will be at or near SR 36. No impact

c) During construction, and until all trenched areas are re-vegetated, the overall appearance of the project sites would be affected; however, this impact to the existing visual character and quality of the site and its surroundings would be limited and temporary. Less than significant.

d) No new lighting is proposed to be installed as part of the proposed project and it is expected that all construction work for the proposed project would occur during daylight hours, eliminating the need for work lights. No Impact.

II. AGRICULTURAL AND FOREST RESOURCES.

ENVIRONMENTAL SETTING

Grizzly Creek Redwoods State Park (GCRSP) is a 430-acre unit in southern Humboldt County located approximately 37 road miles southeast of Eureka accessed via US Route 101 and State Route 36. Nearly the entire park is forested with old growth or mature second growth redwood and Douglas-fir forests. A narrow strip of riparian vegetation borders the banks of the Van Duzen River, which flows through the park.

Agricultural Resources in Humboldt County

Approximately 27% of Humboldt County's 2.3 million acres is in agricultural use, although some of this acreage includes large ranches with significant timber production that is not typically classified as an agricultural product (Morehead 2003, Humboldt County Community Development Services Department 2008). Primary agricultural production in the county consists of beef cattle on rangeland, dairy cattle on rich bottomlands, row crops, and orchards on river floodplain locations, and growing flower bulb and plant nursery industries.

In 2001 the market value of agricultural products (excluding timber) was approximately $140 million (Morehead 2003). In 2004 milk products generated $43 million and the market value of cattle and calves in the County exceeded $20 million (Humboldt County Community Development Services Department 2008).

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are lower than normal because they are based upon farming and open space uses as opposed to full market value (CDC 2010). Humboldt County's General Plan promotes continued enrollment of agricultural land into the Williamson Act, which supports agricultural production on nearly 200,000 acres of the County (Humboldt County Community Development Services Department 2008).

Forest Resources in Humboldt County

More than 80% of Humboldt County is covered with forests that consist of 1.2 million acres of private forested land and 0.3 million acres of public forested land (Humboldt County Community Development Services Department 2008). About 990,000 acres of forested lands are zoned as Timber Production Zone, two-thirds of which are held by timber companies. Since 2000 more than 20 percent of the state's total harvested timber has been provided by Humboldt County. Despite a 50-year trend of reduced timber production this industry remains an important cornerstone of the county's economy.

Currently, no land within the boundaries of GCRSP is used for agricultural purposes or timber production. The proposed project would be constructed entirely within GCRSP.

LESS THAN

	POTENTIALLY SIGNIFICANT IMPACT	SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT*:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by government Code § 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

* In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model for use in assessing impacts on agricultural and farmland.

DISCUSSION

a-b) As stated in the Environmental Setting, GCRSP consists of mature second growth redwood and Douglas-fir forests and does not support any agricultural operations. This project would be constructed entirely within GCRSP, would have no impact on any category of California Farmland, and would not conflict with any existing zoning for agricultural use or Williamson Act contract. No impact.

c) GCRSP does not support and is not zoned for timber production. The project would take place entirely within GCRSP and would have no impact on any timber zoning or cause rezoning of any land. No Impact.

d) GCRSP is located within a mature second growth redwood forest dominated by redwood and Douglas-fir trees. All project locations would retain their current use (e.g. areas for water collection, storage, and treatment) and there would be no loss of forestland or conversion of land to non-forest use. No impact.

e) This project is a replacement of existing facilities and no expansion of these facilities or changes in the existing environment would occur as a result of project implementation. There would be no conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact.

III. AIR QUALITY

ENVIRONMENTAL SETTING

The proposed project is located in Humboldt County, part of the North Coast Air Basin (NCAB), which consists of five counties including Del Norte, Humboldt, Trinity, Mendocino, and the northern section of Sonoma (CARB 2010a). The NCAB has some of the best air quality in the State due, in part; to the fact that the basin is sparsely populated and prevailing winds blow clean air landward from the Pacific Ocean. The NCAB is under the jurisdiction of the U.S. Environmental Protection Agency (USEPA) Region IX. A portion of the NCAB, including Del Norte, Humboldt, and Trinity counties, comprises the North Coast Unified Air Quality Management District (NCUAQMD 2010, CARB 2010b).

Climate

Humboldt County straddles the northwestern California coast and mountains. It is known for its temperate climate and considerable precipitation. Due to proximity to the Pacific Ocean, fog is common and relative humidity is high. Coastal temperatures vary approximately 10 degrees between summer and winter, while inland areas undergo a wider range of variability, over 100^{o} Fahrenheit (F) during the summer and less than 32^{o} F during the winter, with increasing distances from the ocean. Rainfall typically occurs year round throughout the County with approximately 90 percent of the seasonal total rainfall occurring from October through April. Seasonal totals range from 40-100 inches of precipitation with inland areas, such as Grizzly Creek, typically receiving amounts near the lower end of the range (Humboldt County 2010a).

Air Quality Designations

Public land owners and managers within Humboldt County are subject to air quality planning programs required by the federal Clean Air Act of 1970 (CAA), its 1990 amendments, and the California Clean Air Act of 1988 (CCAA). Both the federal and state clean air statutes provide ambient air quality standards related to air pollutants, timetables for progressing toward achieving and maintaining ambient standards, and the development of plans to guide air quality improvement efforts by State and local agencies. Ambient air pollutants, called criteria pollutants, are pollutants for which acceptable levels of exposure have been determined and for which ambient air quality standards have been set.

The USEPA is responsible for setting National Ambient Air Quality Standards (NAAQS) and established national area designations for six criteria pollutants after the passage of the Clean Air Act of 1970. These six pollutants include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and particulate matter (PM) in the form of inhalable coarse particles (PM_{10}) and fine particles ($PM_{2.5}$) (USEPA 2010). If an area does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant, it is designated as “non-attainment.” If an area meets the national primary or secondary ambient air quality standard for the pollutant, it is designated in “attainment.” An area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant is designated “unclassifiable” (USEPA 2010).

The California Air Resources Board (CARB) is the lead State agency responsible for air quality and for assisting local air districts in California. CARB has set California area designations for ten criteria pollutants including ozone, PM_{10}, $PM_{2.5}$, CO, NO_2, SO_2, sulfates, lead, hydrogen sulfide, and visibility reducing particles (VRPs). If a pollutant concentration is lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "non-attainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified" (CARB 2010b). NCUAQMD is the local regulatory agency that develops and implements air quality plans to identify air pollution levels, sources of air pollution, and attainment strategies for the region where the proposed Grizzly Creek Redwoods Water Tank and Water line Repair Project is located (NCUAQMD 2010).

The following table illustrates the criteria pollutant designations at both the State and federal levels.

Table III-1: Air Quality Standards Based on 2010 Humboldt County Air Quality Designations

Pollutant	State Designation	National Designation
Ozone	Attainment	Unclassified/Attainment
PM_{10}	Non-attainment	Unclassified
$PM_{2.5}$	Unclassified	Unclassified/Attainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	Not Applicable (N/A)
Lead	Attainment	N/A
Hydrogen Sulfide	Attainment	N/A
Visibility Reducing Particles	Unclassified	N/A

State designations were updated March 2010; National designations were current as of September 2010 (CARB 2010a).

Sources

During personal and business activities, Californians release thousands of tons of pollutants into the air every day. Although each of us may only produce a small amount of air pollution, the combined pollution from the 33 million Californians adds up to problems. Some air pollutants are formed and released during the combustion (burning) of petroleum-based products and other fuels such as wood. Examples include gasoline and diesel-powered vehicles and fireplaces, respectively. Fugitive dust, a type of particulate matter, is introduced into the air through activities such as soil cultivation and vehicles operating in open areas of bare ground or on dirt roadways (USEPA 2010). Many tons of pollutants also enter the air through evaporation, such as fuel from gasoline storage and dispensing facilities, and car and truck gasoline tanks, and gasoline storage containers (CARB 2010c).

On hot, sunny days, pollutants emitted by vehicles, industry, and many products (nitrogen oxides and volatile organic compounds) react with each other to form ozone, the main ingredient of smog. During the winter, temperature inversions can trap tiny particles of smoke and exhaust

from cars, trucks, fireplaces, and anything else that burns fuel. This keeps the pollution close to the ground at the level where people are breathing (CARB 2010c).

While Humboldt County residents enjoy some of the best air quality in the state, the growing population of the County is accompanied by routine sources of air pollution, especially sources of PM_{10} such as manufacturing facilities, fireplaces and wood stoves, vehicles, and wildfires (Humboldt County 2010b).

Health Hazards

Ozone and particulate matter are the most common air pollutants in California. Ozone, also known as smog, can irritate the respiratory system, causing coughing, irritation in the throat or a burning sensation in the airways. It can reduce lung function, causing chest tightness, wheezing, and/or shortness of breath. Particle pollution, also known as particulate matter, is composed of microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. When exposed to these small particles, people with heart or lung diseases and older adults are more at risk of hospital and emergency room visits or, in some cases, even death from heart or lung disease. Carbon monoxide can cause harmful health effects by reducing oxygen delivery to the body's organs (like the heart and brain) and tissues. Sulfur dioxide causes a wide variety of health and environmental impacts because of the way it reacts with other substances in the air. Impacts include respiratory effects, visibility impairments, acid rain, plant and water damage, and aesthetic damage (building decay). People, animals, and fish are mainly exposed to lead by breathing and ingesting it in food, water, soil, or dust. Lead accumulates in the blood, bones, muscles, and fat. Nitrogen dioxide contributes to ozone; causes respiratory problems; contributes to the formation of acid rain; contributes to nutrient overload, which deteriorates water quality; contributes to atmospheric particles, which causes visibility impairment; reacts to toxic chemicals; and contributes to global warming (USEPA 2010).

Sensitive Receptors

Sensitive receptors include individuals as well as groups relating to specific land uses. Some individuals are considered to be more “sensitive” than others to air pollutants. The reasons for greater sensitivity than average include health problems, proximity to the emission source, or duration of exposure to air pollutants. Land uses such as primary and secondary schools, hospitals, and convalescent homes (Humboldt County 2010c) are considered to be sensitive receptors to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality related health problems than the general public. Residential uses are considered sensitive receptors because people in residential areas are often at home for extended periods of time, so they can be exposed to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function. Sensitive receptors at and adjacent to the proposed project area is limited to recreational users (trail-users, campers, etc.).

WOULD THE PROJECT*:	POTENTIALLY SIGNIFICANT IMPACT	SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Conflict with or obstruct implementation of the applicable air quality plan or regulation?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) 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 ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations (e.g., children, the elderly, individuals with compromised respiratory or immune systems)?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

* Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make these determinations.

DISCUSSION

a) Work proposed by this project would not conflict or obstruct the implementation of any applicable air quality management plan for the NCAB. All work would be in accordance with applicable air quality plan(s) and regulations. No Impacts.

b, c) The proposed project would not emit air contaminants at a level that by themselves would violate any air quality standard, or contribute to permanent or long-term emissions of dust. The project does involve the use of equipment and materials that would emit ozone precursors. Increased emission of dust (particulate matter) and ozone precursors could contribute to existing non-attainment conditions, which could interfere with achieving the projected attainment standards. Integration of **STANDARD PROJECT REQUIREMENT AIR 1** (see Chapter 2 Project Description) into the project description would reduce impacts to Less than significant.

d) As mentioned above, project construction would generate dust and equipment exhaust emissions for the duration of the project. Although sensitive receptors are limited in the area, there is the possibility that during construction, recreational users could be affected. However, members of the public with conditions that make them sensitive to these emissions would have the option of moving to areas further away and avoiding the area altogether or remain in the areas that would be upwind or protected from blowing dust or other emissions. Integration of **STANDARD PROJECT REQUIREMENT AIR 1** (see Chapter 2 Project Description) into the project description would prevent impacts. Less than Significant impact.

e) Construction activities do not usually emit offensive odors and are generally confined to the vicinity of the source. Although construction activities occurring in association with the proposed project could generate airborne odors with the operation of construction vehicles (i.e., diesel exhaust), these emissions would only occur during the daytime hours, would generally be restricted to the immediate vicinity of the construction site, and due to the remote location of the project would not affect a substantial number of people. No impact.

IV. BIOLOGICAL RESOURCES.

ENVIRONMENTAL SETTING

Grizzly Creek Redwoods State Park (GCRSP) is a 430-acre unit in southern Humboldt County. The park is composed of two non-adjacent sections, the Cheatham Grove parcel located along the Van Duzen River and a larger parcel a few miles upstream that is located at the confluence of Grizzly Creek and the Van Duzen River. The larger parcel contains the project sites and developed park facilities, including park headquarters and a 30-site campground.

Park headquarters is located approximately 37 road miles southeast of Eureka via US Route 101 and State Route 36. Access to the project areas is provided by a paved service road and connecting dirt road/trails. The service road intersects State Route 36 about ¼-mile west of the headquarters and campground complex. The closest community to the project site is Bridgeville located 8 miles to the east.

Much of the park is comprised of old growth redwood forest although mature second growth redwood forest is present, as well. This second growth forest is classified as *Sequoia sempervirens* Alliance, based on the classification system defined in the *Manual of California Vegetation* (Sawyer-Keeler-Wolf 1995) and revised by the California Department of Fish and Game's Vegetation Classification and Mapping Program (DFG 2007). The current system conforms to the National Vegetation Classification System developed by the United States Geological Survey/National Park Service Vegetation Mapping Program (USGS 2009).

In moist locations, such as the area adjacent to the water collection spring boxes, redwood (*Sequoia sempervirens*) dominates the canopy of the *Sequoia sempervirens* Alliance, which also includes tanbark oak (*Lithocarpus densiflorus*) and Douglas-fir (*Pseudotsuga menziesii*). Douglas-fir and tanbark oak co-dominate with redwood in drier locations. Common constituents of the shrub and herbaceous layers include western sword fern (*Polystichum munitum*), poison oak (*Toxicodendron diversilobum*), western trillium (*Trillium ovatum*), redwood ivy (*Vancouveria planipetala*), redwood sorrel (*Oxalis oregona*), and California huckleberry (*Vaccinium ovatum*).

SPECIAL-STATUS SPECIES

Sensitive biological resources that occur or potentially occur in or near the proposed project areas are discussed in this section. Special-status species (aka sensitive species) are defined as plants and animals that are legally protected or that are considered sensitive by federal, state, or local resource conservation agencies and organizations. Specifically, this includes species listed as state or federally Threatened or Endangered, those considered as candidates for listing as Threatened or Endangered, species identified by the United States Fish and Wildlife Service (USFWS) and/or California Department of Fish and Game (CDFG) as Species of Special Concern, animals identified by CDFG as Fully Protected or Protected, other protected or sensitive animals, and plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered. Also included are habitats that are considered critical for the survival of a listed species or have special value for wildlife species and plant communities that are unique or of limited distribution.

The proposed Grizzly Creek Water Treatment Tank & Water Lines Source to Plant Replacement Project is located in a second growth redwood forest while the Grizzly Creek Septic Replacement Project is located in both old-growth and mature second growth redwood forests. State Route 36 is within a ¼ mile of the project areas and a 30-unit campground. All special-status species and their habitats were evaluated for potential impacts from implementation of these projects. Existing available data was collected and reviewed to determine the proximity of sensitive plants, animals, and their habitats to the project areas. Queries of the California Department of Fish Game's California Natural Diversity Database (DFG 2009a), the California Native Plant Society's[1] On-line Inventory (CNPS 2009), and the U.S. Fish and Wildlife Service (USFWS 2009a) were conducted for special-status species and habitats within the Redcrest and eight surrounding 7½ - minute United States Geological Society (USGS) quadrangle maps.

Special-status plant and animal species are described below along with their potential to occur within or adjacent to the project areas and the impacts the proposed project(s) could cause to these species.

PLANT SPECIES

Fourteen special-status plant species identified by the California Natural Diversity Database (CNDDB) and CNPS for the Redcrest and eight surrounding USGS quads are reported to occur or have a potential to occur within or adjacent to the project areas (Appendix 1). A special status lichen (symbiotic association of a fungus and a plant) also occurs in most of these quads, according to the CNDDB. Although not on the above lists, DPR staff observed a CNPS List 4.2 species called heartleaved twayblade (*Listera cordata*) within the Septic Replacement Project area during a botanical survey conducted in April 2010. No federally listed species are identified by the USFWS for the nine quads. Suitable to marginally suitable habitat is available within the project areas for nine of the identified sixteen species, which are described below.

Coast Fawn Lily (*Erythronium revolutum*). – This CNPS List 2.2 perennial herb blooms from March through June and is reported from Sonoma County north to Oregon and Washington. It occurs in bogs and fens and along mesic streambanks within broad-leaved and coniferous forests at elevations from sea level to nearly 3,500 feet above mean sea level (amsl). Although suitable habitat is present, coast fawn lily was not located during plant surveys conducted within the project areas in 2007, 2008, and 2010.

Heartleaved Twayblade (*Listera cordata)* – This CNPS List 4.2 perennial orchid species that blooms from February through July. It inhabits shady mixed-evergreen or coniferous forests at elevations ranging from 100 meters (325 feet) to 1300 meters (4265 feet). A small occurrence of this species was observed behind and to the left of the park maintenance shop within the Septic Rehabilitation project area during an April 2010 botanical survey.

[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.

Howell's Montia (*Montia howellii*). – Howell's montia is a CNPS List 2.2 annual herb of vernally moist habitats that blooms from March through May in locations from sea level to nearly 2000 feet amsl. It is reported to occur in vernal pools, meadows, seeps, and coniferous forests from Mendocino County north to Oregon and Washington. Many of the reported occurrences in Humboldt County are on disturbed sites along the sides of unimproved roads and skid trails. Although suitable habitat is present, Howell's montia was not located during plant surveys conducted within the project areas in 2007, 2008, and 2010.

Long-beard Lichen (*Usnea longissima*). – Long-beard lichen is tracked by the CNDDB and is reported to occur in GCRSP. Like other lichens it is a symbiotic association of two organisms, a fungus, and an alga. It does not occur in the project areas as determined by surveys conducted in 2007, 2008, and 2010.

Maple-leaved Checkerbloom (*Sidalcea malachroides*). – This CNPS List 4.2 perennial herb blooms from April through August with reported occurrences from Santa Clara County north into Del Norte County. It occurs at elevations from sea level to about 2,300 feet amsl in broadleaved upland and coniferous forests, coastal scrub, and coastal prairie. Although suitable habitat is present, maple-leaved checkerbloom was not located in plant surveys conducted within the project areas in 2007, 2008, and 2010.

Running-pine (*Lycopodium clavatum*). – Running-pine is a CNPS List 4.1 perennial herb that occupies marshes and swamps and mesic locations in coniferous forests. It is distributed from Humboldt County through Oregon, Washington, and Idaho at elevations of 200 feet to nearly 2,600 feet amsl. Although suitable habitat is present, running-pine was not located in plant surveys conducted within the project areas in 2007, 2008, and 2010.

Seacoast Ragwort (*Packera bolanderi* var. *bolanderi*). – This CNPS List 2.2 perennial herb of coastal scrub and coniferous forest habitat blooms from June through July. It ranges from Mendocino County north to Oregon and Washington and has been reported from GCRSP. Although known to occur in the park, seacoast ragwort was not located in plant surveys conducted within the project areas in 2007, 2008, and 2010.

Siskiyou Checkerbloom (*Sidalcea malviflora* ssp. *patula*). – Siskiyou checkerbloom is a CNPS List 1B.2 perennial herb of coastal prairie and coniferous forest habitat that blooms from May through June. It is reported to occur in Humboldt and Del Norte Counties north into Oregon. Although suitable habitat is present, Siskiyou checkerbloom was not located in plant surveys conducted within the project areas in 2007, 2008, and 2010.

White-flowered Rein Orchid (*Piperia candida*). – This CNPS List 1B.2 perennial herb occurs in broad-leaved and coniferous forests at elevations from about 100 feet to nearly 4,300 feet amsl. It blooms from May through September and is reported from Santa Cruz County north to Del Norte County, Oregon, and Washington. Although suitable habitat is present, white-flowered rein orchid was not located in plant surveys conducted within the project areas in 2007, 2008, and 2010.

WILDLIFE SPECIES

Wildlife in GCRSP is limited to species that occupy or pass through redwood forest and riparian habitat. Special-status wildlife species that have been documented in GCRSP or could potentially occur in or near the project areas are described below. Other species not known from the area, but included on state or federal database lists, are also discussed.

Wildlife Species Known or Likely to Occur in GCRSP with Potential for Presence in or Adjacent to the Project Area

Western Tailed Frog (*Ascaphus truei*). This California Species of Special Concern generally inhabits cold, clear, rocky streams in forested areas (Stebbins 2003). Threats to this species include activities that result in sedimentation of suitable stream environments. No western tailed frogs were located in the project areas during surveys conducted by a DPR biologist in 2007; however suitable habitat is available within the project areas and this species could inhabit seeps and water intake structures. Project activities could result in potential impacts to this species.

Southern Torrent Salamander (*Rhyacotriton variegates*). This California Species of Special Concern inhabits cold and clear, well-shaded streams, seeps, and waterfalls (Stebbins 2003). Threats to this species include activities that result in sedimentation or water removal in suitable habitat. This species was located in the project areas during surveys conducted in 2007 and 2008. Project activities could result in potential impacts to this species.

Marbled Murrelet (*Brachyramphus marmoratus*). – This state Endangered and federal Threatened species may occur in GCRSP. This seabird spends most of its life in marine environments, but ventures inland to old growth forests between March and September to breed (USFWS 2008b). Major threats include loss of habitat, predation, and various impacts in their marine habitat. This species has been detected within less than ¼-mile of the project areas (DFG 2009b) and suitable habitat is adjacent to the project sites. Construction activities that produce greater than ambient levels of noise are conducted during the breeding season could result in potential impacts to this species.

Northern Spotted Owl (*Strix occidentalis occidentalis*). – This federal Threatened species may occur in GCRSP. Northern spotted owls generally occur in older forest habitats because these forest types provide suitable nesting, roosting, and foraging opportunities (USFWS 2009). Stands occupied by northern spotted owls often have high canopy cover with a layered overstory, multiple tree species, and a large tree component. The Water Treatment Tank & Water Lines Source to Plant Replacement project activities would occur in a second growth redwood forest approximately ¼ -mile from State Route 36 and a 30-unit campground that receives the peak of visitor use during the northern spotted owl breeding season.

Although suitable habitat does not occur within this project area, much of the area around the site is potential habitat for this species. The Septic Replacement project activities would also occur approximately ¼-mile from State Route 36 and the 30-unit campground but old growth, as well as mature second growth, redwood forest occurs within and adjacent to the project area.

Construction activities that produce greater than ambient levels of noise and are conducted during the breeding season could result in potential impacts to this species.

Olive-sided Flycatcher (Contopus cooperi). – This California Species of Special Concern nests in open-canopy late successional-conifer forest near edge openings, usually at higher elevations (Shuford and Gardali 2008). Suitable habitat is present in the project areas. Therefore, construction activities that produce greater than ambient levels of noise and are conducted during the breeding season could result in potential impacts to this species.

Nesting Raptors and Migratory Birds are protected by the federal Migratory Bird Treaty Act (16 U.S.C. 703-712), and by the state Department of Fish and Game Code (Sections §3503, §3503.5, and §3513). Under these laws, all raptors and migratory birds and their nests are protected. A wide variety of migratory birds and several raptor species potentially occur in and/or near the project areas and construction activities could impact nesting birds if conducted during the breeding season.

Sensitive Bat Species. – Townsend's big-eared bat (*Corynorhinus townsendii*) is known to occur in GCRSP (DFG 2009). The park is within the potential range of several other sensitive bat species, including the pallid bat (*Antrozous pallidus*) and western red bat (*Lasiurus blossevillii*), both California Species of Special Concern. Other species identified as medium to high conservation concern by the Western Bat Working Group with some potential to occur in or near GCRSP include, but are not limited to, the hoary bat (*Lasiurus cinereus*), Yuma myotis (*Myotis yumanensis*), silver-haired bat (*Lasionycteris noctivagans*), long-eared myotis (*Myotis evotis*), and long-legged myotis (*Myotis volans*). Roost trees and snags typical for tree-roosting bat species are often large and in some stage of decay (Brigham et al. 1997). Implementation of these projects would not result in the removal of large trees or snags and project activities would not impact bat species during the maternity period.

Wildlife Species Occurring in or Near GCRSP, but Unlikely to Occur in the Project Area

Coho Salmon, Southern Oregon/Northern California ESU (*Oncorhynchus kisutch*). – This federal and state Threatened species occurs in small numbers in the Van Duzen River and some of its tributaries, including Grizzly Creek (DFG 2009c). Best Management Practices (BMP's) and standard project requirements will be in place to prevent any sediments or contaminants from entering Grizzly Creek and the Van Duzen River and affecting aquatic environments. Project activities will not impact water temperature, quantity, or quality in the Van Duzen River or its tributaries. No impacts.

Steelhead, Northern California ESU (*Oncorhynchus mykiss*). – This federal Threatened species occurs in the Van Duzen River and some of its tributaries, including Grizzly Creek (DFG 2009c). BMP's and standard project requirements will be in place to prevent any sediments or contaminants from entering Grizzly Creek and the Van Duzen River and affecting aquatic environments. Project activities will not impact water temperature, quantity, or quality in the Van Duzen River or its tributaries. No impacts.

Chinook Salmon, California Coastal ESU (*Oncorhynchus tshawytscha*). – This federal Threatened species occurs in the Van Duzen River and some of its tributaries, including Grizzly Creek (DFG 2009c). BMP's and standard project requirements will be in place to prevent any sediments or contaminants from entering Grizzly Creek and the Van Duzen River and affecting aquatic environments. Project activities will not impact water temperature, quantity, or quality in the Van Duzen River or its tributaries. No impacts.

Northern Red-legged Frog (*Rana aurora draytonii*). – This California Species of Special Concern breeds in permanent water bodies such as ponds, lakes, slow moving streams, marshes, and wetlands throughout Humboldt County. No suitable breeding locations occur in or adjacent to the project areas. Although this species can be found far from suitable breeding locations, project activities will not impact dense vegetation which could potentially provide cover. BMP's and standard project requirements will be in place to prevent any sediments or contaminants from entering Grizzly Creek and the Van Duzen River and affecting aquatic environments. No impacts.

Foothill Yellow-legged Frog (*Rana boylii*). – This California Species of Special Concern occurs in clear rivers and creeks with gravel or rock substrate and sunny banks in forest or woodland habitats (Jennings and Hayes 1994). Foothill yellow-legged frogs have been sighted at the mouth of the Van Duzen River and Grizzly Creek by DPR personnel (Harris, J 2010). However, the CNDDB has no record in GCRSP or nearby streams (DFG 2009a). Suitable habitat for this highly aquatic frog occurs in the Van Duzen River near the project areas but project activities will not impact water quantity or quality in this river or impact the aquatic habitat. No impacts.

Northwestern Pond Turtle (*Emys* [Clemmys] *marmorata*). This California Species of Special Concern inhabits still or slow moving aquatic habitats with submerged or emergent vegetation and also requires open basking areas and sandy or loose soil sites to lay eggs (Jennings and Hayes 1994). Mating usually occurs in April and May and females then lay eggs in upland nest locations. No suitable aquatic habitat will be impacted and suitable egg-laying sites do not occur in the project areas. BMP's and standard project requirements will be in place to prevent any sediments or contaminants from entering Grizzly Creek and the Van Duzen River and affecting aquatic environments. No impacts.

Osprey (*Pandion haliaetus*) – This California Species of Special Concern builds large stick nests in treetops or snags in open forests within fifteen miles of water used for foraging (DFG 2009a). Ospreys are known to nest in GCRSP and potential exists for this species to nest in or near the project areas. Construction will be timed to start after the end of the nesting season (September 15) and work which could potentially result in noise disturbance will be completed prior to the start of the nesting season (February 1) to prevent impacts to this species during implementation of the projects. No habitat suitable for this species will be altered by project activities. Therefore, no impacts to osprey will occur as a result of project implementation with work scheduled outside of the breeding season.

Bald Eagle (*Haliaeetus leucocephalus*) (nesting and wintering) – This state Endangered species was recently de-listed under the Federal Endangered Species Act. The bald eagle is also protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird

Treaty Act (USFWS 2006a). Bald Eagles in California can be either year-round residents or winter migrants. Nest trees are often in very large trees in close proximity to water and breeding season generally occurs between February and July (DFG 2009a). Suitable nesting and wintering habitat occurs near the project areas. However, construction is scheduled to avoid the nesting season and no work will occur in areas suitable for winter foraging. No habitat suitable for this species will be altered by project activities. Therefore, no impacts to bald eagles will occur as a result of implementation of these projects.

Yellow Warbler (*Dendroica petechia*). This California Species of Special Concern breeds typically in riparian vegetation such as willows or cottonwoods close to water (Shuford and Gardali 2008). There is limited suitable nesting habitat along the Van Duzen River near the project areas, but no riparian vegetation will be impacted and activities will be timed to avoid the breeding season. No impacts.

Yellow-breasted Chat (*Icteria virens*). This California Species of Special Concern nests locally in well-developed riparian vegetation along inland river valleys in Humboldt County (Harris 1991). Typical nesting habitat is dominated by willows and alders and contains a dense shrub layer. There is limited suitable nesting habitat along the Van Duzen River near the project areas, but no riparian vegetation will be impacted by project activities and work will occur outside of the breeding period for this species. No impacts.

Willow Flycatcher (*Empidonax traillii*). This state Endangered species is not known to occur in GCRSP and breeding habitat generally consists of extensive, dense willow thickets along riparian or other wetland areas. The riparian area in close proximity to the project areas is generally sparsely vegetated due to high visitor use which peaks during the breeding season. There is limited suitable habitat along the Van Duzen River, but no riparian vegetation will be impacted by these projects, no suitable nesting habitat occurs in close proximity to proposed project activities, and work will be scheduled outside of the breeding period. No impacts.

Fisher, West Coast DPS (*Martes pennanti*). This federal Candidate species generally occurs in mature forest habitats with high canopy closure, large trees and snags, large woody debris, large hardwood component, and a multi-story canopy layer (USFWS 2004). Suitable habitat is present near the project areas, however, the disturbance associated with visitor use in nearby park facilities and proximity to SR 36 makes it unlikely that fishers would utilize the areas for denning or resting. Implementation of these projects will not result in fragmentation or deterioration of suitable habitat or impede dispersal through the area. No impacts.

SENSITIVE NATURAL COMMUNITIES

Sensitive plant communities are regionally uncommon or unique, unusually diverse, or of special concern to local, state, and federal agencies. Removal or substantial degradation of these plant communities constitutes a significant adverse impact under CEQA. Although not recognized by the CNDDB as sensitive, the *Sequoia sempervirens* Alliance within the project areas is considered a locally sensitive natural community since it contains mature forest components, especially mature redwood trees that provide valuable habitat for both common and special status wildlife species such as the federal Threatened northern spotted owl. Adjacent to the

Water Storage Tank & Water Lines Replacement project area and within the Septic Replacement project area is “old growth” redwood forest that provides more extensive habitat for special status species, including state Endangered federally Threatened marbled murrelet. Implementation of these projects will not result in any impact to the *Sequoia sempervirens* Alliance within or adjacent to the project areas.

SUDDEN OAK DEATH

Discovered in 1995, Sudden Oak Death (SOD) is caused by the pathogen *Phytophthora ramorum*, which has infected and killed thousands of tanoak, coast live oak, Shreve oak, and California black oak trees in coastal forests from Humboldt County to Monterey County (COMTF 2008). This water mold also infects many other species, including California bay laurel (*Umbellularia californica*), Pacific madrone (*Arbutus menziesii*), California buckeye (*Aesculus californica*), coast redwood, Douglas-fir, big leaf maple (*Acer macrophyllum*), California honeysuckle (*Lonicera hispidula var. vacillans*), California coffeeberry (*Rhamnus californica*), toyon (*Heteromeles arbutifolia*), rhododendron (Rhododendron spp.), manzanita (*Arctostaphylos* spp.) and huckleberry (*Vaccinium* spp.).

SOD may be spread when host plants, wood chips, burls, other host plant products, or soils contaminated with the pathogen’s spores are moved to previously uninfected areas (COMTF 2008). SOD thrives in cool, wet to moist climates, and living plants and its 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-harboring hosts are present. Detached plant leaves, organic material, and soil, which may harbor spores of the pathogen, are more likely to stick to vehicles, equipment, and humans when they are wet.

Humboldt County is one of 14 California counties to have confirmed SOD findings and is under state and federal quarantine regulations governing the movement of affected plants or plant material out of the quarantined area (COMTF 2008). The California County Agricultural Commissioners are the enforcement agents for state and federal regulations governing *Phytophthora ramorum*.

WETLANDS AND WATERS OF THE UNITED STATES

The federal Clean Water Act (CWA) defines wetlands as lands 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 U.S. Army Corps of Engineers (USACOE) USACE has jurisdictional authority of wetlands under provisions found in Section 404 of the CWA. Typically, USACE jurisdictional wetlands meet three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology.

Waters of the U.S. (aka Other Waters) are regulated by the USACE under Sections 401 and 404 of the CWA. They are defined as all waters used in interstate or foreign commerce, waters subject to the ebb and flow of the tide, all interstate waters including interstate wetlands and all other waters such as: intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, and natural ponds. Waters of the U.S. are under the

USACOE jurisdiction.

Site investigations for the presence of USACOE-jurisdictional wetlands and Waters of the U.S. were conducted within the project areas on June 27, 2007 by a DPR biologist qualified to conduct wetland delineations (Martin 2007). No USACOE-jurisdictional wetlands were identified within the project boundaries.

There is no surface hydrologic connection between the minor unnamed spring-fed drainage that supplies water to the Water Treatment Tank & Water Lines Replacement project's spring boxes and the Van Duzen River, which is located about 1/4 mile southeast of the project site. The flow of this small drainage is absorbed into the ground before reaching the Van Duzen River. Flows during the dry season are estimated to be one cubic foot per second or less. Although this drainage may constitute waters of the U.S. subject to USACOE jurisdiction, the proposed project activities are exempt from regulation as defined in the CWA maintenance exemption (333 CFR 323.4). Project activities would occur within the stream bed and within the mean high water mark of this drainage, although BMP's and project specific measures would be in place to protect the aquatic environment and minimize sediments from entering the downstream portion of the drainage. Project implementation will not result in the increase of water withdrawals from this drainage.

The Septic Replacement project activities would not occur within USACOE jurisdiction.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a)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 California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b)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 California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands, as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) 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?	☐	☐	☒	☐
e)Conflict with any local policies or ordinances	☐	☐	☐	☒

protecting biological resources, such as a tree preservation policy or ordinance?				
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

DISCUSSION

a) The proposed Water Treatment Tank & Water Lines Replacement project would replace the existing water storage and delivery system at Grizzly Creek Redwoods State Park. The scope of work includes: 1) abandoning the existing steel water supply pipelines and replacing the water lines with new HDPE pipe; 2) replacing the existing redwood water tank with a new polyethylene tank equal to the current storage capacity; and 3) repair of the spring water intake structures, including removal of accumulated sediment and gravel and replacement with appropriately sized gravel and retaining a thin layer of sediment suitable for aquatic vertebrate species.

The proposed Septic Replacement project would replace existing septic systems throughout the park unit. The scope of work includes: 1) replacing old septic tanks with new tanks of modern design that have proper baffling and effluent discharge filtration; 2) installing approximately 20 leach field chambers; 3) installation of a wet well; 4) removal of two campsites; and 5) installation of a series of manholes to permit daily inspection of leach field chambers and permit access to valves.

In order to reduce impacts to sensitive, candidate, or special status species to a less than significant level, the following proposed measures would be implemented.

(i) Southern torrent salamander (STS) and western tailed frog (WTF). Threats to the amphibian species STS and WTF include activities that result in sedimentation or water removal in suitable habitat. Suitable habitat for both species occurs in the Water Treatment Tank & Water Lines Replacement project area and STS was located within the water intake structures during surveys conducted in 2007 and 2008. Proposed project activities that could potentially impact these species and their habitat would include gravel and sediment removal from the water intake structures and the capture and temporary removal of STS/WTF individuals during the clean-out of these structures. Although the clean-out would temporarily impact amphibian habitat, the placement of new gravel and retention of a thin layer of sediment in these structures would improve amphibian habitat. Integration of **Project Specific Requirement Bio-1** into project description would reduce potential impacts to these species to less than significant.

(ii) Marbled murrelet. Marbled murrelets are sensitive to visual and noise disturbance of their nesting habitat in mature forest stands in California. Suitable nesting habitat occurs in old growth redwood forest habitat in and near the proposed project areas and construction activities during the breeding season could impact this species. Integration of Standard Project Requirement Bio-2 into project description would reduce the potential impacts of project activities on actively nesting marbled murrelets or the

suitability of the habitat for marbled murrelets to a less than significant level. The nesting season for marbled murrelet is March 24 through September 15.

Northern spotted owls (NSO). Although the DFG Northern Spotted Owl Database contains no records of NSO activity centers within a mile of the project area, there is suitable nesting habitat adjacent to the project areas and these locations likely support nesting by northern spotted owls. However, visitor use in the park's campground and highway and road traffic near the project area during the breeding season make it unlikely that active nesting occurs within close proximity of the project areas that the noise associated with project activities could cause disturbance to this species. The majority of construction related noise activities will not be significantly greater than ambient noise associated with trucks and motorcycles using the highway, recreational vehicle's in the campground, and all of the other noise generated at recreational sites. Integration of **Standard Project Requirement Bio 2** into the project description would reduce the potential impacts of project activities on actively nesting northern spotted owls to a less than significant level. The nesting season for NSO is February 1 through August 31.

Nesting migratory bird and raptor species. Sensitive birds (e.g., yellow warbler, olive-sided flycatcher) and raptors may be present in the project area, and could be nesting in the vicinity of the project. Migratory birds and raptors are protected under the Fish and Game Code §3503.5 and the Migratory Bird Treaty Act (MBTA). The nesting season for migratory bird and raptor species is March 24 through September 15.

Integration of **Project Requirement Bio 2** into the project description would prevent the disturbance or loss of an active nest, and reduce potential impacts to these species to less than significant.

(iii) Sensitive bat species. GCRSP lies within the range of several sensitive bat species, including Townsend's big-eared bat. However, implementation of these projects would not result in the removal of large trees or snags and project activities would not impact bat species during the maternity period. No impact.

(iv) Special-status plant species. Fourteen special-status plant species as identified by the CNDDB and CNPS are reported to occur or have a potential to occur within or adjacent to the project areas (Appendix 1). Suitable to marginally suitable habitat is available within the project areas for eleven of the fourteen species. None of the fourteen special status plant species from these lists were located during surveys conducted during the appropriate blooming periods in 2007 and 2008. However, in surveys conducted in April 2010, a CNPS List 4.2 perennial orchid species, heartleaved twayblade (*Listera cordata)*, was observed in and adjacent to the Septic Replacement project area. This species is not included in the above database lists for the Redcrest 7.5' quadrangle map. Some heartleaved twayblade were located within the potential area of disturbance, however most are located predominantly outside of the project area. Project Specific Requirement Bio 3 will reduce project-related impacts to this species to a less than significant level.

b) The *Sequoia sempervirens* Alliance within and adjacent to the project areas is considered

a sensitive natural community since it contains mature forest components, especially mature redwood trees that provide valuable habitat for both common and special status wildlife species, including the federally Threatened marbled murrelet. Implementation of these projects will not result in substantial adverse effects to the *Sequoia sempervirens* Alliance within or adjacent to the project areas.

c) No wetlands would be impacted as a result of the proposed projects activities. Best Management Practices (BMP's) and **Standard Project Requirements** (**Hydro-1, Hydro-2, Haz-1**) measures would be integrated into the project description to protect the aquatic environment and minimize sediments or construction related contaminants from entering the downstream portion of the spring-fed drainage. No impact.

d) The proposed projects would not impede fish passage or wildlife movement and no work would occur in any fish bearing stream. No impact.

e) As stated in the Environmental Setting above, Humboldt County is subject to state and federal quarantine regulations for the pathogen *Phytophthora ramorum*, which causes the often fatal disease known as Sudden Oak Death in numerous species of native plants, especially oaks. This pathogen has been identified in Humboldt Redwoods State Park and project activities could inadvertently transport this disease to new uninfected locations through improper disposal of infected plant material or if pathogen spores in soil or on infected plant material stick to construction vehicles, equipment, or personnel. Integration of **Standard Project Requirement Bio 4** into description plans would reduce potential impacts to a less than significant level.

f) These projects do not conflict with any Habitat Conservation Plans, Natural Communities Conservation Plans, or other approved habitat conservation plan. No impact.

V. CULTURAL RESOURCES.

ENVIRONMENTAL SETTING

Grizzly Creek Redwoods State Park (GCRSP) lies in the Van Duzen River watershed within the coastal range of Humboldt County. The park is located approximately 20 miles southeast of Eureka, and 220 miles north of San Francisco. The park is only 430 acres in size but provides the sense of seclusion and wilderness. The project area is located in the main campground section of the park and directly south of two springs that supply water for the Park. The campground is located immediately adjacent to the Van Duzen River. The Area of Potential Effect (APE) covers the campground and the pipeline corridor from the springs to the proposed new water tank, and the entire existing and planned septic system.

Climate in the area is characterized as "Mediterranean," consisting of heavy precipitation in the winter months with dry summers and frequent fog in the drainages. The confluence of Grizzly Creek and the Van Duzen River is within GCRSP. Slopes vary from flat alluvial terraces above the river to fairly steep slopes (10 – 20 percent) further east. These alluvial terraces are prone to seasonal flooding and over the years have been the subject of many catastrophic flood events. Fish common to the Van Duzen River and its tributaries include Chinook salmon, coho salmon, steelhead trout, and lamprey eel. From 1938 through 1956, California Fish and Game conducted run counts of these species in the nearby Eel River. These runs averaged almost 38,000 fish per year until the flood of 1955 (Baumhoff 1963:171). After the flood the run numbers declined significantly and have never fully recovered (Sampson 1983:4).

GCRSP has a grove of old growth redwoods (*Sequoia Sempervirens)*; the understory is comprised of shrubs and herbaceous layers, and in some vicinities, tanoak, live oak, willow, and huckleberry. These plant communities provide habitat for numerous terrestrial mammals including black-tailed deer and black bear. As a result of historic development in the area, several animal species important to the subsistence of past native peoples are no longer present in the region.

Cultural Setting

There are two main categories of cultural resources, the archaeological environment and the historic environment, both influenced by the natural resources available in the area. The topography, weather, and abundance of natural resources in the Van Duzen River watershed provides an ideal setting for both prehistoric and historic utilization and settlement in the region. Archaeological and ethnographic data from previous studies indicate the flat alluvial terraces along major drainages were prime areas for seasonal aboriginal settlements. Historically, these areas were homesteaded. After European settlement was established and a transportation infrastructure was implemented, the lumber industry, which centered on the giant redwoods, became the primary economic pursuit in the region.

Prehistory/Ethnographic Background

The Van Duzen River is within the traditional ethnographic territory of the Athabascan speaking Nongatl Indians. The Nongatl make up a group of five southern Athabascan language speakers. The Nongatl, Sinkyone, Wailaki and Lassik all spoke dialects of the same language, the fifth group, the Mattole also spoke a dialect of Athabascan though it was most likely mutually unintelligible by both groups. The most comprehensive data on the Nongatl was derived from informants during the first quarter of the twentieth century.

The Nongatl are associated with all or most of the Van Duzen River drainage, including its main affluent, Yager Creek. Besides these areas, The Nongatl occupied a considerable stretch of the Upper Mad River and small section of the Eel River and practically its entire tributary, the Larabee Creek drainage (Baumhoff 1958). The Nongatl were evidently divided into five tribelets or dialect groups, and 35 named or otherwise identified village sites have been recorded for them (Elsasser 1978). Movement was seasonal and followed food supplies. The most important food source, more than game and vegetal resources, was fish which was found in large quantities in the South Fork and its tributaries. Accessibility to the river and good sun exposure were critical factors in selection of village locations (Sampson 1983).

The importance of anadromous fish runs to the subsistence economy of native peoples in the region was the primary determinant in aboriginal settlement location. Permanent villages were occupied along drainages and valleys to maximize procurement of fish in the winter months. The entire tribe moved down from the mountains to fish after the rivers began to rise with the fist rains, which were accompanied by anadromous fish runs. Habitation in the summer months was characterized by temporary campsites in the higher elevations. During the summer tribes were more nomadic, moving to higher elevations where the availability of plant food resources was at an optimum. Prehistoric and ethnographic data associated with sites in the hill regions are not as clearly defined as the permanent village sites along the drainages (Kroeber 1925). Resource procurement in the summer required more mobility, and as a result, the sites were more temporary and indistinct.

Archaeological Resources

The library and other archival records and sources on file at California Department of Parks and Recreation (DPR) – Northern Service Center (NSC) were consulted for the project to gather pertinent information regarding the archaeological potential in the vicinity. Additionally, relevant institutions were contacted and data bases searched for information concerning cultural resources in the area that could be impacted by project work.

The North Coast Information Center (NCIC) suggests the probability of locating cultural resources is moderate to high in the APE. This determination was based on archival information retained in the Information Center's database which came up with negative results for previously recorded cultural sites in the project area, but located archaeological sites and features in the area around the proposed project area. The record search indicated an ethnographic village site, recorded as CA-HUM-711 is/was located southwest of the park campground. The exact location of the village or temporary camp is unknown, but it appears to be around the "Devils Elbow" vista point and

may actually be on the opposite side of the Van Duzen River from the project area; however, the site is merely reported by a Ranger as “people formerly picked up arrowheads from the site.” The site is also recorded as “apparently destroyed by bulldozing.” The recorded location of this village/temporary campsite is outside the present project area; however the location is noted as only approximate.

Five past archaeological studies in or near the project area have failed to locate significant cultural resources, especially those related to Native American land-use along the Van Duzen River. Three of these reports were conducted by California Department of Parks and Recreation archaeologist Karin Anderson. These surveys were conducted in relation to ADA improvements for the campground and trails within GCRSP. Two additional surveys were conducted for compliance during Timber Harvest Planning. None of the previously conducted surveys recorded Native American cultural resources.

There are four previously recorded historic cultural resources within GCRSP, these resources are associated with the large historic Camp Bemis logging camp, within GCRSP the features consist primarily of a few standing shacks with corrugated metal roofs, an old shack site, a well, a few old cars, and widely scattered garbage consisting of cans, bottles and old appliances (Duffy 2000). The camp is estimated to have been occupied in the early 1930s through the 1950s. The main portion of Camp Bemis lies outside the current GCRSP boundaries; however there may be historic artifacts associated with the logging camp within the Park and the present APE.

Prehistoric/Ethnographic and Historic Archaeological Resources

Early archaeological and ethnographic data from previous studies in the region indicate the flat alluvial terraces along major drainages were prime areas for aboriginal settlements. These areas were utilized historically as well, beginning with Euroamerican settlement in the mid to late 1800s and later, historic transportation systems, logging, commerce, and park development.

Flooding on the Van Duzen River has had a major impact on both the cultural and natural histories of the area. Over the last one-hundred plus years, the region has been the subject of numerous major flood events (1937, 1955, and 1964). It is probable archaeological deposits and historic features have either been buried in deep alluvium, or washed away and destroyed, obliterating the archaeological record. Additionally, these floods have reshaped the topography, destroyed residences and towns, and resulted in abandonment, rebuilding, or relocation of park facilities (DPR 2001).

The entirety of the project area was subjected to a pedestrian archaeological survey by Department of Parks and Recreation, Associate State Archaeologists, Steven Hilton and Dionne Gruver on April 9, 2008. The pedestrian survey failed to locate any archaeological resources within the proposed project area. The construction of the pipeline will be aboveground with no ground disturbance so the likelihood of this project affecting any cultural resource is minimal. Given the results of the archaeological investigations associated with the Grizzly Creek Water System and Tank Rehabilitation Project and past studies in the vicinity, it is unlikely that significant archaeological deposits or features will be encountered during project work.

Historic Resources

The only historic features in the project area are associated with the historic logging era. These features include high-cut stumps displaying the notches from springboards and segments of old roads, buildings and trash scatters associated with the historic Camp Bemis logging camp. All historic resources are located outside the current proposed project area.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource, pursuant to §15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

DISCUSSION

a) As designed, this project will have no impact on historic resources. The campground areas of Grizzly Creek Campground contain no historic resources which may be affected by this project. All the historic features of Camp Bemis are well outside the current project area.

b) All construction activity associated with this proposed project takes place within existing utility corridors and above ground, therefore limited ground disturbance is expected. There are no previously recorded archaeological resources within the proposed project area and no archaeological resources were identified during the pedestrian archaeological survey. Therefore this project will have no impact to identified archaeological resources.

Construction and rehabilitation activities related to this project, including but not limited to earth movement, plant removal, staging areas, or operation of equipment could significantly impact unrecorded archaeological deposits located within the proposed project area. Integration to **Cultural SPR – 1 Previously Undocumented Resources,** (See Chapter 2) into the project description would reduce impacts to archaeological resources to a less than significant level.

Naturally occurring fresh water springs were heavily utilized by Native Americans throughout the state. Many fresh water springs were localized hubs of activities for Native American groups. The fresh water springs located at GCRSP have been historically modified to supply freshwater to the campground and surrounding facilities. Any work around or within proximity of the existing springs and spring boxes may require archaeological monitoring. The monitoring will be at the discretion of the project archaeologist. Integration of **Cultural SPR- 2 Archaeological Monitoring,** (see Chapter 2), in the project description will ensure that there is no impact to unrecorded or unidentified archaeological resources.

There will be significant amounts of ground disturbing project related activities during construction of the septic tanks, leech field chambers, and the placement of piping and utilities necessary to run and maintain the proposed septic system replacement. Any ground disturbing work, for any aspect of this project may require archaeological monitoring. The monitoring will be completed at the discretion of the project archaeologist. Integration of **Cultural SPR- 2 Archaeological Monitoring,** (see Chapter 2), into the project description will ensure that there is no impact to unrecorded or unidentified archaeological resources.

c) Native American burials have not been documented in the vicinity of the proposed APE; however, extensive documentation indicates the ethnographic village site (CA-Hum-711) is/was located near the project area. A design of the site places it on the south side of the Van Duzen River immediately down stream from the confluence of Grizzly Creek. In addition to the village site, ethnographic information indicates intense utilization of land-use along major drainages in Humboldt County during anadromous fish runs. Because of past Native American utilization of the area, ground disturbing activities associated with this project could inadvertently expose previously undocumented human remains. Burials have not been documented or recorded in the project area; however, there is always a potential of unanticipated discoveries of human bone. If any human remains or burial artifacts were identified, implementation of **Cultural SPR 3 - Human Remains Discovery** (See Chapter 2) integrated into the project description would reduce the impact to a less than significant level.

In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager will notify the appropriate DPR personnel. Any human remains and/or funerary objects will be left in place or returned to the point of discovery and covered with soil. 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 (or Tribal Representative). If a Native American is on-site at the time of the discovery, the monitor will be responsible for notifying the appropriate Native American Authorities.

VI. GEOLOGY AND SOILS.

ENVIRONMENTAL SETTING

The scope of work for this project includes the replacement or repair of a spring box water collection system and water supply lines in disrepair. The existing water storage tank will be removed and replaced with a new polyethylene water storage tank with a total capacity of 5,000 gallons. The new tank will be anchored to meet seismic restraint requirements. In addition, work would replace six underground septic tanks and install a new leach field.

Topography

Steep slopes, commonly exceeding 50%, and high rates of natural erosion are typical for Grizzly Creek Redwoods State Park (GCRSP). The slope stability of the park is generally characterized as moderately unstable (Humboldt County 2006).

The Grizzly Creek Water Tank, Water line, and Septic system Replacement project(s) is located in the northwest corner of the park. The site is to the north of State Route 36 approximately 15 miles southeast of the town of Fortuna. The topography at the site ranges from a gradient of less than 10% to over 50% and is at an elevation of approximately 500 feet. Portions of the water distribution line traverse steep slopes but the storage tank, much of the water distribution line, and other facilities are on relatively level ground, roads, or along trails. The existing water tank is on a cut slope. Behind the tank, the slope is at an angle of 2:1. Southwest of the project site, the elevation rises from 500 feet to Bemis Peak at 1602 feet. Across the Van Duzen River to the south of the project site, the slope rises from below 400 feet at the river bed to over 1700 feet in the Chalk Mountains (USGS, 1969).

Geology

The rocks that occur in the Coast Range that includes GCRSP form generally north-northwest to west-northwest trending belts. These belts of rock are younger to the west because they were progressively scraped off of the seafloor and attached to the North American continent as the Pacific Ocean seafloor was thrust under the North American plate. The rocks on lands in and around GCRSP can be divided into older rocks of the Franciscan complex and younger fine-grained sedimentary rocks of the Yager terrane (PALCO 1999, McLaughlin 2000). The Franciscan complex includes a Coastal Belt to the west consisting of mostly marine sandstone and a Central Belt to the east that has inclusions of exotic blocks of mélange, which are blocks of conglomerates, sandstone, chert, limestone, metamorphic and igneous rock (PALCO 1999). GCRSP lies near the junction of these two belts. Overlaying the Franciscan complex in GCRSP are younger Paleocene to Eocene age sandstone, conglomerate, and shale of the Yager terrane (PALCO 1999, McLaughlin et a. 2000). The Yager terrane has mostly rhythmically bedded argillite and arkosic sandstone rocks and locally contains fossil dinoflaggellates, spore and pollen (McLaughlin 2002).

Seismicity

GCRSP is located in the northern Coast Range and is part of the Coast Ranges Geomorphic Province (USGS, 2008a). This range was formed primarily from remnants of the Pacific Tectonic plate that were scraped off and uplifted after collision with the North American plate, under which

the Pacific plate is moving. The mountains were formed after millions of years of this movement along with periodic changes in sea level. Seismicity in the region is extremely high. The most seismically active area in the continental United States, known as the Mendocino Triple Junction, occurs approximately 25 miles from the park unit. This junction, capable of magnitude 9 earthquakes, is the location where the Gorda tectonic plate collides with the Pacific and North American plates (DPR, 2001). These plates slide obliquely against each other as they move in opposing directions. The overall plate movement averages 2-3 inches per year some of which is expressed as smaller (~magnitude 6) earthquakes but most of the plate slip comes during less frequent, large and great earthquakes. In the 1990's, there were at least nine magnitude 6.0 earthquakes in the north coast region, which was higher than any other decade in the past century. Because the Gorda plate is subducting beneath the North American plate, there is the potential for a large magnitude earthquake in the area known as the Cascadia subduction zone (NPS, 2008). GCRSP would be strongly affected by groundshaking generated by rupture of the Cascadia subduction zone (DPR, 2001).

Other active faults that have moved within the last 11,000 years, that would produce strong groundshaking in the park include: the northern segment of the San Andreas fault, capable of a magnitude 7.9 earthquake; the Maacama Fault which is capable of a magnitude 7.1 earthquake; and the Little Salmon Fault which is capable of a magnitude 7.3 earthquake. Other potentially active faults, smaller active faults or faults that are less clearly active in the immediate region include the Garberville Fault zone, the Russ Fault, the Whale Gulch-Bear Harbor Fault zone, and the Goose Lake Fault (DPR, 2001).

According to *Probabilistic Seismic Hazard Mapping*, the approximate peak ground acceleration is between 30-50% gravity (g) in the general project area. The shaking hazard maps show the level of ground motion that has 1 chance in 475 of being exceeded each year, which is equal to a 10% probability of being exceeded in 50 years (CGS, 2008). The United States Geological Survey (USGS, 2008b) puts the probability for ground motion in the project vicinity between 40-60 % gravity.

Faults that are capable of producing earthquakes which could cause moderate to severe ground shaking within the project site are listed below along with the age of last movement and approximate distance from the project site (CDC 1994, DPR 2001, USGS 2006, Jennings and Saucedo 1999, and CDC 2008):

Fault Name	Approx. Distance (miles) and Direction from Project Site	Maximum Moment Magnitude Earthquake	Recency of Fault Movement*
Mad River Fault Zone	25 N	7.1	Holocene
Little Salmon Fault Zone	6 NW	7.3	Holocene
Yager Fault	2 N	unknown	Holocene
Russ Fault	10 SW	unknown	Late Quaternary
Seaward edge of the Cascadian subduction	29 W	9.0	Holocene

zone			
Mendocino Fault Zone	30 SW	7.4	Holocene
San Andreas Fault Zone	36 S	7.9	Holocene
Whale Gulch-Bear Harbor Fault Zone	31 S	unknown	Late Quaternary (probably Holocene)
Lake Mountain Fault Zone	35 SE	6.7	Late Quaternary
Maacama Fault Zone	50 S	7.1	Holocene
Garberville Fault Zone	21 S	6.9	Late Quaternary (probably Holocene)
Goose Lake Fault Zone	10 NW	6.8	Holocene

*Recency of fault movement: Holocene = 200 - 10,000 years; Late Quaternary = 10,000 – 700,000 years. Some of these have better data to constrain the most recent earthquake – I will send you a table from another MND we have done up here

Soils

There is no published soil survey for the area encompassing GCRSP. However, the preliminary draft soil survey map for the project area (NRCS 2009b) indicates that the site falls within two soil mapping units: Redwoodhouse-Yagercreek-Mailridge complex 30-50% slopes; and Redwoodhouse-Yagercreek-Mailridge complex 50-75% slopes.

Redwoodhouse-Yagercreek-Mailridge complex 30-50% slopes: This mapping unit consists of 45% Redwoodhouse, 25% Yagercreek, 15% Mailridge, and 15% minor components. These soils have moderately-slow permeability and are well-drained. Surface runoff is high. Parent material is colluvium and residuum derived from interbedded sandstone and mudstone. Soil texture varies with depth of soil but ranges from loam and silty loam to gravelly silty clay loam and very gravelly clay loam (NRCS 2009b).

Redwoodhouse-Yagercreek-Mailridge complex 50-75% slopes: This mapping unit consists of 35% Redwoodhouse, 30% Yagercreek, 15% Mailridge, and 20% minor components. These soils have moderately-slow permeability and are well-drained. Surface runoff is high. Parent material is colluvium and residuum derived from interbedded sandstone and mudstone. Soil texture varies with depth of soil but ranges from gravelly loam and gravelly clay loam to extremely gravelly loam and extremely cobbly sandy loam (NRCS 2009b).

PALCO (1999) developed a soil map of the area which was derived from soil-vegetation maps produced by the California Cooperative Soil-Vegetation Survey. This map indicates that the project area is underlain by soils of the Hugo series. This series consists of deep, well drained soils formed from sandstone, shale, schist and conglomerate that are on uplands areas with slopes between 9 and 75 percent (NRCS 2009a). Runoff can be medium to very rapid and the permeability is moderately rapid.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area, or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable, as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☐	☐	☒

DISCUSSION

a) Seismic ground shaking is possible from earthquake events on the faults discussed in the Environmental Setting section above. A part of the project is located on soils moderately susceptible to landsliding.

i) The Alquist-Priolo Earthquake Fault Zoning Act of 1972 was implemented to regulate development near active faults and to prevent construction of buildings for human occupancy on or near active faults (i.e., that have ruptured within the past 11,000 years). The designated zone extends from 200 to 500 feet on both sides of known active fault traces. Under the Act, no buildings intended for human occupancy may be constructed on or within 50 feet of an active fault trace (Humboldt County, undated).

The project site is not located within an Alquist-Priolo Earthquake Fault Zone as designated by the California Geological Survey (Humboldt County, undated and CGS 2007). This project will replace existing water distribution lines, failing spring boxes, an existing water tank, septic tanks and build a new leach field. The new water tank will be anchored and septic tanks built to meet seismic requirements. Therefore, there is no expected adverse effect on people or structures with regard to earthquake rupture as a result of implementation of this project.

ii) As noted in the Environmental Setting under Seismicity, there are 6 active, or potentially active, faults within 25 miles of the project site and a total of 12 active, or potentially active, faults within 50 miles of the project site. The nearest faults to the project site are Yager Fault at 2 miles, Little Salmon Fault Zone at 6 miles, and the Russ Fault and the Goose Lake Fault Zone at 10 miles. All 12 faults are capable of producing earthquakes which could cause moderate to severe ground shaking within the project site (DPR, 2001). The U.S. Geological Survey (2008b) puts the probability for ground motion in the project vicinity between 40-60% gravity. **Integration of Project-Specific Requirement Geo 1-Seismic Restraint** into the project design will reduce the potential for affects to the public to a less than significant level.

iii) Seismic-induced ground failure, such as liquefaction, usually occurs in unconsolidated granular soils that are water saturated. Some components of the project occur on soils that can become saturated. During seismic-induced ground shaking, pore water pressure can increase in loose soils, causing the soils to change from a solid to a liquid state (liquefaction). There is a potential for liquefaction in the spring box area where existing leaky water lines and spring boxes would be replaced, but the risk will not be increased as a result of the project. Placement of the water tank would be upslope from alluvial soils that are prone to liquefaction. Therefore, the potential risk of affects to the public is considered to be less than significant as a result of project implementation.

iv) The site is mapped as having a high potential for coherent landsliding in the event of an earthquake along the Cascadia subduction zone (CDMG, 1995). This is an existing condition and the hazard will not be increased as a result of this project. In addition, the new tank will replace an existing leaky tank that currently causes increased saturation of the slope at this location. No impact.

b) Some soil erosion could occur during grading, trenching, or other ground-disturbing activities. To minimize the potential for soil erosion during construction activities, Integration of **Standard Project Requirement Geo 2** into the project description will reduce potential impacts to a less than significant level.

c) The spring boxes and portions of the water line replacement could potentially be located on soils that could be subject to liquefaction during seismic-induced ground shaking. The proposed project would replace existing leaky lines but this would not result in an increased risk for liquefaction above existing conditions. The water tank site is located on soils that are moderately prone to landsliding and erosion. With the integration of **Project-Specific**

Requirement GEO-1 and Standard Project Requirement GEO-2 into the project design, as discussed above, the risk for impacts from project implementation would be reduced to less than significant.

d) Expansive soils are those soils that have high clay content that swell when wet and shrink when dry. Preliminary soil survey information from the Natural Resources Conservation Service (NRCS 2009b) characterize the soil complexes in the project area as ranging from loam and silty loam to gravelly silty clay loam and very gravelly clay loam for Redwoodhouse-Yagercreek-Mailridge 30-50% slopes and gravelly loam and gravelly clay loam to extremely gravelly loam and extremely cobbly sandy loam for Redwoodhouse-Yagercreek-Mailridge 50-75% slopes. These soil textures vary with soil depth. The proposed project consists of replacement of the existing water tank within the existing footprint and septic tanks, repairs to spring boxes and water distribution lines and the installation of a new leach field. It does not involve construction of new facilities in new locations; hence there would be no increased risks to life or property from construction on expansive soils above existing conditions. This impact would be less than significant.

e) The project would replace six septic tanks and the leach field. Percolation testing conducted in November 2008 found the loamy sand and silt loam soil present at the project site suitable to support a leach field (SHN 2008 - see Appendix C). Work on the leach field would maintain a maximum excavation depth of 2'7" to maintain a minimum 24" separation from the excessively fast draining coarse sand found at 4'7". This depth puts septic tank discharge into soils with adequate percolation rates and filtration of effluent required by the Humboldt Department of Heath and Human Services, Division of Environmental Health and the North Coast Regional Water Quality Control Board. There would be a less than significant impact with the installation of the leach field.

f) There are no known unique palentological or geologic resources existing within the project area; therefore, no impact to these resources is anticipated as a result of project implementation.

VII. GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL SETTING

Greenhouse gases (GHG) such as carbon dioxide and methane trap heat in the earth's atmosphere. Increased concentrations of these gases over time produce an increase in the average surface temperature of the earth. The rising temperatures can in turn produce changes in precipitation patterns, storm severity, and sea level, resulting in what is commonly referred to as "climate change."

The California State Legislature has proposed and the Governor has approved laws and policies to reduce the amount of GHG generated each year. As stated in Assembly Bill 32, Global Warming Solutions Act (AB 32), passed in 2006; "The State of California found that Global Warming would have detrimental effects on some of the California's largest industries including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry." AB 32 requires statewide GHG emissions in California be reduced to 1990 levels by the year 2020 and requires the California Air Resources Board (CARB) to adopt rules and regulations to achieve this goal.

CARB has developed the Climate Change Scoping Plan (Scoping Plan) California's roadmap to reach the GHG reduction goals required in AB 32. The Scoping Plan has several strategies and recommended measures to reduce GHG emissions. One of these measures states that approximately one-fifth of the electricity consumed in California is associated with water delivery, treatment, and use. GHG emissions can be reduced if California can move, treat, and use water more efficiently (CARB 2008).

The California Department of Parks and Recreation (DPR) has developed a "Cool Parks" initiative to address climate change within the State Park system. Cool Parks proposes that DPR itself, as well as resources under its care, adapt to the environmental changes resulting from climate change. In order to fulfill the Cool Parks initiative, State Parks is dedicated to using alternative energy sources, low emission vehicles, recycling and reusing supplies and materials, and educating staff and visitors on climate change (CDPR 2008).

<u>Greenhouse Gas Emissions and Climate Change</u>
Some GHG such as carbon dioxide occur naturally and are emitted to the atmosphere through natural processes and through human activities. Naturally occurring greenhouse gasses include water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

- *Water Vapor* - Water Vapor is the most abundant greenhouse gas in the atmosphere. Changes in its concentration are considered a result of climate feedback loops related to the warming of the atmosphere rather than a direct result of human activities. The feedback loop that involves water is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the absolute humidity can be higher (in essence, the air is able to 'hold' more water when it's warmer), leading to more water vapor in the atmosphere. As a greenhouse gas, the higher concentration of

water vapor is then able to absorb more thermal energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a 'positive feedback loop'. However, huge scientific uncertainty exists in defining the extent and importance of this feedback loop. As water vapor increases in the atmosphere, more of it would eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

- *Carbon Dioxide* -The natural production and absorption of carbon dioxide (CO_2) is achieved through the terrestrial biosphere and the ocean. Carbon dioxide also enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees, and wood products, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle. Carbon dioxide was the first greenhouse gas demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century.

- *Methane* – Methane (CH_4) has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands (at the roots of the plants). Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills. Methane is an extremely effective absorber of radiation, though its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to some other greenhouse gases (such as CO_2, N_2O, CFCs).

- *Nitrous Oxide* - Nitrous oxide (N_2O) is produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. Concentrations of nitrous oxide began to rise at the beginning of the industrial revolution and is understood to be produced by reactions that occur in fertilizer containing nitrogen. Increasing use of these fertilizers has been made over the last century (NOAA).

- *Ozone* – Ozone (O_3) is a gas present in both the upper stratosphere, where it shields the Earth from harmful levels of ultraviolet radiation, and at lower concentrations in the troposphere, the air closest to the Earth’s surface, where it forms through chemical reactions between pollutants from vehicles, factories, fossil fuels combustion, evaporation of paints and many other sources. Key pollutants involved in ozone formation are hydrocarbon and nitrous oxide gases (CARB). Sunlight and hot weather cause the ground-level ozone to form in harmful concentrations and is the main component of anthropogenic photochemical “smog” (USEPA).

Other greenhouse gases (e.g., fluorinated gases) are created and emitted solely through human activities.

- *Fluorinated Gases*: Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial

processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., CFCs, HCFCs, and halons). These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as High Global Warming Potential gases ("High GWP gases") (USEPA).

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environmental?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

DISCUSSION

a) Equipment used in construction including delivery trucks, crew trucks, backhoes, grades, pavers, concrete mixers, and cranes that could contribute to a temporary increase in CO_2 and N_2O levels, both components of GHG. Integration of **STANDARD PROJECT REQUIRMENT AIR 1 C** (see Chapter 2 Project Description) description to reduce emissions and with the temporary nature of the construction work would be a less than significant impact on the generation of GHG emissions.

b) The replacement of the leaking water tank and distribution lines would reduce Grizzly Creek Redwoods State Park's water use and reduce the amount of energy needed to pump water to the parks water tanks. This would help meet both CARB's goal of the efficient movement, treatment, and use of water and DPR's Cool Parks initiative to use less non-renewable energy thereby reducing GHG emissions. This would be a less than significant impact.

VIII. HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL SETTING

The nearest hazardous materials cleanup site from Grizzly Creek Redwoods State Park (GCRSP) listed by the California Department of Toxic Substance (DTSC) Control is located approximately 20 miles west of the proposed project in Fortuna, CA (DTSC 2010). The types of materials used and stored at GCRSP that could be hazardous include fluids such as motor vehicle and mechanical equipment fuels, oils, and other lubricants. DPR maintains storage facilities for fuels and lubricants within the park unit. No storage facilities, or other structures or industrial sties that could contain hazardous materials are located at the sites of the proposed project.

Airports

Each of the nine airports in Humboldt County is more then fifteen air miles away from GCRSP. The proposed project is not within an airport land use zone/plan or within two miles of a public airport or private airstrip. (Google Maps 2010).

Fire Hazards

The California Department of Forestry and fire Protection (CalFire) lists the fire hazard severity for GCRSP as high (CalFire 2007) and GCRSP is designated as a State Responsibility Area in the event of a fire. According to the Humboldt County Fire Planning Map the project site is located within the Carlotta/Hydesville Response District. The closest fire stations to the GCRSP are the Carlotta Volunteer Fire Department located 6.6 miles west of the park on Highway 36 and the Bridgeville Forest Fire Station located 7.6 miles east of the park on Highway 36 (County of Humboldt 2009). However, the Bridgeville fire station building is closed. The CDF personnel are now staying within the GCRSP.

Schools

The project site lies within the boundaries of the Cuddleback Elementary School District (K-8) and the Fortuna Union High School District Boundaries (9-12). The closet school, Cuddleback School, is located approximately 11 miles northwest of the park boundaries on State Route 36 (Humboldt Education 2010).

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment?	☐	☐	☒	☐

c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d)	Be located on a site which is included on a list of hazardous materials sites, compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or environment?	☐	☐	☐	☒
e)	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 result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f)	Be located in the vicinity of a private airstrip? If so, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h)	Expose people or structures to a significant risk of loss, injury, or death from wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

DISCUSSION

a-b) Construction activities would require the use of powered equipment that use potentially hazardous materials such as fuels, oils, and solvents. These materials are generally contained within vessels engineered for safe storage. Large quantities of these materials would not be stored at or transported to the project area. Spills upsets, or other construction-related accidents could result in a release of fuel or other hazardous substances into the environment. Spill prevention protocols described in **STANDARD PROJECT REQUIREMENT HAZARD 1 AND 2** (see chapter 2, Project Description) integrated into the project description would reduce the potential for adverse impacts from these incidents to a less than significant level.

c) As noted in the Environmental Setting, there are no schools in the general vicinity of the project or within one-quarter mile of the proposed project site. No Impact.

d) No part of the GCRSP is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5. No area within the project site is currently restricted or known to have hazardous materials present. There would be no impact as a result of this project.

e-f) GCRSP is not located within an airport land use plan, within two miles of a public airport or in the vicinity of a private airstrip. Therefore, no impact would occur as a result of this project.

g) All construction activities associated with the proposed project would occur within the boundaries of GCRSP and work would not restrict access to, cause delays, or block any public road outside the immediate construction area. The traffic on State Route 36 and the Grizzly Creek Redwoods State Park Road may be impacted only for short periods of time for delivery of construction materials or construction equipment. The project would not conflict with the emergency response plans for Humboldt County. Therefore, the impact of this project would be less than significant.

h) Heavy equipment can get very hot with extended use; this equipment would sometimes be in close proximity to this vegetation. Improperly outfitted exhaust systems or friction between metal parts and/or rocks could generate sparks, resulting in a fire. Integration of **STANDARD PROJECT REQUIREMENT HAZARD 2** (see Chapter 2, Project Description) into the project description would reduce the potential for adverse construction impacts from this project to a less than significant level.

VIII. HYDROLOGY AND WATER QUALITY.

ENVIRONMENTAL SETTING

Grizzly Creek Redwoods State Park (GCRSP) is within the Van Duzen River Hydrologic Area of the Eel River Hydrologic Unit of the North Coast Hydrologic Region. The total area of the Van Duzen watershed is about 272,141 acres (DFG 2009). Elevations within the Van Duzen watershed range from 5,906 feet above mean sea level (amsl) at Red Lassic Peak to approximately 62 ft. amsl at its confluence with the Eel River, which is just south of the town of Fortuna and approximately 12 miles from the Pacific Ocean. The Van Duzen River is 73.5 miles in length and one of the few remaining free flowing rivers in the state (DFG 2009). The Van Duzen has been federally designated as a "Wild and Scenic River" (Friends of the Van Duzen River 2009).

The Van Duzen River basin receives 50-100 inches of precipitation annually, most of which occurs from October through April. Between two and six intense rainstorms typically occur each winter (USEPA 1999). The average annual runoff for the Van Duzen River is 995,000 acre-feet at Bridgeville, which is located approximately 6 miles upstream from GCRSP (Palco 1999).

The highly active tectonic setting, combined with steep terrain and high rainfall amounts make the Van Duzen River one of the most erodible watersheds in the United States (USEPA 1999). Bank cutting and slides are common along the Van Duzen River between Carlotta and Bridgeville (Palco 1999). Steep slopes and a high rate of natural erosion are characteristic of the Van Duzen River basin.

In 1992 the State of California listed the Van Duzen River as “water quality limited” due to impacts of excessive sedimentation on beneficial uses such as maintenance of critical aquatic habitat which supports anadromous salmonids (USEPA, 1999; DFG 2009). In 1999 the Van Duzen River was listed by the U.S. Environmental Protection Agency (EPA) under the Total Daily Maximum Load (TMDL) program as sediment impaired and water quality limited. The average annual suspended sediment load as measured from 1941 to 1975 is 6,760 tons/square mile (Palco 1999).

Project locations are drained by the Van Duzen River and a major tributary, Grizzly Creek. Project locations are located in the Federal Emergency Management Agency (FEMA) Zone Designation “D” areas of undetermined, but possible, flood hazards (FEMA, 1982). Based on FEMA mapping both upstream and downstream of the park, all project locations, with the exception of those in the campground, are situated above the 100-year flood event level of Grizzly Creek and the Van Duzen River.

The water supply for GCRSP is obtained from a small spring-fed drainage upslope from the park’s maintenance facility and a park residence. The supply lines are in a state of extreme disrepair as a result of the age of the system. It is anticipated that once the tank and leaking supply lines are replaced there would be an improvement in the efficiency of water removal and a reduction in ground saturation surrounding these facilities.

Septic systems throughout the park, including a new campground leach field, would be replaced with upgraded systems of modern design that would comply with the Humboldt County Department of Health and Human Services and California Regional Water Quality Control code requirements.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) 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)?	☐	☐	☐	☒
c) 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?	☐	☐	☒	☐
d) 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?	☐	☐	☒	☐
e) 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?	☐	☐	☒	☐
f) Substantially degrade water quality?	☐	☐	☒	☐
g) 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?	☐	☐	☐	☒
h) Place structures that would impede or redirect flood flows within a 100-year flood hazard area?	☐	☐	☐	☒
i) 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?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

DISCUSSION

a) The proposed Water Treatment Tank & Water Lines Replacement and Septic Replacement projects would be in compliance with all applicable water quality standards and waste discharge requirements. Standard Project Requirement Hazmat 1 (see Chapter 2 Project Description Section 2.7) would be implemented to minimize potential impacts from accidents or spills from these projects.

There is a chance for contamination of surface water during the clean-out of the water intake structures for the Water Tank & Water Lines Replacement project could result in a release of sediment to surface waters. Construction activities at this location would occur during the dry season when flows in the spring-fed drainage are minimal and when there is no surface hydrologic connection with the Van Duzen River and Grizzly Creek. Ground disturbing activities connected with the Septic Replacement project could produce sediments that contaminate nearby surface waters. DPR-approved Best Management Practices (BMP's) would be required for both projects. Contracted project work would require a Water Pollution Control Plan that incorporates DPR BMP's.
Standard Project Requirement Hydro 1 (see Chapter 2 Project Description Section 2.7) would minimize the potential for adverse impacts to surface waters to a less than significant level.

As described in the environmental setting above, the proposed Septic Replacement project would be replaced with an upgraded park-wide system, including a new leach field for the campground. This new system would comply with all State and Humboldt County waste discharge requirements. A Humboldt County Department of Health and Human Service Sewage Disposal Permit that satisfies the California Regional Water Quality Control Board's water quality requirements would be obtained.

b) An existing 5,000 gallon redwood storage tank would be replaced with a new polyethylene 5,000 gallon water storage tank at the same location. Currently the supply lines are leaking and would be completely replaced with new HDPE pipe. Since there would not be a change in the total capacity of 5,000 gallons, and the leaking supply lines would be replaced, the project would not deplete groundwater supplies or interfere with existing levels of groundwater recharge. This project would not increase the quantity of water withdrawn from the spring-fed drainage. No impact.

c) Existing drainage patterns at project locations would not be altered in a manner that would significantly increase erosion or siltation. Implementation of the Water Treatment Tank & Water Lines Source to Plant Repairs project would result in the removal of accumulated sediment in the water intake structures. A leaking tank and leaking water supply lines would be replaced with new equipment, thereby decreasing the saturation of the slope and the risk for erosion that currently exists on the site. Implementation of DPR-approved BMP's to prevent soil runoff and siltation from project locations, along with integration of **Standard Project Requirement** Hydro 1 into the project description, would reduce sediment laden runoff to a less than significant level.

d) The drainage patterns would not be altered in a manner that would significantly increase the rate or amount of surface runoff in a manner that would result in onsite or offsite flooding.

Implementation of the Water Treatment Tank & Water Lines Replacement project would result in the removal of accumulated sediment in the water intake structures and improve the flow characteristics in and below the water intake structures. The total area of soil disturbance for both projects, including staging areas would be less than one acre; therefore a Storm Water Pollution Prevention Plan (SWPPP) is not required. Implementation of DPR-approved BMP's and integration of **Standard Project Requirement** Hydro 1 into the project description would reduce any impacts to a less than significant level.

e) This project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore there is a less than significant impact from these projects.

f) A slight chance exists for contamination of surface water from sediments released during the clean-out of the spring water intake structures and ground disturbing activities connected with the Septic Replacement project. Implementation of DPR-approved BMP's and **Standard Project Requirement** Hydro 1 integrated into the project description would reduce any impacts to a less than significant level. In addition, DPR would comply with all State water quality standards and waste discharge requirements and would obtain all required permits from the Humboldt County Department of Health and Human Services and the California Regional Water Quality Control Board.

g) The project does not involve housing or construction of any structure designed for human occupation. No impact.

h) As discussed in the Environmental Setting above, project sites are located in the Federal Emergency Management Agency (FEMA) Zone Designation "D" for areas of undetermined, but possible, flood hazards. However, these projects would not place structures that would impede or redirect flood flows within the FEMA-designated 100-year floodplain of the Van Duzen River or Grizzly Creek. No impact.

i) These projects would not expose structures or people to an increased risk from flooding, including flooding resulting from the failure of a levee or dam. As discussed in the Environmental Setting above only the campground location could be subject to a potential 100-year flood. Project work at this location would be subsurface and would not create any flooding risks and would not affect existing conditions. No impact.

j) Project locations are not located in areas that would be inundated by either a seiche or a tsunami. Project locations are in a seismically active area and could be subject to strong ground failures in the event of a major earthquake. However, the new water tank would be anchored to satisfy current seismic restraint requirements. In addition, the new tank would replace a leaking tank, thus decreasing the saturation of the slope and decreasing potential landslide hazards at this location. No other project locations would be subject to mudflows or landslides due to project activities; therefore a less than significant impact.

IX. LAND USE AND PLANNING.

ENVIRONMENTAL SETTING

Grizzly Creek Redwoods State Park is located in rural Humboldt County. The closest town is Bridgeville, located approximately 8 miles west of the park. The Van Duzen River flows east to west through the middle of the Park. The park unit is zoned as open space/park in the Humboldt County General Draft Plan (2008). The area around the park is owned by Humboldt Redwood Company and zoned for timber production (Humboldt County General Plan Draft 2008).

Although this park does not have a General Plan, work to repair, replace, or rehabilitate existing facilities or to protect public health and safety are permitted under PRC § 5002.2 (c). All proposed work would occur within the boundaries of Grizzly Creek Redwoods State Park.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Physically divide an established community?	☐	☐	☐	☒
b) 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?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

DISCUSSION

a) The proposed project is completely within the boundaries of Grizzly Creek Redwoods State Park. No established community would be affected by this project. No Impact

b) As noted above (IX. a) the proposed project site is located within Grizzly Creek Redwoods State Park. No project elements are in conflict with zoning regulatory policies, land use plans, conservation plans, or ordinances for this area. All appropriate consultation and permits would be acquired, in compliance with all applicable local, state, and federal requirements. No Impact

c) This project is located within the boundaries of Grizzly Creek Redwoods State park and there is no applicable habitat conservation or natural community conservation plans that this project would effect. No Impact.

X. MINERAL RESOURCES.

ENVIRONMENTAL SETTING

In the past, minerals such as copper, chromium, silver, zinc, and gold have been extracted from mines located in Humboldt County (Bradley 1920). Today, there are ninety-three extraction sites around the County that produce sand and gravel, metals, stone, and clay. Sand and gravel comprise the greater part of the County's present mining activity both in terms of quantity and value of the resources extracted. Approximately 76% of all sand and gravel extraction in Humboldt County is conducted within the Eel River-Van Duzen complex. Rock extraction is conducted at the thirty-two active hard rock quarries that are located throughout the County, but only limited metallic mining still occurs. (Humboldt County 2002).

The proposed project is in Grizzly Creek Redwoods State Park which is located along State Route 36 at the confluence of Grizzly Creek and the Van Duzen River. No significant mineral resources have been identified within the boundaries of the park unit and no known past mining activities have occurred at the project site. DPR policy does not permit the commercial extraction of mineral resources due to impacts to resources and in accordance with the Public Resources Code § 5001.65.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

DISCUSSION

a,b) The two project sites are within Grizzly Creek Redwoods State Park. The project would not change land use activities on the sites and would therefore not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site. As stated in the Environmental Setting above, under PRC § 5001.65, mining within any unit of the State Park System is prohibited. No impact.

XI. NOISE.

ENVIRONMENTAL SETTING

Sound is any detectable fluctuation in air pressure and generally is measured on a logarithmic scale in decibels (dB). Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. When unwanted sound (i.e., noise) is measured, an electronic filter is used to de-emphasize extreme high and low frequencies to which human hearing has decreased sensitivity. Resulting noise measurements are expressed in weighting frequencies called A-weighted decibels (dBA). While zero dBA is the low threshold of human hearing, a sustained noise equal or greater than 90 dBA is painful and can cause hearing loss (Table XI-1, Bearden 2000).

Table XI-1: Sound Levels Generated by Various Sources of Noise

Sound Level	**dbA**
Quiet library, soft whispers	30
Living room, refrigerator	40
Light traffic, normal conversation, quiet office	50
Air conditioner at 20 feet, sewing machine	60
Vacuum cleaner, hair dryer, noisy restaurant	70
Average city traffic, garbage disposals, alarm clock at 2 feet	80
Constant exposure to the following sound levels can lead to hearing loss	
Subway, motorcycle, truck traffic, lawn mower	90
Garbage truck, chain saw, pneumatic drill	100
Rock band concert in front of speakers, thunderclap	120
Gunshot blast, jet plane	140
Rocket launching pad	180

(Bearden 2000)

Noise is further described according to how it varies over time and whether the source of noise is moving or stationary. Background noise in a particular location gradually varies over the course of a 24-hour period with the addition and elimination of individual sounds. Several terms are used to describe noise and its effects. The equivalent sound level (L_{eq}) describes the average noise exposure level for a specific location during a specific time period, typically over the course of one hour. The Community Noise Equivalent Level (CNEL) is a twenty-four hour average of L_{eq} with an additional 5 dBA penalty for noise generated between the hours of 7:00 p.m. and 10:00 p.m. and a 10 dBA penalty during the hours of 10:00 p.m. and 7:00 a.m. The penalties account for how much more pronounced a noise is at night when other sounds have diminished. Federal, state, and local governments have defined noise and established standards to protect people from adverse health effects such as hearing loss and disruption of certain activities. Noise is defined in the California Noise Control Act, Health and Safety Code, California Code of Regulations (CCR) § 46,022 as excessive or undesirable sound made by people, motorized vehicles, boats, aircraft, industrial equipment, construction, and other objects.

To promote compatibility among various land uses and protect health and safety, Humboldt County sets noise standards for projects in certain land use categories and for sensitive receptors such as residential areas, hospitals, schools, libraries, and places of worship (Humboldt County Community Development Services Department 2008). Grizzly Creek Redwoods State Park (GCRSP) is classified as an Extensive Natural Recreation Area (ENRA) according to the County Land Use / Noise Compatibility Standards. The outdoor environment in an ENRA would be clearly acceptable and pleasant with CNEL noise levels up to 60 dBA, tolerable with levels from 61 to 75 dBA, normally unacceptable from 76 to 85, and clearly unacceptable above 85 dBA (Humboldt County Community Development Services Department 2008).

Grizzly Creek Redwoods State Park (GCRSP) is located in a rural, forested area of southern Humboldt County. Primary noises occurring in the vicinity of the project area include vehicular traffic on State Route 36, and noises associated with operations at the nearby park maintenance shop and camping and day use activities/operations (e.g. trash collection) at park headquarters/visitor center. Noises generated in the area surrounding the project site are partially muffled by the dense forest vegetation.

Park staff housing consists of two seasonal cabins and two residences that are not always occupied. Each of residences is located adjacent to the project sites. No public facilities with sensitive receptors (as defined above) are located in the vicinity of the project area. The nearest facilities (Bridgeville School, post office) are located in the small community of Bridgeville located approximately 8 miles east of the project area. The nearest airport to the project area is located approximately 13 miles to the northwest in a straight line.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) 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?	☐	☐	☒	☐
b) Generate or expose people to excessive groundborne vibrations or groundborne noise levels?	☐	☐	☒	☐
c) Create a substantial permanent increase in ambient noise levels in the vicinity of the project (above levels without the project)?	☐	☐	☒	☐
d) 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?	☐	☐	☒	☐
e) 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?	☐	☐	☐	☒

f) 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?	☐	☐	☐	☒

DISCUSSION

a) Construction noise levels in the project area will fluctuate, depending on the type and number of construction equipment/tools operating at any given time, and will exceed ambient noise levels in the immediate vicinity of work locations for brief periods of time. Construction equipment may include a cement truck, backhoe, power saw, wheelbarrow, and various types of hand tools (shovels, etc). Two staff residences and seasonal cabins are either adjacent to or in close proximity to the project area, but are not always occupied.

Trenching and saw-cutting of existing pavement will occur adjacent to the staff residences and seasonal cabins. A single concrete foundation would be poured for the new 5000 gallon water tank, which is located more than 150 feet upslope from the upper residence and the new septic tanks are adjacent to the residences. Construction in this area could generate an objectionable level of noise for these residents and could create a potentially significant short-term impact. Integration of **STANDARD PROJECT REQUIREMENT NOISE-1, NOISE REDUCTION** (See Chapter 2 Project Description) for noise exposure would reduce potential impacts to a less than significant level.

b) Construction activity will not involve the use of explosives, pile driving, or other intensive construction techniques that could generate significant ground vibration or noise. Minor vibration immediately adjacent to backhoes or other equipment used to construct trenches will only be generated on a short-term basis. Therefore, ground-borne vibration or noise generated by the project will have a less than significant impact.

c) Once the proposed project is completed, all related construction noise will disappear. Nothing within the scope of the proposed project will result in a substantial permanent increase in ambient noise levels. No impact.

d) See Discussion XI (a) and XI (c) above. Integration of **STANDARD PROJECT REQUIREMENT NOISE-1, NOISE REDUCTION** (See Chapter 2 Project Description) would reduce any potential impacts to a less than significant level.

e, f) This project is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private air strip. No impact.

XII. POPULATION AND HOUSING

ENVIRONMENTAL SETTING

Grizzly Creek State Park is in a rural area of Humboldt County, located between the small towns of Carlotta 11 miles to the east and Bridgeville 8 miles to the west. The park is 17 miles from the nearest incorporated town of Fortuna. This pattern of small rural towns separated by large tracks of forested land is characteristic of Humboldt County.

State Route 36, as well as the Van Duzen River, traverse GCRSP (Google Maps 2010).

Population

Approximately 80% of the 2.3 million acres of land in Humboldt County is forest, protected redwoods, or recreation areas (Humboldt County 2005). The California Department of Finance estimates that in 2010 Humboldt County has a population of 131,600 of which 67,800 live in unincorporated areas (DOF and Humboldt County 2005).

Housing

A limited amount of housing is available for both permanent and seasonal employees within GCRSP. Including seasonal employees, the maximum full time occupancy within GCRSP can be 10 people; however, no one currently lives in the park. No new housing is planned as part of this project or for the park in general.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) 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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION

a, b, c) The project does not have a housing component and all work will occur within the confines of GCRSP. The project would neither modify nor displace any existing housing or population, either temporarily or permanently. All jobs created by this project would be tied to short-term construction related activities and would be temporary in nature. This project therefore it would have no impacts on population growth or housing. No Impact.

XIII. PUBLIC SERVICES.

ENVIRONMENTAL SETTING

Grizzly Creek Redwoods State Park (GCRSP) is located in Humboldt County, approximately 17 miles inland from U.S Route 101. Humboldt County classifies GCRSP as public land. Humboldt Redwood Company owns the several parcels surrounding the park that is zoned for timber production (Humboldt County 2008).

Fire Protection: According to the Humboldt County Fire Planning Map the project site is located within the Carlotta/Hydesville Response District. The closest fire stations to the GCRSP are the Carlotta Volunteer Fire Department located 6.6 miles west of the park on Highway 36 (County of Humboldt 2009) and the Bridgeville Fire Station Crew that is now located at GCRSP (Harris, J. 2010).

Police Protection: The Department of Parks and Recreation (DPR) Rangers assigned to GCRSP are Peace Officer Standards and Training (POST) certified law enforcement officers and provide year round law enforcement within park unit boundaries. The nearest Humboldt County Sheriff Station to the park is the Residence Deputy Post in Bridgeville. The Humboldt County Sheriff would assist DPR with any emergency and law enforcement issues within the boundaries of GCRSP. The California Highway Patrol (CHP) serves as the primary law enforcement presence on interstates, state routes, and county roads. GCRSP is located within the CHP's Northern Division. The CHP staffs a station in the town of Redway, just north of Garberville and a station in Arcata. The CHP would provide assistance along public roadways in the vicinity of the park unit (CHP 2009).

Schools: The project site lies within the boundaries of the Cuddeback Elementary School District (K-8) and the Fortuna Union High School District Boundaries (9-12). The closet school, Cuddleback School, is located approximately 11 miles northwest of the park boundaries on State Route 36 (Humboldt County 2010).

Parks and Other Public Facilities: There are 13 other States Parks within Humboldt County, the two closest parks are Humboldt Redwoods State Park, located 42 miles south and Fort Humboldt State Historic Park, located 35 miles northwest (California Department of Parks and Recreation). There are 16 County parks within Humboldt County, of those, including Van Duzen Pamplin Grove and Van Duzen Swimmers Delight are nearest GCSP. Local parks owned and managed by nearby cities included, Rohner and Newburg Parks in Fortuna. Local Hospitals include Redwood Memorial Hospital in Fortuna and St. Joseph Hospital in Rio Dell (City of Fortuna California).

Although GCRSP does not have a General Plan, work to repair, replace, or rehabilitate existing facilities or to protect public health and safety are permitted under PRC § 5002.2 (c). All proposed work would occur within the boundaries of GCRSP.

.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) 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 for any of the public services:	☐	☐	☒	☐
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

DISCUSSION

This proposed project would repair the water tank replacement and water line repairs at GCRSP.

a) Fire Protection: No components of the proposed project would contribute to an increase of visitation and the level of required public services is expected to remain relatively static; however, use of construction equipment in the vicinity of flammable vegetation at the project sites could present an increased risk of fire that could result in additional demands on local fire response teams. Any impact on services would be temporary and nothing in the project scope would contribute to the need for an increase in the level of fire protection after construction is complete. After completion of the project, GCRSP will benefit from a more dependable water system that will be available for fire suppression.

Integration of the **STANDARD PROJECT REQUIREMENT HAZARDS 2, WILDFIRE AVOIDANCE AND RESPONSE** (See Chapter 2) a more dependable water system will be available for fire suppression. This would reduce the potential impact to fire protection services to a less than significant level.

Police Protection: As noted in the Environmental Setting, DPR rangers with law enforcement authority patrol GCRSP with emphasis on campgrounds and public use areas. DPR rangers have full law enforcement authority and only require assistance form local police as backup for unusual situations. No additional demands on rangers or local police are expected as a result of this project. No impact.

Schools, Parks and Other Public Facilities: There would be no impacts to schools, other parks, or other public facilities, as a result of the proposed project. The project would repair the water delivery system and associated facilities that support existing recreational services at GCRSP. No impact.

XIV. RECREATION.

ENVIRONMENTAL SETTING

Grizzly Creek Redwoods State Park (GCRSP) is an approximately 430 acre park unit in Humboldt County along State Route 36, approximately 17 miles east of the town of Fortuna and U.S. Route 101.

Humboldt County Public Lands

Nearly 80% of Humboldt County's (County) 2.3 million acres are forest lands, protected redwoods and recreations areas (Humboldt County 2000). The County has 478 acres of parkland divided into 16 different parks, approximately 0.02% of the overall acreage in Humboldt County. The Federal and State governments owns 630,846 acres of land, approximately 28%, within the County.

Federal and Local Community parks within the County include Redwood National Park, Headwater Forest Reserve, Humboldt Bay Natural Wildlife Refuge, Arcata Community Forest, and the Arcata Marsh and Wildlife Sanctuary. Besides GCRSP, California State Parks operates 13 other parks and recreational areas within the County including Humboldt Redwoods and Richardson's Grove. These public lands provide a variety of outdoor recreation opportunities such as hiking, camping, and boating (Humboldt Parks 2010).

General Information

Principle recreational activities at GCSP include camping (environmental, group, campers, and trailers), picnicking, hiking, fishing, swimming, canoeing, and kayaking. There are no roads, trails or other facilities in the park for off-road vehicles. The park is currently only open during the summer.

Camping: The family campground offers 30 sites for both reservation and walk-up, two of the sites are ADA compliant. Each site can accommodate up to eight people and all sites offer a fire ring, picnic table and a food locker. Recreation vehicles, tent, and trailers are welcome. Toilets facilities and drinking fountains are located throughout the campground.

Day-Use: Facilities include 24 picnic sites and a Visitors Center with exhibits and a bookstore. The Visitors Center is open Memorial Day through Labor Day.

Hiking: There are approximately 4.5 miles of trails within the park. The two main trails are the Memorial and Baird Trails located on the other side of the river from the campground. During summer, the low water level permits installation of a footbridge across the Van Duzen River to allow visitor access to the 1.25-mile

Grizzly Creek Redwoods Attendance			
Year	Day-Use	Camping	Total Visitors
2002	13,239	9,473	22,712
2003	21,335	10,004	31,339
2004	19,530	10,943	30,473
2005	16,601	8,858	25,459
2006	18,070	8,349	26,419
2007	22,580	9,038	31,618
2008	20,730	7,477	28,207
2009	20,071	8,513	28,584

*California State Parks Statistical Reports from 2000-2009

long Memorial Trail and 0.25-mile Baird Trail. All trails with the GCRSP meander among the parks old growth and second growth redwoods.

The Van Duzen River: The Van Duzen bisects the park and flows next to the campground where visitors can fish, swim, canoe, and kayak.

The water tank, water line, and septic replacement project is entirely within GCRSP.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) 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?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION

a, b) The proposed project would replace and/or repair existing features and would neither increase the use of existing neighborhood and regional parks or other recreational facilities nor would it include the construction or expansion of any recreational facilities. No Impact.

XV. TRANSPORATION/TRAFFIC.

ENVIRONMENTAL SETTING

Grizzly Creek Redwoods State Park (GCRSP) is a nearly 430-acre park unit in Humboldt County that is located approximately 17 miles east of city of Fortuna on State Route 36 (SR 36). The project area is located within the park unit, approximately 0.2 miles north of SR 36. Access to the project area will be via a dirt trail.

Humboldt County Transportation Systems

The Regional Transportation Plan for Humboldt County (HCAOG 2008) is organized by transportation modes. These are: (1) Highway and Roadway Transportation System; (2) Public Transit Service System; (3) Bicycle and Pedestrian System; (4) Aviation System; (5) Goods Movement System; and (6) Tribal Transportation.

(1) Humboldt County has 378 miles of State highways, including U.S. Route 101, and 1400 miles of city and county roads (HCAOG 2008, HCCDSD 2008). U.S. Route 101 and State Route 299 are the major transportation roadways for the county.

(2) Commuter transit services in Humboldt County are provided by Redwood Transit System and the Willow Creek RTS Extension Service; fixed route public transit services are provided by Eureka Transit Service, Arcata & Mad River Transit, Klamath/Trinity Non Emergency Transportation, and Blue Lake Rancheria Transit; and Para transit services are provided by City Ambulance, K-T Net, HTA, Blue Lake Rancheria Dial-A-Ride, the City of Fortuna, Humboldt Community Access and Resource Center, Bridgeville Community Center, and the Ferndale Senior Resource Agency (HCAOG 2008). These services do not operate along the SR 36 corridor, including the project area.

In addition to the services described above, Para transit services in southern Humboldt County are provided by the Southern Humboldt Rural Transit (QUAIL). This service was established in February 1979 by the Retired Senior Volunteer Program (RSVP), Seniors in Humboldt as Resources in Education (SHARE), and Humboldt County. This demand/response and shared-ride service is available for individuals 60 years or older and disabled people, providing a door-to-door transit service in rural southern Humboldt County region. QUAIL operates between Weott and Benbow along the US 101/State Route 254 corridor and runs Monday through Friday generally between the hours of 8:00 a.m. and 5:00 p.m. Additional service is provided to Eureka on the first and third Tuesday of every month; service to Fortuna is provided on the second and fourth Tuesday of every month; and service around the Redway/Garberville area is provided on the first and fourth Friday of every month. Other service is provided on Mondays, Wednesdays, and Thursdays to the Senior Center in Redway, CA. In September of 2008 QUAIL was expanded to include the general public for trips to and from two stops in southern Humboldt County (Garberville and Redway) to two locations in both Fortuna and Eureka (Green Wheels HSU 2008). This service is limited to Tuesdays, operating into Eureka on the first and third Tuesdays of the month and into Fortuna on the second and fourth Tuesdays. QUAIL does not operate along the SR 36 corridor, including the project area.

The small town of Bridgeville is located approximately 8 miles east of the project area. The Bridgeville Community Center provides a van service on Thursdays that is available to all age groups and serves the Bridgeville and Carlotta areas. Riders must secure reservations in advance. Preference is given to riders traveling to and from doctors appointments; the remaining seats are offered on a first come, first served, basis. The van typically departs the Bridgeville Community Center at 9:30 a.m. and returns by 5:00 p.m. This transportation service is grant-funded. The center uses one van (which is not lift-equipped) to provide transportation services. (HCAOG 2008)

Greyhound Lines, Inc. provides passenger bus service into Humboldt County, linking the county with the other North American destinations through its extensive routes (Greyhound 2008). It operates a single station that is located in Arcata, although passengers may make arrangements to be dropped off at unscheduled locations along the bus route.

(3) Data from the 2000 census is limited regarding walking and cycling as transportation choices for Humboldt County residents (HCAOG 2008). Less than 2% of these residents 16 years or older used a bicycle for work-related trips. Census data did not include information on individuals who use bicycles for transportation to and from school or as their primary mode of transportation aside from work-related commuting. Other census data indicate that 6.5 % of Humboldt County residents 16 years or older walked to work.

(4) There are nine public use airports in Humboldt County (HCAOG 2008). These are the Arcata-Eureka Airport, Dinsmore Airport, Garberville Airport, Kneeland Airport, Murray Field Airport, Rohnerville Airport, Eureka Municipal Airport, Shelter Cove Airport, and the Hoopa Airport. Scheduled passenger service is only available at the Arcata-Eureka Airport, which is owned and operated by Humboldt County. It is located 20 miles north of Eureka and is currently served by two commercial airlines, Horizon Air, and United Airlines (HCPWD 2008).

(5) The primary method for moving goods in and out of Humboldt County is by truck, which connects to marine, air, and rail systems outside of the county through long-haul truck transport (HCAOG 2008). Commercial marine transportation is limited to the Port of Humboldt Bay. Currently there is no active rail transportation in the county since the closure of the Northwestern Pacific Railroad line in 1998. Reopening of this line is problematic, since it traverses unstable geologic areas that would be costly to upgrade and maintain.

(6) The Blue Lake Rancheria, Hoopa Tribe, Karuk Tribe of California, Trinidad Rancheria, and the Yurok Tribe Humboldt County tribes are represented on the Humboldt County Association of Governments Technical Advisory Committee for the Regional Transportation Plan (HCAOG 2008). All of these tribes have major transportation infrastructure needs, including new road construction, roadway rehabilitation and maintenance, and identified pedestrian and bicycle routes. Only the Blue Lake Rancheria has a fixed-route service, which connects the Rancheria with several locations in the

county such as Blue Lake and Arcata. This bus service was inaugurated in the fall of 2002 and consists of a single 20-passenger bus that is lift equipped.

Roadways in Southern Humboldt County: Operating Conditions

The California Department of Transportation (Caltrans) is responsible for managing the day-to-day operations of California's state transportation system, including more than 50,000 lane miles of state highways (Caltrans 2008a). Caltrans is responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as that portion of the Interstate Highway System within the state's boundaries. Caltrans is made up of twelve districts including the North Coast known as District 1, which includes Del Norte, Humboldt, Lake, and Mendocino Counties. Maintenance and operation of SR 36 is the responsibility of Caltrans.

The annual average daily traffic (ADT) volume for SR 36 between Alton at the junction with U.S. Route 101 and the western limits of Bridgeville ranges from 1,200 to 4,000 vehicles and the peak month ADT volume ranges from 1,600 to 4,950 vehicles as reported for 2007 by Caltrans (2008b). The peak traffic months coincide with the summer travel season (HCCDSD 2008).

The quality of traffic operations is expressed in terms of Level of Service (LOS), a system developed by Caltrans to provide "a qualitative measure of operating conditions within a traffic stream and their perception by motorists and/or passengers" (Caltrans 2008c). A LOS is generally defined in terms of such factors as speed, travel time, freedom to maneuver, comfort and convenience, and safety. A letter grade, A through F, representing progressively worsening traffic conditions is assigned to a roadway segment or an intersection. For example, LOS A represents ideal roadway conditions with no congestion or free flow, while LOS F corresponds to conditions of extreme congestion and delay (Caltrans 2008c, Humboldt County 2008).

State Route 36 runs west to east from Alton at U.S. Route 101 to Susanville in Lassen County. The section of State Route 36 between Alton and Hely Creek Bridge (postmile 0 to postmile 11.5 from west to east beginning at U.S. Route 101) has an LOS rating of "C" and has been identified by Caltrans (1999) as a safety concern due to an accident rate that is 1.5 times the state average. For this reason, Caltrans has recently construction a new interchange at intersection of Highway 101 and 36 to reduce the number of accidents. The Hely Creek Bridge section from postmile 11.5 to postmile 24.8 is rated LOS "D"; and the section from Hely Creek Bridge to Bridgeville (postmile 24.8 to postmile 45.7) is rated LOS "C." (Caltrans 1999). In areas such as Humboldt County, LOS C or better is generally considered an acceptable traffic operating condition (HCAOG 2008). LOS "C" provides for stable flows of traffic during peak conditions; LOS "D" is the level at which speeds begin to decline slightly with increasing flows where even minor incidents can be expected to create delays (Caltrans 2008c).

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				

a) 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)?	☐	☐	☒	☐
b) Exceed, individually or cumulatively, the level of service standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) 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?	☐	☐	☐	☒
d) Contain a design feature (e.g., sharp curves or a dangerous intersection) or incompatible uses (e.g., farm equipment) that would substantially increase hazards?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

DISCUSSION

a) The Department of Parks and Recreation proposes to remove the existing 5,000 gallon redwood water tank and replace it with a new 5,000 gallon polyethylene water storage tank in the same location. The scope of work also includes abandoning the existing steel water supply pipelines in place, strapping the new HDPE pipe to the abandoned lines, replacing six septic tanks and installing a new leach field.

   The limited number of vehicle trips to and from the site for delivery of construction personnel, materials, equipment, and the new water tank as well as for removal of the existing tank may increase traffic on SR 36 for a short period, but are not expected to cause a substantial change from existing conditions. There would be a less than significant increase in traffic conditions with implementation of this project.

b) The limited number of vehicle trips to and from the site for delivery of construction personnel, materials, equipment, and the new water tank as well as for removal of the existing tank may temporarily slow traffic on SR 36 for a short period in the vicinity of GCRSP, but this affect is not expected to be substantial. Access will be from SR 36 into the park unit, along a park maintenance road, then along a dirt trail to the project site. There would be a less than significant impact to level of service standards with implementation of this project.

c) The project site is not located within an airport land use plan and does not serve as a normal reporting point for air traffic in the area. The nearest airstrip is more than 15 miles

from the project area. No part of the proposed project would affect or change existing air traffic patterns. No impact.

d) No aspect of the project includes a design feature or incompatible use that would substantially increase traffic or road hazards. Access will be from SR 36 into the park unit and along a dirt trail to the project site. Staging of vehicles and equipment will be within park boundaries. No impact.

e) Although number of vehicle trips could temporarily increase and slow traffic on State Route 36 due to the movement of vehicles and equipment to and from the project site, emergency access along SR 36 is not expected to be substantially affected. All project work and staging will be within the state park boundaries. There would be a less than significant impact to emergency access with implementation of this project.

f) The project area within GCRSP would be closed to the public during the project construction period. This project does not contain any design feature that would affect parking capacity. No impact.

g) The project would not conflict with adopted policies, plans, or programs that support alternative transportation. No impact.

XVI. UTILITIES AND SERVICE SYSTEMS.

ENVIRONMENTAL SETTING

Most utilities and services within Grizzly Creek Redwoods State Park (GCRSP) are concentrated at locations such as the Visitor Center, day use area and campground with associated restrooms and park residences. These include the following:

Water System
The existing water supply system includes one 50,000 water storage tank, one 5,000 redwood storage tank, potable water treatment plant, and water distribution lines.
To supply the park with water, GCRSP, withdraws approximately 18,000 gallons a year from a minor unnamed spring-fed drainage. The water is pumped to the water treatment plant, treated with chlorine to make it potable and then distributed to the water storage tanks. The water source has historically been adequate to meet typical demand, even during drought, however the distribution system and the storage tank are aged and suffer from chronic leakage problems, requiring on-going maintenance.

Wastewater
The restroom facilities are not connected to any municipal wastewater services. DPR utilizes septic tanks and a leach field located throughout the park.

Solid Waste and Other Utilities
A private contractor removes trash when the on-site compactor is full; Pacific Gas and Electric supplies electricity; and AT&T provides telephone service. (Allsop 2010).

The Proposed Project
The proposed project would install approximately 2,800 feet of new water supply lines, replace the 5,000 gallon redwood water tank with a polyethylene tank, replace six septic tanks, and install a new leach field.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Exceed wastewater treatment restrictions or standards of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities?	☐ Yes	☒ No		
Would the construction of these facilities cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing	☐ Yes	☒ No		

	facilities?				
	Would the construction of these facilities cause significant environmental effects?	☐	☐	☐	☒
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?	☐	☐	☐	☒
e)	Result in a determination, by the wastewater treatment provider that serves or may serve the project, that it has adequate capacity to service the project's anticipated demand, in addition to the provider's existing commitments?	☐	☐	☐	☒
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g)	Comply with federal, state, and local statutes and regulations as they relate to solid waste?	☐	☐	☐	☒

DISCUSSION

a) GCRSP is in the jurisdiction of the North Coast Regional Water Quality Control Board (NCRWQCB). The proposed project would be in compliance with all applicable water quality standards and waste discharge requirements. Replacement of the water storage tank and six septic tanks, the installation of supply lines and a leach field would not exceed wastewater treatment standards or standards applicable to the North Coast Regional Water Quality Control Board. A Humboldt County Department of Health and Human Service Sewage Disposal Permit that satisfies the NCRWQCB's water quality requirements would be obtained for this project. This project would not exceed any wastewater treatment restrictions or standards of the NCRWQCB. No impact.

b) The proposed project would replace only existing components of the water system within the park. There would be no direct impact (construction or expansion) on the park's water or wastewater treatment facilities including installation of the new leach field. The old leach filed will be removed from service as part of this project and the new leach field would have the same capacity as the old field. No impact.

c) The project scope does not include storm water drainage facilities and would neither increase nor alter existing conditions. No impact.

d) As indicated in the Environmental Setting above, potable water is supplied by withdrawing water from a minor unnamed spring-fed drainage. The water supply is adequate to meet existing demand. The proposed project does not include the construction of new facilities that would increase park visitation or demand for water. Overall water use is not expected to change as a result of this project. No impact.

e) Wastewater treatment services are provided by DPR personnel with DPR owned facilities. No impact.

f) Solid waste disposal service is provided by a local company. The project would not increase the park's solid waste disposal needs. No impact.

g) The proposed project does not have a solid waste component. No impact.

CHAPTER 4
MANDATORY FINDINGS OF SIGNIFICANCE

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal?	☐	☐	☒	☐
b) Have the potential to eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
c) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, other current projects, and probably future projects?)	☐	☐	☒	☐
d) Have environmental effects that will cause substantial adverse effects on humans, either directly or indirectly?	☐	☐	☒	☐

DISCUSSION

a) The proposed project was evaluated for potential significant adverse impacts to the natural environment and its plant and wildlife communities (Biological Resources, Hydrology and Water Quality). The proposed project site does support certain special status animal species and natural communities. DPR has determined that the proposed project would have the potential to degrade the quality of the habitat and/or reduce the number or restrict the range of rare or endangered animals including western tailed frog, southern torrent salamander, marbled murrelet, northern spotted owl, and potential nesting habitat for other raptors and migratory birds. The project also would have the potential to degrade water quality by causing erosion, sedimentation, and release of pollutants, such as vehicle fluids and elevated metal concentrations into the environment. However, full integration of all project requirements into this project would reduce those impacts, both individually and cumulatively, to a less than significant level.

b) The proposed project was evaluated for potential significant adverse impacts to the cultural resources of Grizzly Creek Redwoods State Park and its immediate environment. DPR has determined that proposed project activities would have the potential to cause significant adverse impacts to archaeological resources. Full implementation of the project requirements

incorporated into this document would reduce impacts to previously unidentified archaeological sites and features to a less than significant level.

c) DPR often has other maintenance programs, restoration, and interpretive projects planned for a park unit. However, no other projects other than routine maintenance are planned for the proposed project area in the foreseeable future. Additionally, impacts from other environmental issues addressed in this evaluation do not overlap in such a way as to result in cumulative impacts that are greater than the sum of the parts. Less than significant impact.

d) Most project-related environmental effects have been determined to pose a less than significant impact on humans. However, possible impacts from fugitive dust (Air Quality), earthquakes (Geology and Soils), construction accidents, spills, and wildfire (Hazards and Hazardous Waste), and construction-generated noise (Noise), though temporary in nature, have the potential to result in significant adverse effects on humans. These potential impacts would be reduced to a less than significant level if all project requirements are fully integrated into the project.

CHAPTER 5
MITIGATION STATEMENT

In general, CEQA requires that for each potentially significant impact identified in the Initial Study, there must be a discussion of feasible measures to avoid or substantially reduce the project's significant environmental effects. The Guidelines provide for five categories or mitigation measures that avoid, minimize, rectify, reduce or eliminate, or compensate for the significant environmental effect of the proposed project (Guidelines 15126.4(a).

As described in Section 2.7, DPR has developed and integrated both Standard and Specific Project Requirements into this project description to prevent and/or reduce potentially significant impacts to less than significant levels or no impact during project design. Therefore, DPR determined that mitigation measures were not necessary for this project.

CHAPTER 6
REFERENCES

Aesthetics

California Department of Transportation Scenic Highway Program
http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm accessed on 9/10/2010

Agricultural and Forest Resources

California Department of Conservation (CDC). 2010. Williamson Act Program. Website: http://www.conservation.ca.gov/dlrp/lca/Pages/Index.aspx. Accessed September 23, 2010.

Humboldt County Community Development Services Department. 2008. Humboldt County General Plan Update: Planning Commission Hearing Draft. Website: http://co.humboldt.ca.us/gpu/documentsplan.aspx. Accessed August 19, 2010.

Morehead, Ben. 2003. Humboldt County Agriculture Survey Final Report. Humboldt County Farm Bureau, Eureka, CA.

Air Quality

California Air Resources Board (CARB). 2010a. State Area Designation, Website: http://www.arb.ca.gov/desig/desig.htm (Accessed September 27, 2010).
_____ . 2010b. California Local Air District directory. http://www.arb.ca.gov/capcoa/roster.htm#NORTH (accessed September 27, 2010).
_____. 2010c. The Know Zone, Website: http://www.arb.ca.gov/knowzone/basin/basin.swf (accessed September 27, 2010).
_____. 2010d. Air Monitoring Sites, Website: http://www.arb.ca.gov/qaweb/ (accessed September 28, 2010).

Humboldt County. 2010a. About Humboldt County: Climate. http://co.humboldt.ca.us/portal/about.asp (accessed September 28, 2010).
_____. 2010b. General Plan Update Background Reports: Natural Resources and Hazards Report Air Quality. http://co.humboldt.ca.us/gpu/documentsbackground.aspx (accessed September 29, 2010)
_____. 2010c. General Plan Update (Planning commission Hearing Draft): chapter 15 Air Quality Element. http://co.humboldt.ca.us/gpu/documentsplan.aspx (accessed September 29, 2010).

North Coast Unified Air Quality Management District General Information, Website http://ncuaqmd.org/index.php?page=general.info (accessed September 27, 2010)

United States Environmental Protection Agency, Six Common Air Pollutants. Website: http://www.epa.gov/air/urbanair/ (accessed September 29, 2010)

Biological Resources

Brigham, R. M., M. J. Vonhoff, R. M. R. Barclay, and J. C. Gwilliam. 1997. Roosting behavior and roost-site preferences of forest-dwelling California bats (*Myotis californicus*). J. Mammal. 78:1231-1239.

California Native Plant Society (CNPS). 2009. Inventory of Rare and Endangered Plants of California, 7th edition, electronic version. Website: http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi Accessed January 8, 2009.

California Oak Mortality Task Force (COMTF). 2008. Website: http://www.suddenoakdeath.org Accessed December 12, 2009.

Department of Fish and Game (DFG). 2007. Vegetation Classification and Mapping Program, List of California Vegetation Alliances.

_____. 2009a. Rare Find: California Department of Fish and Game Natural Diversity Database. Version 3.1.0. Website: http://www.dfg.ca.gov/biogeodata/cnddb/ Accessed January 8, 2009.

_____. 2009b. BIOS: Biogeographic Information & Observation System. Website: http://bios.dfg.ca.gov Accessed January 15, 2009.

_____. 2009c. Coastal Watershed Planning and Assessment Program (CWPAP). Website: http://coastalwatersheds.ca.gov/Watersheds/NorthCoast/VanDuzen/VanDuzenBasin/SalmonidFisheryResources/tabid/434/Default.aspx Accessed January 16, 2009

Harris, S. W. 1991. Northwestern California birds. Humboldt State University Press, Arcata, CA. 257 pp.

Hickman, James C., ed. 1996. The Jepson Manual: Higher Plants of California. Berkeley, CA: University of California Press.

Jennings, M. R., and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Rancho Cordova, CA.

Martin, R. W. 2007. Survey for federal jurisdictional wetlands and waters of the U.S. conducted on June 27, 2007.

Sawyer, J. and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society. 471 pp.

Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Stebbins, Robert C. 2003. *A Field Guide to Western Reptiles and Amphibians*. 3rd Edition. Houghton Mifflin Company.

U. S. Fish and Wildlife Service (USFWS). 2004. Endangered and Threatened Wildlife and Plants; 12-month Finding for a Petition to List the West Coast Distinct Population Segment of the Fisher (*Martes pennanti*); Proposed Rule. Federal Register 69:18769-18792.

U. S. Fish and Wildlife Service (USFWS). 2009a. Arcata Fish and Wildlife Office, Endangered Species Program, Plant and Animal Species Information. Website: http://www.fws.gov/arcata/es/listedspecies.html Accessed January 8, 2009.

U.S. Geological Survey. 2009. USGS-NPS Vegetation Mapping Program, Standardized National Vegetation Classification System. Website: http://biology.usgs.gov/npsveg/classification/toc.html Accessed January 8, 2009.

Wisehart, Lorena. 2010. Sensitive Plant Survey and Habitat Assessment Report for the Grizzly Creek Septic Rehab Project. August 1, 2010

Cultural

Baumhoff, Martin A.1958. *California Athabascan Groups.* Anthropological Records 16(5). University of California Press, Berkeley and Los Angeles.

California Department of Parks and Recreation (CDPR). 2001. Humboldt Redwoods State Park General Plan. On file at the CDPR – Northern Service Center, Sacramento, CA.

Duffy, Michael 2000. *California Department of Forestry Primary and Archaeological Record for South Bemis*. Record on file at the North Coastal Information Center of the California Historical Resources Information System, Klamath, California.

Elsasser, Albert E. 1978. *Mattole, Nongatl, Sinkyone, Lassik, and Wailaki.* In Handbook of North American Indians, Volume 8 California. Smithsonian Institution, Washington D.C.

Kroeber, Alfred L. 1925. Handbook of the Indians of California. Bulletin No. 78, Bureau of American Ethnology, Smithsonian Institution, Washington D.C.

Sampson, Michael. 1983. An Archaeological Study along the South fork of the Eel River, Humboldt County, California. Cultural Resource Management Unit CDPR. Sacramento, California. On file at the CDPR – Northern Service Center.

GEOLOGY AND SOIL

California Department of Conservation. 1977. Geologic Map of California, Scale 1:750,000, Geologic Data Map No. 2. Compiled by Charles W. Jennings with assistance from R. G. Strand and T. H. Rogers. California Department of Conservation, Division of Mines and Geology, Sacramento, CA.

California Department of Conservation (CDC). 1994. Map No. 6: Fault Activity Map of California and Adjacent Areas, with Locations and Ages of Recent volcanic Eruptions, compilation and interpretation by Charles W. Jennings. California Geologic Map Series, California Department of Conservation, Division of Mines and Geology, Sacramento, CA.

California Department of Conservation – California Geological Survey (CGS). 2007. Alquist-Priolo Earthquake Fault Zones. Website accessed 1-22-09: http://www.consrv.ca.gov/cgs/rghm/ap/map_index/Pages/index.aspx

California Department of Conservation – California Geological Survey (CGS). 2008. Probabilistic Seismic Hazards Mapping Ground Motion Page for the selected site. Website: http://redirect.conservation.ca.gov/cgs/rghm/pshamap/pshamap.asp?Longitude=-123.9056&Latitude=40.4842

California Department of Conservation – Division of Mines and Geology (CDC). 2008. Preliminary Open File Report 96-08. California Fault Parameters. Website: http://www.consrv.ca.gov/cgs/rghm/psha/ofr9608/Pages/b_faults5.aspx

California Department of Parks and Recreation (DPR). 2001. Humboldt Redwoods State Park General Plan. Approved October 26, 2001. 136 pp.

California Division of Mines and Geology (now California Geological Survey) (CDMG). 1995. Special Publication 115.

Humboldt County. undated. Natural Resource and Hazards Report. Background report for the Humboldt County General Plan Update. Chapter 10 - Geologic, Seismic, and Soil Hazards. Website, accessed 1-21-09: http://co.humboldt.ca.us/planning/gp/meetings/natl_res/nr_report.asp#download.

Humboldt County, 2006. Humboldt County Seismic Safety and Relative Slope Stability Map. Humboldt County General Plan. Website accessed 1-23-09: http://co.humboldt.ca.us/gpu/docs/maps/Safety/base2slopestab.pdf

Jennings, C.W. and G.J. Saucedo. 1999. Simplified fault activity map of California. Revised 2002 by Tousson Toppozada and David Branum. California Geological Survey Map Sheet 54.

McLaughlin, R.J., S.D. Ellen, M.C. Blake, Jr., A.S. Jayko, W.P. Irwin, D.R. Aalto, G.A. Carver, and S.H. Clarke, Jr. 2000. Geology of the Cape Mendocino, Eureka, Garberville, and Southwestern part of the Hayfork 30 x 60 Minute Quadrangles and Adjacent Offshore Area, Northern California. United States Department of the Interior, U.S. Geological Survey. 26 pp.

Pacific Lumber Company (PALCO). 1999. Final Environmental Impact Statement/Environmental Impact Report for the Headwaters Forest Acquisition and the PALCO Sustained Yield Plan

and Habitat Conservation Plan. Subsection 3.5: Geology and Mineral Resources of the SYP, HCP and Headwaters Reserve.

U.S. Department of Agriculture – Natural Resources Conservation Service. 2009a. National Cooperative Soil Survey: Web Soil Survey. Website accessed 1-23-09.

U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS). 2009b. Grizzly Creek State Park Draft Soil Map Units with an advance copy of map unit descriptions. These are preliminary, draft data that are subject to change. Received: January 22, 2009.

U.S. Department of the Interior – National Parks Service (NPS). 2008. Redwood National and State Parks, Natural Features and Ecosystems, Geologic Setting. Website: http://www.nps.gov/redw/naturescience/naturalfeaturesandecosystems.htm#CP_JUMP_64243

U.S. Department of the Interior - U.S. Geological Survey (USGS). 1969. Redcrest Quadrangle, California – Humboldt County 7.5 minute series topographic map.

U.S. Geological Survey (USGS). 2008a. Physiographic Provinces of California. Website: http://education.usgs.gov/california/provinces.htm#coast. Accessed 1-21-09.

U.S. Geological Survey (USGS). 2008b. The National Map Viewer for the selected site. Website: http://nmviewogc.cr.usgs.gov/viewer.htm

U.S. Geological Survey (USGS) and California Geological Survey. 2006. Quaternary fault and fold database for the United States. Accessed January 2009 from USGS website: http://earthquake.usgs.gov/regional/qfaults/

Greenhouse Gas Emissions

AB 32. Assembly Bill No. 32 California Global Warming Solutions Act of 2006.

CARB. 2008. Climate Change Scoping Plan - A framework for change 2008. by the California Air Resource Board

CDPR 2008. Department of Parks and Recreation Memorandum Vision Statement and strategic Initiatives issued February 8, 2008

NOAA. National Oceanic and Atmosphere Administration National Climate Data Center – Greenhouse Gases - February 23, 2010 Website: http://lwf.ncdc.noaa.gov/oa/climate/gases.html (accessed September 29, 2010).

USEPA. United States Environmental Protection Agency. Climate change – Greenhouse Gas Emissions. Website http://www.epa.gov/climatechange/emissions/index.html (accessed on September 29, 2010).

Hazards and Hazardous Materials

County of Humboldt. 2010 County of Humboldt : Community Development Services Department. Carlotta- East Fire Planning Map 2005. http://co.humboldt.ca.us/planning/maps/fire_maps03.asp (accessed September 3, 2010).

Department of Forestry and Fire Protection (CalFire). 2007 Guidelines for fire Hazard Zoning Review and Fire and Resource Assessment Program.

Department of Toxics Substances Control 2010. Envirostor Database Search http://www.envirostor.dtsc.ca.gov/public/ Accessed on October 1, 2010

Google Maps. 2010 Website: http://maps.google.com/maps?hl=en&tab=wl accessed September 30, 2010.

Humboldt Education. 2010. Humboldt County Office of Education. Map to Our School: Cuddleback Union School District. http://www.humboldt.k12.ca.us/cuddeback_sd/map.php (accessed September 3, 2010).

Hydrology and Water Quality

California Department of Fish and Game (DFG). 2009. The Coastal Watershed Planning and Assessment Program (CWPAP). Website: http://coastalwatersheds.ca.gov/Watersheds/NorthCoast/VanDuzen/VanDuzenBasin/tabid/469/Default.aspx Accessed 1-20-09.

FEMA. 1982. Floodplain Map Store. Website: www.msc.fema.gov Accessed 1-23-09.

Friends of the Van Duzen River. 2009. Website: http://www.fovd.org Accessed 1-23-09.

Humboldt County Department of Health and Human Services (HCDHHS). 2010. Website: http://co.humboldt.ca.us/hhs/phb/environmentalhealth/landuseprogram.asp Accessed 10-21-10.

Pacific Lumber Company (PALCO). 1999. Final Environmental Impact Statement/Environmental Impact Report for the Headwaters Forest Acquisition and the PALCO Sustained Yield Plan and Habitat Conservation Plan. Subsection 3.5: Geology and Mineral Resources of the SYP, HCP and Headwaters Reserve.

U. S. Environmental Protection Agency (USEPA). 1999. Van Duzen River and Yager Creek Total Maximum Daily Load for Sediment. Website: http://www.epa.gov/region09/water/tmdl/vanduzen/vanduzen.pdf` Accessed 1-23-09.

Land Use and Planning

Humboldt County. November 2008. General Plan Draft Update, Land Use Element. http://gis.co.humboldt.ca.us/ (accessed February 18, 2010).

Mineral Resources

Bradley, W. 1920. California Mineral Production for 1919, Bulletin No. 88. California State Mining Bureau, 1920, pp. 147-148. Accessed on August 25, 2010 from the website: http://quarriesandbeyond.org/states/ca/quarry_photo/ca-humbolt_photos.html#mineral_indus_c1919

Humboldt County. 2002. General Plan Update Background Reports. Natural Resources and Hazards (September 2002). Chapter 7. Mineral & Energy Resources. Website accessed August 25, 2010: http://co.humboldt.ca.us/gpu/documentsbackground.aspx

Noise

Bearden, David M. 2000. Noise Abatement and Control: An Overview of Federal Standards and Regulations. Website: http://ncseonline.org/NLE/CRSreports/Risk/rsk-52.cfm?&CFID=7463199&CFTOKEN=71822941. Accessed September 30, 2010.

Humboldt County Community Development Services Department. 2008. General Plan Update: (Planning Commission Hearing Draft): Chapter 13 Noise Element. Website: http://co.humboldt.ca.us/gpu/docs/HearingDraft/Part4Chapter13 PlanningCommissionHearingDraftOne11-20-08.pdf . Accessed September 30, 2010.

Population and Housing

California Department of Finance (DOF) 2008, E-4 Population Estimates for Cities, Counties, and the State, 2000-2008. http://www.dof.ca.gov/HTML/DEMOGRAP/ReportsPapers/ReportsPapers.php (accessed February 17, 2009).

Google Maps 2010. http://maps.google.com/maps?hl=en&tab=wl accessed August 9, 2010

Humboldt County. 2005 Humboldt County Census and Demographic Information http://co.humboldt.ca.us/portal/about.asp accessed August 9, 2010.

Public Services

California Department of Parks and Recreation. 2009. Find a Park. http://www.parks.ca.gov/parkindex/region_info.asp?id=1&tab=1 (accessed September 3, 2010).

California Highway Patrol (CHP). 2009. CHP Northern Division. http://www.chp.ca.gov/depts_divs_offs/101.html (accessed September 3, 2010).

City of Fortuna California. Parks and recreation: Parks Overview. http://www.friendlyfortuna.com/index.aspx?nid=96 (accessed September 3, 2010).

County of Humboldt: Community Development Services Department. Carlotta- East Fire Planning Map 2005. http://co.humboldt.ca.us/planning/maps/fire_maps03.asp (accessed September 3, 2010).

Humboldt County. 2008. Humboldt County General Plan as Amended by Resolution 98-116b (Adopted February 9, 1998). http://co.humboldt.ca.us/planning/Genplan/ Framewk/index.htm (accessed December 4, 2008).

Humboldt County Office of Education. Map to Our School: Cuddleback Union School District. http://www.humboldt.k12.ca.us/cuddeback_sd/map.php (accessed September 3, 2010).

Recreation

Humboldt County. 2010.About Humboldt County. http://co.humboldt.ca.us/portal/about.asp (accessed September 30, 2010).

Humboldt Parks 2010. About Humboldt County Parks. http://co.humboldt.ca.us/portal/living/county_parks/ (accessed September 7, 2010).

Transportation

California Department of Transportation (Caltrans). 2008a. Website: http://www.dot.ca.gov Accessed January 9, 2009.

_____. 2008b. Website: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2007all/r034-43i.htm. Accessed January 16, 2009.

_____. 2008c. Website: http://www.dot.ca.gov/dist11/news/route905/appendix/appendixH.pdf Accessed January 16, 2009.

_____. 1999. Website: http://www.dot.ca.gov/dist1/d1transplan/d1rcr.htm. Accessed January 16, 2009.

_____. 2010. Website http://www.dot.ca.gov/dist1/d1projects/alton/status.htm Accessed August 2, 2010.

Green Wheels HSU. 2008. Green Wheels Humboldt State University Club. Website: http://www.green-wheels.org/node/447 Accessed September 30,2010.

Greyhound Lines, Inc. 2008. Website: http://www.greyhound.com/home/ Accessed January 16, 2009.

Humboldt County. 2008. Humboldt County General Plan Update, Planning Commission Hearing Draft. 331 pp. Website: http://co.humboldt.ca.us/gpu/documentsPlan.aspx. Accessed: January 16, 2009

Humboldt County Association of Governments (HCAOG). 2008. 2008 Humboldt County Regional Transportation Plan. Prepared by Planwest Partners, Inc. Website: http://hcaog.net/docs/RTP.2008/ . Accessed: January 16, 2009

Humboldt County Community Development Services Department (HCCDSD). 2008. Humboldt 2025 General Plan Update: Moving Goods and People, A Discussion Paper for Community Workshops. Prepared by Dyett & Bhatia Urban and Regional Planners, October 2002. Website: http://co.humboldt.ca.us/planning/gp/meetings/moving_gp/moving.pdf Accessed 1-9-09.

Humboldt County Public Works Department (HCPWD). 2008. Website: http://co.humboldt.ca.us/aviation/content.asp?page=airport_and_airline_information.htm Accessed January 16, 2009.

Utilities and Services

Allsop, Sam. 2010 Park Maintenance Chief II (DPR: North Coast District). Personal Communication with Stephanie Coleman. October 4, 2010.

Chapter 6
Report Preparation

CALIFORNIA DEPARTMENT OF PARKS AND RECREATION

SAM ALLSOP, DISTRICT MAINTENANCE CHIEF
NORTH COAST DISTRICT

LAURIE ARCHAMBAULT, SENIOR ENVIRONMENTAL SCIENTIST
NORTHERN SERVICE CENTER

STEPHANIE COLEMAN, ENVIRONMENTAL COORDINATOR
NORTHERN SERVICE CENTER

GREG COLLINS, ASSOCIATE STATE ARCHAEOLOGIST
NORTH COAST DISTRICT

JOHN E. HARRIS, SENIOR ENVIRONMENTAL SCIENTIST
NORTH COAST DISTRICT

STEVE HILTON, ASSOCIATE ARCHAEOLOGIST
NORTHERN SERVICE CENTER

ROY MARTIN, ENVIRONMENTAL SCIENTIST
NORTHERN SERVICE CENTER

DAN OSANNA , STATE HISTORIAN III
NORTHERN SERVICE CENTER

STEPHEN UNDERWOOD, ENVIRONMENTAL SCIENTIST
NORTH COAST DISTRICT

APPENDIX A
MAPS, TABLES, AND CHARTS

APPENDIX 1: Special Status Plant Species

Table 1: List of Special Status Plant Species Known to Occur or Potentially Occur Within the Project Area

Scientific Names	Common Names	CNPS[1]	Status	Probability of Occurrence in Project Area
Astragalus agnicidus	Humboldt County milk-vetch	List 1B.1		no suitable habitat
Calamagrostis foliosa	leafy reed grass	List 4.2		no suitable habitat
Carex arcta	northern clustered sedge	List 2.2		no suitable habitat
Coptis laciniata	Oregon goldthread	List 2.2		no suitable habitat
Erythronium oregonum	giant fawn lily	List 2.2		no suitable habitat
Erythronium revolutum	coast fawn lily	List 2.2		potentially suitable habitat
Gilia capitata ssp. pacifica	Pacific gilia	List 1B.2		no suitable habitat
Lycopodium clavatum	running-pine	List 4.1		potentially suitable habitat
Monardella villosa ssp. *globosa*	robust monardella	List 1B.2		no suitable habitat
Montia howellii	Howell's montia	List 2.2		potentially suitable habitat
Packera bolanderi var. *bolanderi*	seacoast ragwort	List 2.2		potentially suitable habitat
Piperia candida	white-flowered rein orchid	List 1B.2		potentially suitable habitat
Sidalcea malachroides	maple-leaved checkerbloom	List 4.2		potentially suitable habitat
Sidalcea malviflora ssp. *patula*	Siskiyou checkerbloom	List 1B.2		potentially suitable habitat

[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.

SE State Endangered
ST State Threatened
SR State Rare
CSC California Special Concern
FE Federally Endangered
FT Federally Threatened
FSC Federal Special Concern

APPENDIX B

ACRONYMS

AB – Assembly Bill

AD – After Death
ADA - Americans with Disabilities Act
AADT – Average annual daily trip
APCD – Air Pollution Control District
APE - Area of Potential Effect
APEFZ - Alquist-Priolo Earthquake Fault Zoning
ARB/CARB - California Air Resources Board
BAAQMD – Bay Area Air Quality Management District
BMP - Best Management Practices
BP – Before Present
CA - California
Caltrans - California Department of Transportation
CARB – California Air Resources Board
CBC/UBC - California Uniform Building Code
CCR - California Code of Regulations
CDF - California Department of Forestry and Fire
CDFG - California Department of Fish and Game
CDPR or DPR – California Department of Parks and Recreation
CDTSC – California Department of Toxic Substance Control
CEQA - California Environmental Quality Act
CGS - California Geological Survey
CHP – California Highway Patrol
cmbs – centimeters below surface
CNDDB - California Natural Diversity Database (Calif. Dept. of Fish and Game)
CNPS - California Native Plant Society
CO2 – Carbon Dioxide
CRHR - California Register of Historic Resources
CRPGP – California River Parkways Grant Program
CSQA – California Stormwater Quality Association
CWA – Clean Water Act
dB – decibels
DOF – California Department of Finance
DPR - California Department of Parks and Recreation
DWR – Department of Water Resources
EIR - Environmental Impact Report
EPA – United States Environmental Protection Agency
FEMA - Federal Emergency Management Agency
FMMP - Farmland Mapping and Monitoring Program
FPPA – Federal Farmland Protection Policy Act
g – Gravity
GAN – Global Aviation Navigator
GHG – greenhouse gas
GP - General Plan
GWP – Global Warming Potential
HCP – Habitat Conversation Plan
IS/ND - Initial Study / Negative Declaration

Ldn - day-night average levels
LOS - level of service
ND - Mitigated Negative Declaration
MBTA – Migratory bird Treaty Act
MSL - mean sea level
mph - miles per hour
N2O – Nitrous Oxide
NCCP – natural community conservation plan
NCAB – North Coast Air Basin
NOx - nitrogen oxide
NOAA – National Oceanic Atmosphere Administration
NPS – National Park Service
NPDES - National Pollutant Discharge Elimination System
NRHP - National Register of Historic Places
NSC - Northern Service Center
NSVAB – Northern Sacramento Valley Air Basin
OHP – California Office of Historic Resources
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 Standards and Training
PRC - Public Resources Code
PRSP – Portola Redwoods State Park
QMU – Pleistocene-age older alluvium of the Upper Modesto Formation
Qsc – Quaternary stream channel
SOD – Sudden Oak Death
STS- Southern torrent salamander
SP – State Parks
SPR – Standard Project Requirements
SR – State Route
SWPPP - Storm Water Pollution Prevention Plan
SWRCB - State Water Resource Control Board
U.S. - United States
USACOE - United States Army Corps of Engineers
USDA – NRCS – Untied States Department of Agriculture – Natural Resource Conservation Service
USDA – SCS – United States Department of Agriculture – Soil Conservation Service
USEPA - United States Environmental Protection Agency
USFWS - United States Fish and Wildlife Service
USGS - United States Geological Service
VRP – Visibility Reducing Particle
WTS – Western Tailed Frog

APPENDIX C

SHN REPORT

#4 Comfort

CONSULTING ENGINEERS & GEOLOGISTS, INC.
812 W.Wabash Eureka,CA 95501-2138 Tel:707/441-8855 FAX:707/441-8877 E-mail:shninfo@shn-engr.com

Reference: 008208

November 17, 2008

Doug Correia
North Coast Redwoods District
P.O. Box 2006
Eureka, CA 95502

SOIL PERCOLATION SUITABILITY / TEXTURAL ANALYSIS RESULTS

Job Name: California State Parks **Sampled By:**
Date Sampled: 11/01/08 **Date Tested:** 11/13/08
Date Received: **AP Number:** Grizzly Creek

Sample ID	Depth	% Sand	% Clay	% Silt	% Coarse Fragments by Volume	Zone	Bulk Density
4	0'-14"	60.6	11.3	28.1	9.7	2	*
	Material: **Sandy Loam**						
4	1'4"-2'3"	32.7	15.3	52.0	0.0	2	*
	Material: **Silt Loam**						
4	2'3"-2'9"	80.9	4.9	14.2	0.1	2	*
	Material: **Loamy Sand**						
4	2'9"-5'0"	49.3	11.2	39.5	0.2	2	*
	Material: **Loam**						
4	5'0"-9'0"	73.7	6.0	20.3	13.1	2	*
	Material: **Loamy Sand**						

* = no peds provided

Regional Water Quality Control Board Zone Descriptions:

Zone 1 - Soils in this zone are very high in sand content. They readily accept effluent, but because of their low silt and clay content they provide minimal filtration. These soils demand greater separation distances from groundwater.

Zone 2 - Soils in this zone provide adequate percolation rates and filtration of effluent. They are suitable for use of a conventional system without further testing.

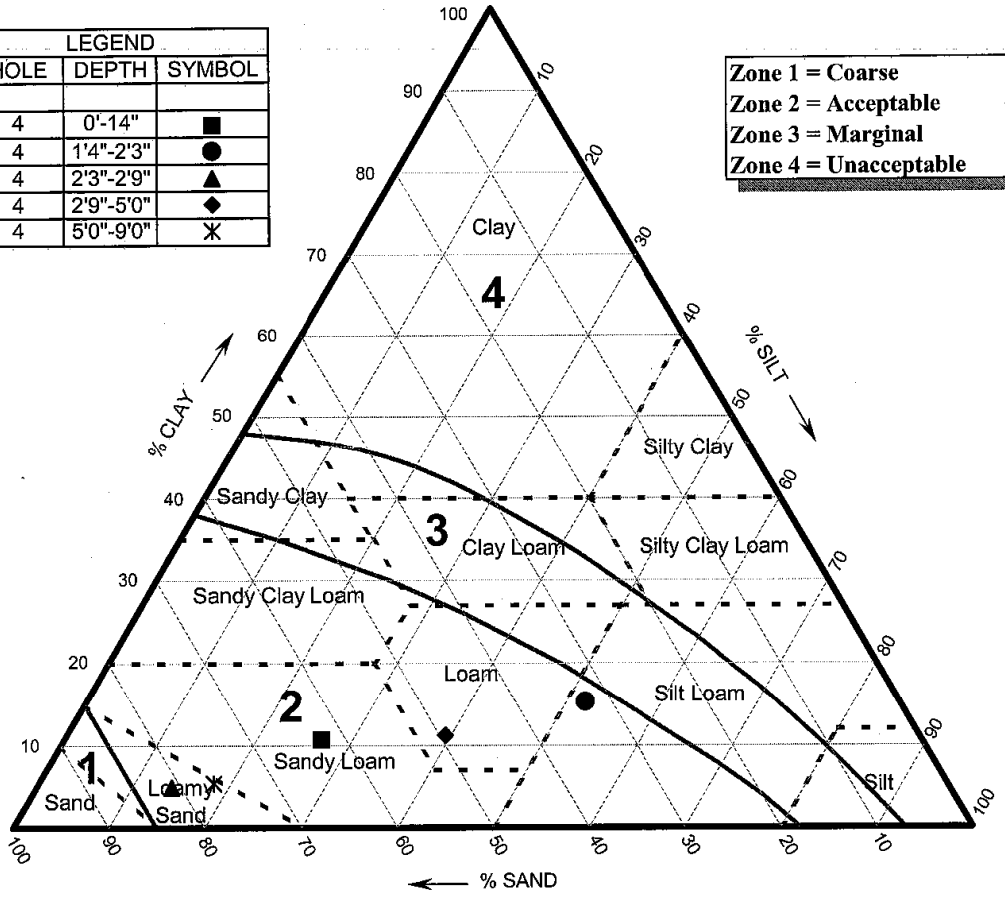
Zone 3 - Soils in this zone are expected to provide good filtration of effluent, but their ability to accept effluentat at a suitable rate is questionable. These soils require wet-weather percolation tests to verify their suitability for effluent disposal by conventional leachfield methods.

Zone 4 - Soils in this zone are unsuitable for a conventional leachfield because of their severe limitations for accepting effluent.

SOIL PERCOLATION SUITABILITY CHART

LEGEND		
HOLE	DEPTH	SYMBOL
4	0'-14"	■
4	1'4"-2'3"	●
4	2'3"-2'9"	▲
4	2'9"-5'0"	◆
4	5'0"-9'0"	✳

Zone 1 = Coarse
Zone 2 = Acceptable
Zone 3 = Marginal
Zone 4 = Unacceptable



NOTES

1. Soil texture is plotted on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.
2. Adjustment for coarse fragments has been made by moving the plotted point in the sand direction an additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.
3. Adjustment for compactness of soil has been made by moving the plotted point in the clay direction an additional 15% for soils having a bulk-density greater than 1.7 gm/cc, when analyzed.
4. For soils falling in sand, loamy sand, or sandy loam, classification adjustment for bulk density will generally not affect suitability and a bulk-density analysis was not necessary.

JOB NUMBER: 008208 **DATE:** 11/13/08

JOB NAME: California State Parks **APN:** Grizzly Creek

Consulting Engineers & Geologists, Inc.
812 W. Wabash
Eureka, CA 95501-2138
(707) 441-8855

#5 Combo 2.'7" Max Depth

CONSULTING ENGINEERS & GEOLOGISTS, INC.
812 W.Wabash Eureka,CA 95501-2138 Tel:707/441-8855 FAX:707/441-8877 E-mail:shninfo@shn-engr.com

Reference: 008208

November 17, 2008

Doug Correia
North Coast Redwoods District
P.O. Box 2006
Eureka, CA 95502

SOIL PERCOLATION SUITABILITY / TEXTURAL ANALYSIS RESULTS

Job Name: California State Parks **Sampled By:**
Date Sampled: 11/01/08 **Date Tested:** 11/13/08
Date Received: **AP Number:** Grizzly Creek

Sample ID	Depth	% Sand	% Clay	% Silt	% Coarse Fragments by Volume	Zone	Bulk Density
5	0-1'10"	80.5	5.4	14.1	0.4	2	*
	Material: **Loamy Sand**						
5	1'10"-3'0"	36.3	13.3	50.4	0.1	2	*
	Material: **Silt Loam**						
5	3'0"-4'7"	45.6	12.9	41.5	0.1	2	*
	Material: **Loam**						
5	4'7"-9'0"	93.1	3.2	3.7	0.0	1	*
	Material: **Sand**						

* = no peds provided

Regional Water Quality Control Board Zone Descriptions:

Zone 1 - Soils in this zone are very high in sand content. They readily accept effluent, but because of their low silt and clay content they provide minimal filtration. These soils demand greater separation distances from groundwater.

Zone 2 - Soils in this zone provide adequate percolation rates and filtration of effluent. They are suitable for use of a conventional system without further testing.

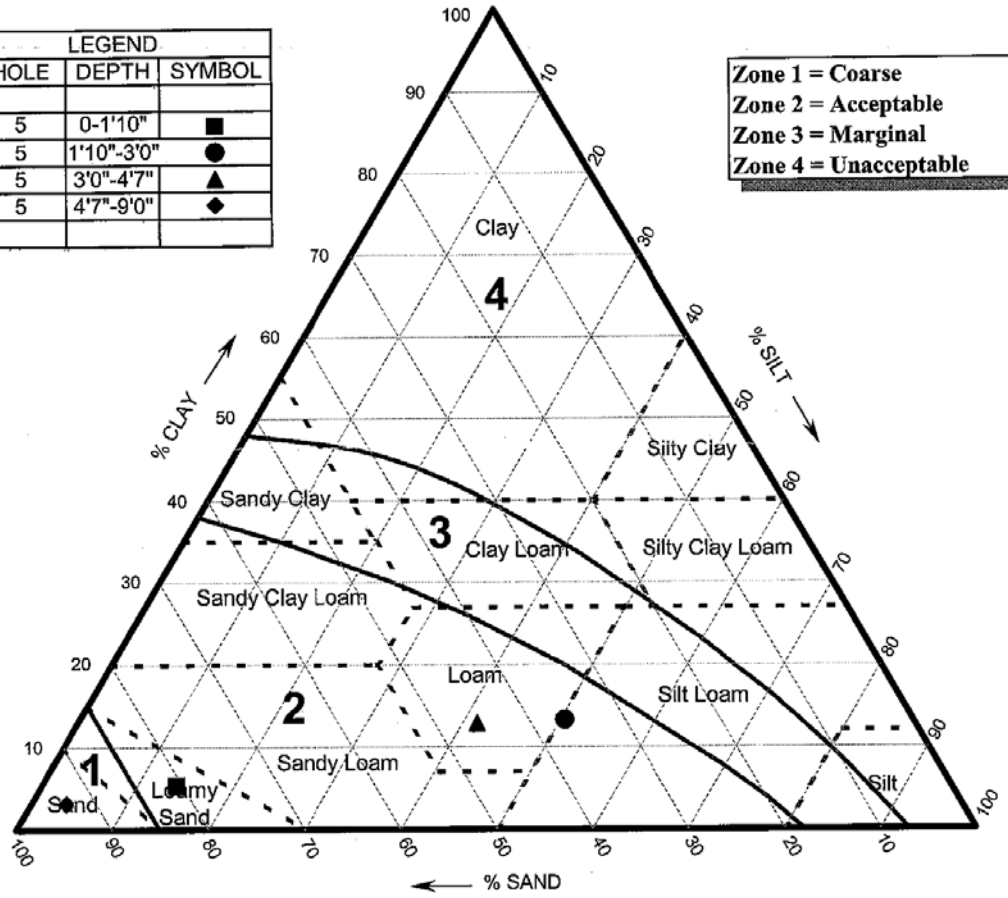
Zone 3 - Soils in this zone are expected to provide good filtration of effluent, but their ability to accept effluentat at a suitable rate is questionable. These soils require wet-weather percolation tests to verify their suitability for effluent disposal by conventional leachfield methods.

Zone 4 - Soils in this zone are unsuitable for a conventional leachfield because of their severe limitations for accepting effluent.

SOIL PERCOLATION SUITABILITY CHART

LEGEND		
HOLE	DEPTH	SYMBOL
5	0-1'10"	■
5	1'10"-3'0"	●
5	3'0"-4'7"	▲
5	4'7"-9'0"	◆

Zone 1 = Coarse
Zone 2 = Acceptable
Zone 3 = Marginal
Zone 4 = Unacceptable



NOTES

1. Soil texture is plotted on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.
2. Adjustment for coarse fragments has been made by moving the plotted point in the sand direction an additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.
3. Adjustment for compactness of soil has been made by moving the plotted point in the clay direction an additional 15% for soils having a bulk-density greater than 1.7 gm/cc, when analyzed.
4. For soils falling in sand, loamy sand, or sandy loam, classification adjustment for bulk density will generally not affect suitability and a bulk-density analysis was not necessary.

JOB NUMBER: 008208 **DATE:** 11/13/08

JOB NAME: California State Parks **APN:** Grizzly Creek

Consulting Engineers & Geologists, Inc.
812 W. Wabash
Eureka, CA 95501-2138
(707) 441-8855