

**D**

**R**

**A**

**F**

**T**



# Initial Study Mitigated Negative Declaration



Photo by Roy W. Martin

## Mackerricher State Park Force Main and Sewer Lift Station Replacement Project

July 2012

State of California  
**DEPARTMENT OF PARKS AND RECREATION**  
Acquisition and Development  
One Capitol Mall, Suite 410  
Sacramento, CA 95814

This page left intentionally blank to facilitate double-sided printing.

## Negative Declaration

**PROJECT:** Force Main and Sewer Lift Station Replacement Project

**LEAD AGENCY:** California Department of Parks and Recreation

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

- Northern Service Center  
California Department of Parks and Recreation  
One Capitol Mall - Suite 410  
Sacramento, California 95814
- Mendocino District Headquarters  
California Department of Parks and Recreation  
12301 North Highway 1, P.O. Box 1  
Mendocino, California 95460
- MacKerricher State Park  
24100 MacKerricher Park Road  
Fort Bragg, California 95437
- Fort Bragg Branch Library  
499 Laurel Street  
Fort Bragg, California 95437

*California Department of Parks and Recreation Internet Website*  
[http://www.parks.ca.gov/?page\\_id=980](http://www.parks.ca.gov/?page_id=980)

### **PROJECT DESCRIPTION:**

The Department of Parks and Recreation proposes to replace the force main and sewer lift station near Lake Cleone at MacKerricher State Park to prevent the discharge of sewage into adjacent water bodies and the Pacific Ocean. This project description is a combination of two projects undertaken to remedy the infrastructure issues associated with ongoing erosion. The following is a brief summary of the proposed work.

#### Lift Station Relocation:

1. Remove existing restroom at Lake Cleone and abandon the lift station.
2. Relocate existing sewage lift station and surge tank to a location protected from ocean erosion near Pinewood Campground and improve waste flow into the primary force main, and install telemetry antenna.
3. Realign the sewage piping network.
4. Slip-line the new sewer force main through the existing gravity sewer line between the old Lake Cleone lift station location and the new location, called the Pinewood lift station, completing the connection for the primary force main.
5. Directionally drill a new gravity sewer line from the Pinewood Campground connecting to the new Pinewood lift station.

6. Electrical power for the new Pinewood lift station will be drawn from a power pole near the existing comfort station at Pinewood Campground. The line will be placed in conduit, in a shallow trench in the road bed of the Pinewood Campground road, and through a directional drill parallel with above gravity sewer line.
7. A new, small lift station and trash catch basin will be installed at the Surfwood Campground Comfort Station to control and improve waste flow into the existing primary force main. A telemetry antenna will be mounted on the comfort station.
8. A new, small force main will also be slip-lined through an existing gravity sewer line from this lift station connecting into the primary force main in the area of the old Lake Cleone lift station.
9. Electrical power to the new Surfwood lift station will be drawn from an existing power pole through a new underground conduit connecting to the existing comfort station.

Force Main Replacement:

1. Abandon portions of the existing primary sewer force main and perform directional drilling and/or trenching to realign the force main beneath the Old Haul Road. This alignment will help minimize environmental/archeological impacts while ensuring proper protection of the force main.
2. Replace the existing deteriorating wood culverts with corrugated metal pipe culverts to improve drainage.
3. Remove and abandon the existing Virgin Creek lift station and install a new flow meter with telemetry antenna.

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

Patricia DuMont – Environmental Coordinator  
 California Department of Parks & Recreation  
 Northern Service Center  
 One Capitol Mall - Suite 500  
 Sacramento, CA 95814

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 Mitigated 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 mitigation measures detailed in these documents are feasible and will be implemented as stated in the Mitigated Negative Declaration.

*Don Osanna for Patricia DuMont*  
 \_\_\_\_\_  
 Patricia DuMont  
 Environmental Coordinator

*[Signature]*  
 \_\_\_\_\_  
 Kathleen Amann  
 Assistant Deputy Director  
 Acquisition and Development

*Jul 23, 2012*  
 \_\_\_\_\_  
 Date

**JUL 23 2012**  
 \_\_\_\_\_  
 Date

# TABLE of CONTENTS

<b><u>Chapter/Section</u></b>	<b><u>Page</u></b>
<b>1</b> INTRODUCTION.....	2
<b>2</b> PROJECT DESCRIPTION.....	5
<b>3</b> ENVIRONMENTAL CHECKLIST.....	20
I. Aesthetics.....	21
II. Agricultural Resources.....	22
III. Air Quality.....	26
IV. Biological Resources.....	29
V. Cultural Resources.....	43
VI. Green House Gas Emissions and Climate Change.....	64
VII. Geology and Soils.....	68
VIII. Hazards and Hazardous Materials.....	72
IX. Hydrology and Water Quality.....	75
X. Land Use and Planning.....	78
XI. Mineral Resources.....	77
IX. Noise.....	78
XIII. Population and Housing.....	81
XIV. Public Services.....	82
XV. Recreation.....	85
XVI. Transportation/Traffic.....	87
XVII. Utilities and Service Systems.....	90
<b>4</b> MANDATORY FINDINGS OF SIGNIFICANCE.....	93
<b>5</b> SUMMARY OF MITIGATION MEASURES.....	95
<b>6</b> REFERENCES.....	102
<b>7</b> REPORT PREPARATION.....	105

## **Appendices**

- A** MAPS, TABLES, AND CHARTS
- B** PROJECT DESIGN GRAPHICS
- C** ACRONYMS

# CHAPTER 1 INTRODUCTION

## 1.1 INTRODUCTION AND REGULATORY GUIDANCE

The Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Force Main and Sewer Lift Station Replacement Project at MacKerricher State Park, Mendocino 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/MND 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, Suite 410  
Sacramento, California 95814

916-445-8691

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

Patricia DuMont – Environmental Coordinator  
California Department of Parks and Recreation  
Northern Service Center  
One Capitol Mall, Suite 410  
Sacramento, California 95814

E-Mail Address: [CEQANSC@Parks.ca.gov](mailto:CEQANSC@Parks.ca.gov)

Include “Force Main/Lift Station” 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 August 22, 2012. 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 Force Main and Sewer Lift Station Replacement Project at MacKerricher State Park. Mitigation measures have also been incorporated into the project to eliminate any potentially significant impacts or reduce them 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, and project objectives.
- Chapter 3 - Environmental Setting, Impacts, and Mitigation Measures.  
This chapter identifies the significance of potential environmental impacts, explains the environmental setting for each environmental issue, and evaluates the potential impacts identified in the CEQA Environmental (Initial Study) Checklist. Mitigation measures are incorporated, where appropriate, to reduce potentially significant impacts to a less-than-significant level.
- 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 Conditions and Mitigation Measures.

This chapter summarizes the conditions and mitigation measures incorporated into the project as a result of the Initial Study.

- Chapter 6 - References.

This chapter identifies the references and sources used in the preparation of this IS/MND. 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 MND Project would result in less-than-significant impacts for the following issues: aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, and utilities and service systems.

In accordance with §15064(f) of the CEQA Guidelines, a MND shall be prepared if the proposed project will not have a significant effect on the environment after the inclusion of mitigation measures 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 mitigation measures, the proposed project would have a significant effect on the environment. It is proposed that a Mitigated Negative Declaration be adopted in accordance with the CEQA Guidelines.

## **CHAPTER 2 PROJECT DESCRIPTION**

### **2.1 INTRODUCTION**

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Force Main and Sewer Lift Station Project at MacKerricher State Park, located in the City of Fort Bragg, Mendocino County, California. The proposed project would relocate the existing lift station and replace the Force Main pipeline.

### **2.2 PROJECT LOCATION**

MacKerricher SP is located on the Pacific coast, in a moderately developed part of Mendocino County, immediately north of the city of Fort Bragg. The project goes from the Pinewood Campground to Lake Cleone and south down the Haul Road ending at approximately at Virgin Creek. Visitors to MacKerricher SP enjoy recreational activities that include walking, beachcombing, bicycling, sightseeing, bird watching, surfing, and abalone diving. More than one half million people visit the park every year.

### **2.3 BACKGROUND AND NEED FOR THE PROJECT**

The existing primary sewer force main that serves MacKerricher SP carries untreated sewage from the current Lake Cleone lift station to the Mendocino Municipal Improvement Sewer District.

The current alignment runs parallel to the Old Haul Road between the road and the ocean for a distance of approximately 2 miles. That side of the road is susceptible to ocean erosion. Portions of this primary force main have had to be relocated to the other side of the road due to progressing ocean erosion. Similar erosion is occurring at several other locations. Continued erosion and lack of earthen support may cause force main failure and untreated sewage to discharge to adjacent water bodies and the ocean, resulting in regulatory violation, system shutdown, and Park closure. A lift station at Virgin Creek which pumps the effluent through the southern end of the Park to the facilities has exceeded its design life.

Ocean erosion is removing portions of the "Old Haul Road" that currently protect the Lake Cleone lift station and coastal areas that protect the primary force main which transports raw sewage from the Park to the City of Fort Bragg's sewage treatment facility approximately two miles away. Without this project, continued erosion will undermine the structural integrity of this infrastructure causing system failure and significantly increasing the threat to public health due to the likelihood of discharge of untreated sewage into adjacent water bodies and the ocean.

### **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.

Force main repair and sewer lift station replacement would improve the integrity of the sewage disposal system at MacKerricher, thereby protecting natural resources and retaining the high-quality recreational opportunities in the park. The recommended work is expected to:

- Reduce the risk of sewage spills and overflows by installing new lift station.
- Protect the health and safety of park employees, visitors, and area residents.
- Reduce potential hazards to natural resources such as Lake Cleone and the Pacific Ocean.
- Reduce park maintenance costs by eliminating frequent repairs of old equipment.

## **2.5 PROJECT DESCRIPTION**

The Department of Parks and Recreation proposes to replace the force main and sewer lift stations near Lake Cleone at MacKerricher State Park to prevent the failure of the discharge of sewage into adjacent water bodies and the Pacific Ocean. The following is a brief summary of the proposed work:

Ocean erosion is removing portions of the "Old Haul Road" that currently protects the Lake Cleone lift station and coastal areas that protect the primary force main which transports raw sewage from the Park to the City of Fort Bragg's sewage treatment facility. Continued erosion will undermine the structural integrity of this infrastructure causing system failure and increasing the threat to public health due to the likelihood of discharge of untreated sewage into adjacent water bodies and the ocean. This project description is a combination of two projects undertaken to remedy the infrastructure issues associated with this ongoing erosion.

### Lift Station Relocation:

- Remove existing restroom at Lake Cleone and abandon the lift station.
- Relocate existing sewage lift station and surge tank to a location protected from ocean erosion near Pinewood Campground and improve waste flow into the primary force main, and install telemetry antenna.
- Realign the sewage piping network.
- Slip-line the new sewer force main through the existing gravity sewer line between the old Lake Cleone lift station location and the new location, called the Pinewood lift station, completing the connection for the primary force main.
- Directionally drill a new gravity sewer line from the Pinewood Campground connecting to the new Pinewood lift station.
- Electrical power for the new Pinewood lift station will be drawn from a power pole near the existing comfort station at Pinewood Campground. The line will be placed in conduit, in a shallow trench in the road bed of the Pinewood Campground road, and through a directional drill parallel with above gravity

sewer line.

- A new, small lift station and trash catch basin will be installed at the Surfwood Campground Comfort Station to control and improve waste flow into the existing primary force main. A telemetry antenna will be mounted on the comfort station.
- A new, small force main will also be slip-lined through an existing gravity sewer line from this lift station connecting into the primary force main in the area of the old Lake Cleone lift station.
- Electrical power to the new Surfwood lift station will be drawn from an existing power pole through a new underground conduit connecting to the existing comfort station.

#### Force Main Replacement:

The existing primary sewer force main that serves MacKerricher SP carries untreated sewage from the current Lake Cleone lift station to the Mendocino Municipal Improvement Sewer District. The current alignment runs parallel to the Old Haul Road between the road and the ocean for a distance of approximately 2 miles. That side of the road is susceptible to ocean erosion. Portions of this primary force main have had to be relocated to the other side of the road due to progressing ocean erosion. Similar erosion is occurring at several other locations. Continued erosion and lack of earthen support may cause force main failure and untreated sewage to discharge to adjacent water bodies and the ocean, resulting in regulatory violation, system shutdown, and Park closure.

The project scope of work includes:

- Abandon portions of the existing primary sewer force main and perform directional drilling and/or trenching to realign the force main beneath the Old Haul Road. This alignment will help minimize environmental/archeological impacts while ensuring proper protection of the force main.
- Replace the existing deteriorating wood culverts with corrugated metal pipe culverts to improve drainage.
- Remove and abandon the existing Virgin Creek lift station and install a new flow meter with telemetry antenna.

## **2.6 PROJECT IMPLEMENTATION**

Both projects will be completed concurrently. The work will require that the existing sanitary system be scheduled and taken offline during the Parks off season (November 1 to April 1). A Coastal Commission permit will likely be necessary due to the proximity of the work to the ocean. Portable toilets and vacuum truck will be necessary to keep the park operational while the sanitation system is offline.

Construction would start in Fall 2012, or soon thereafter, and continue for approximately 18 months. Work would occur only during daylight hours and would be scheduled to incur the least amount of impact to recreational users; 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 would be used during construction. Most equipment would be transported to the site and remain stored outside of the main store areas of 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 Recreations has the distinction of being considered a lead agency, a public agencies 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 always taken on all projects. Therefore, DPR has created a list of Project Requirements that are included in project design to reduce impacts to resources.

DPR has two types of Project Requirements, standard and specific. Standard project requirements are assigned to all projects state-wide, while specific project requirements 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. While mitigation measures can be found in the specific section as required (Chapter 5 contains a list of all mitigation measures and project requirements), the following Project Requirements have been included in this project:

**Table 2-1 Department of Parks and Recreation**

**Project Requirements**

<b>Air Quality</b>	
<b>Project Action</b>	<b>Project Requirement</b>
Air SPR1 - Increased Emissions of Fugitive Dust	<ul style="list-style-type: none"> <li>• All construction areas (dirt/gravel roads and surrounding dirt/gravel area) will be watered at least twice daily during dry, dusty conditions.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>
<b>Biological Resources</b>	
Bio PSR1 - Ten Mile Shoulderband	<ul style="list-style-type: none"> <li>• A morning site inspection for the Ten Mile shoulderband will be conducted by a DPR-approved biological monitor prior to the start of construction for each day that construction activities are scheduled in the following project locations: the sewer force main segment between the new Lake Cleone lift station and the new Pinewood Campground lift station; and, at the Lake Cleone and Virgin Creek lift Stations.</li> <li>• If a Ten Mile shoulderband is found within the project area then it will be removed by a DPR-approved biological monitor and placed outside of the project area in adjacent similar habitat.</li> </ul>

Bio SPR1– Nesting Migratory Bird and Raptor Species	a) If construction-related activities are conducted between February 1 and August 31 then surveys for nesting migratory bird and raptor species will be conducted by a DPR-approved biologist before construction activities occur in these months to identify active nests.
	b) Surveys for active raptor nests will be conducted within a 500-foot radius of the project areas. The surveys will be conducted within 10 days prior to the beginning of construction at each work site. If nesting raptors are found, no construction will occur within a 500-foot radius of the nest tree between February 1 through August 31, or until the young have fledged and the young will no longer be impacted by project activities (as determined by a DPR-approved biologist), or unless otherwise negotiated with the California Department of Fish and Game.
	c) Surveys for active migratory bird nests will be conducted within a 100-foot radius of the project areas 10 days prior to commencement of construction at each work site. If active nests are located, all construction disturbance activities within a 100-foot radius (or as negotiated with CDFG on a case-by-case basis, based upon species and location of nest) of the nest tree shall be postponed until the end of the breeding season (September 15) or until the young have fledged and the young will no longer be impacted by project activities (as determined by a DPR-qualified biologist).
Bio SPR2 - Sensitive Bat Species	<ul style="list-style-type: none"> <li>• No work will occur between February 1 and September 31, if possible, to avoid the bat maternity season.</li> <li>• If work activities must be conducted during the bat maternity season (i.e., February 1 through September 31), a DPR-approved bat specialist will conduct a survey for bats within 100 feet of those project areas with suitable bat habitat. If bat roosts are observed, a buffer of 100 feet will be established around the roost in which only those activities that the bat specialist determines could occur without significant impacts to bats will be conducted within the buffer zone during the bat maternity season.</li> </ul>

Bio PSR2 - Howell's Spineflower and Point Reyes Ceanothus	<ul style="list-style-type: none"> <li>• Occurrences of Howell's spineflower adjacent to the existing Lake Cleone lift station and occurrences of Point Reyes ceanothus adjacent to the Haul Road along the southern replacement segment of the sewer force main will be flagged or otherwise identified on the ground. Fencing will be installed around the perimeter of these occurrences and construction monitors and work crews will be instructed to avoid these areas.</li> </ul>
Bio SPR3 - Sensitive Natural Communities	<ul style="list-style-type: none"> <li>• Proposed directional drilling operations between the new Pinewood Campground lift station and its terminus in the Pinewood Campground will occur at a minimum depth of three feet below the soil surface.</li> <li>• Proposed trenching operations in unpaved locations between the new Pinewood Campground lift station and its terminus in the Pinewood Campground will be manually excavated. No roots 2 inches or greater for any native tree with a dbh of 12 inches or greater will be severed unless authorized in advance by a DPR--approved biologist.</li> <li>• The north tie-in point for the northern replacement segment of the Haul Road sewer force main will be manually excavated from the edge of the Haul Road pavement to the connection point with the existing force main. No roots 2 inches or greater for any native tree with a dbh of 12 inches or greater will be severed unless authorized in advance by a DPR--approved biologist.</li> </ul>
Bio SPR4 - Sudden Oak Death	All project activities and proper that could spread <i>Phytophthora ramorum</i> to new locations will be subject to Best Management Practices (including proper sanitation measures) developed by the California Oak Mortality Task Force and available online at <a href="http://www.suddenoakdeath.org/index.html">http://www.suddenoakdeath.org/index.html</a> .
<b>Cultural Resources</b>	
Cultural SPR1 - Ground Disturbance Monitoring	<ul style="list-style-type: none"> <li>• A DPR qualified archaeologist will monitor all ground disturbing phases of this project at his/her discretion.</li> </ul>

Cultural PSR2 - Ground Disturbing Activities	<ul style="list-style-type: none"> <li>Only vehicles with rubber tires will be allowed to operate in the project area. Metal tracked vehicles are prohibited.</li> </ul>
	<ul style="list-style-type: none"> <li>All staging of equipment and materials will be limited to paved or hardened surfaces unless a DPR archaeologist approves an alternate location.</li> </ul>
	<ul style="list-style-type: none"> <li>A DPR archaeologist must review and approve the methods used to plug and abandon existing force main lines. A DPR archaeologist will flag off environmental sensitive areas prior to the start of construction to insure the protection of resources during project work.</li> </ul>
	<ul style="list-style-type: none"> <li>No mechanized equipment (backhoe, trencher, auger etc.) will be allowed off the paved surfaces of the Haul Road for any component of this project unless prior approval is obtained from the DPR archaeologist.</li> </ul>
	<ul style="list-style-type: none"> <li>Five wooden culvert boxes are located within the project areas on the Haul Road. Features associated with the wooden culvert boxes will be protected during work on the Haul Road and during culvert replacement/stabilization.</li> </ul>
	<ul style="list-style-type: none"> <li>All grading to reroute the drainage flow after installation of new culverts will be conducted using hand tools.</li> </ul>
	<ul style="list-style-type: none"> <li><u>Suspension of Archaeological Monitoring</u> – monitoring can be suspended by a DPR archaeologist in some locations of the APE where archaeological sensitivity is low and the archaeologist determines that it is unnecessary.</li> </ul>
	<ul style="list-style-type: none"> <li><u>Staging</u> - all staging of equipment and materials will be limited to paved or hardened surfaces unless a DPR archaeologist approves an alternate location.</li> </ul>
	<ul style="list-style-type: none"> <li><u>Plug and Abandon</u> – A DPR archaeologist must review and approve the methods used to plug and abandon existing force main lines.</li> </ul>
	<ul style="list-style-type: none"> <li><u>Fill Material</u> – if needed, fill material for project work will be procured from sources outside of the park.</li> </ul>
<ul style="list-style-type: none"> <li><u>Spoils</u> – Any spoils generated from the project must be taken outside of the park unless a DPR archaeologist reviews and approves any proposed spoil disposal areas within park.</li> </ul>	

	<ul style="list-style-type: none"> <li>• <u>A DPR archaeologist will flag-off environmentally sensitive areas</u> prior to the start of construction to insure the protection of resources during project work.</li> </ul>
Cultural PSR 3 - Inadvertent Finds during trenching for Force Main in Haul Road	<ul style="list-style-type: none"> <li>• If archaeological deposits are encountered during trenching for the new force main in the haul road, then trenching activities will be limited to disturbed soil above the deposit and mechanized equipment will be prohibited within the boundary of the site. From the point of encounter (archaeological deposit), all trenching will be hand dug until 10 meters beyond the horizontal extent of the site.</li> </ul>
Cultural SPR 4 – Inadvertent Finds	<ul style="list-style-type: none"> <li>• In the event that previously unknown cultural resources (including but not limited to dark soil containing shellfish, bone, flake stone, groundstone, or deposits of historic trash) are encountered during project work by anyone, the state representative will put work on hold at that specific location and contractors will be redirected to other areas (tasks). A DPR-qualified archaeologist will record and evaluate the find and work with the state representative to implement avoidance, preservation, or recovery measures as appropriate to any work resuming at that specific location.</li> </ul>
	<ul style="list-style-type: none"> <li>• In the event that significant cultural resources are found in the project location, a qualified historian and/or archaeologist will monitor all subsurface work including trenching, grading, and excavations in that area from that point forward to ensure avoidance of significant cultural resources .</li> </ul>
Cultural SPR 5- Discovery of Human Remains	<ul style="list-style-type: none"> <li>• 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 DRP 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.</li> </ul>

<b>Geology and Soils</b>	
Geo PSR1 - Seismic Design Features	<ul style="list-style-type: none"> <li>• HDPE pipelines, which are flexible in the event of ground movement, will be used to reduce the risk of system failure during seismic ground-shaking.</li> <li>• The new force main line will be placed within the existing sewer line for further protection during ground-shaking events.</li> <li>• Granular backfill will be used at all connection points of the pipe with structures to allow for ground movement during earthquake events.</li> </ul>
GEO SPR1 - Erosion Control BMPs	<ul style="list-style-type: none"> <li>• Prior to the start of construction, Contractor will prepare a Soil Loss Prevention Plan (SLPPP) 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, trenching, and repaving.</li> </ul>
<b>Hazardous and Hazardous Materials</b>	
Hazmat PSR1 – Spill Prevention	<ul style="list-style-type: none"> <li>• All equipment would be inspected for leaks immediately prior to the start of construction, and regularly inspected thereafter until equipment is removed from park premises.</li> <li>• A Spill Prevention, Control, and Countermeasure Plan (SPCC Plan) would be prepared prior to the start of construction and a spill kit maintained onsite throughout the duration of the project. This SPCC Plan would include a map delineating construction staging or storage areas and areas where refueling, lubrication, and maintenance of equipment may occur.</li> <li>• Equipment would be cleaned and repaired (other than emergency repairs) outside the park boundaries. All contaminated water, soil, sludge, spill residue, or other hazardous compounds would be disposed of outside park boundaries, at a lawfully permitted or authorized site map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur</li> </ul>

	<ul style="list-style-type: none"> <li>• Prior to the operation of the repaired sewer system, the Department will revise its Business Plan to include procedures that must be followed to prevent sewage from potentially being spilled into the environment as the result of severe winter storms and associated wave action on the integrity of sewer lines located adjacent to Lake Cleone.</li> <li>• Park unit employees will be trained in the proper procedures to follow to prevent sewage spills that may result from the wave action of severe winter storms.</li> </ul>
<p>Hazmat SPR1- Fire Safety</p>	<ul style="list-style-type: none"> <li>• A fire safety plan would be in place prior to the start of any construction, including identified fire suppression equipment and completion of any required employee training.</li> <li>• Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers would be required for all heavy equipment.</li> <li>• Construction crews would be required to park vehicles away from flammable material, such as dry grass and brush. At the end of each workday, heavy equipment would be parked over mineral soil, asphalt, or concrete to reduce the chance of fire.</li> <li>• A Hazardous Materials Abatement Plan and Specifications for the proper use, storage, and disposal of any flammable materials used on site would be prepared, in conjunction with the plan indicated in Hazmat-1 above, prior to start of work and implemented during all phases of the project.</li> <li>• Park staff would be required to have a State Park radio on site, which would allow direct contact with Mendocino County Fire Department and centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire. Fire suppression equipment would also be available within the park.</li> </ul>
<p><b>Hydrology and Water Quality</b></p>	
<p>Hydro SPR1 – Water Quality</p>	<ul style="list-style-type: none"> <li>• Implementation of Standard Project Requirement Geo 1 providing BMPs to control erosion and runoff during ground-disturbing construction activities.</li> <li>• The project would be in compliance with all applicable water quality standards and waste discharge requirements as specified in the Central Valley Regional Water Quality Control Board Basin Plan for the area.</li> </ul>

	<ul style="list-style-type: none"> <li>• Implementation of Standard Project Requirement Hazmat 1 will reduce impacts to water quality from possible pollutants (fuels and other vehicle fluids) released from vehicles and/or other equipment during construction.</li> </ul>
<b>Noise</b>	
Noise SPR1 - Noise Level Reduction	<ul style="list-style-type: none"> <li>• Construction activities will generally be limited to the daylight hours Monday – Friday from 7:00 a.m. to 7:00 p.m.; however, weekend work could be implemented to accelerate construction or address emergency or unforeseen circumstances. If weekend work is necessary, no work will occur on Saturday or Sunday before 8:00 a.m. or after 7:00 p.m.</li> <li>• 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.</li> </ul>

## **2.8 VISITATION TO MACKERRICHER STATE PARK**

Mackerricher State Park is open year round to visitors for picnicking, hiking, jogging, bicycling, wildlife viewing, swimming, fishing, equestrian use, camping and other recreational activities. The Preserve is available for light day-use activity, although with specific regulations to protect resource values.

According to the most recent Statistical Report from the California State Park System, visitation from July 2009 through June 2010 at Mackerricher State Park was 633,502 day-use visitors and 76,105 campers.

Most visitor activity is concentrated around popular areas such as Pudding Creek Beach, Laguna Point boardwalk, Lake Cleone, campgrounds and visitor center, and the old haul road trail between the trestle at Pudding Creek and Ward Avenue. The proposed project would not affect visitor use at any of these locations.

The Coastal Trail, which also includes the designated equestrian trail through the Park, runs along the shoreline on the beach and would not be permanently affected by the project.

The proposed project would temporarily exclude day-use visitors from areas within the Preserve where work is being conducted.

## **2.9 CONSISTENCY WITH LOCAL PLANS AND POLICIES**

All project components would be implemented within the boundaries of Mackerricher State Park and would be consistent with the CSP mission and management directives aimed at protecting public health, natural and cultural resources while providing for public recreational opportunities. This project would not conflict with local plans or land-use policies for the immediate area or for adjacent landowners, nor for the County of Mendocino Local Coastal Plan.

## **2.10 DISCRETIONARY APPROVALS**

The California Department of Parks and Recreation (CSP) retains approval authority for the proposed Force Main and Sewer Lift Station Replacement Project at Mackerricher State Park. However, this project requires consultation with:

- Mendocino County
- City of Fort Bragg
- North Coast Regional Water Quality Control Board

## **2.11 RELATED PROJECTS**

CSP often has smaller maintenance programs and rehabilitation projects planned for a park unit. In addition, CSP has a number of projects that are either in construction or expected to move forward over the next two years.

### Inglenook Fen – Ten Mile Dunes Natural Preserve Dune Rehabilitation Project

Restore ecosystem processes that are crucial to the viability of endangered species and their habitats in the Inglenook Fen-Ten Mile Dunes Natural Preserve (Preserve) by removing up to 2.7 miles (4.3 km) of asphalt road and portions of or the entire underlying rock base in foredune habitat, removing up to three culverts and restoring the stream channel, and treating approximately 60 acres (24.3 hectares) of European beachgrass and other nonnative weeds. Mitigation measures are incorporated to assure that restoration and enhancements would not result in significant adverse effects.

Glass Beach Coastal Headlands Restoration Project – With funding from an internal Coastal Impact Assistance Program (CIAP) grant, CSP is removing approximately five acres (2.02 ha) of non-native, invasive plants, and restoring approximately one acre (0.4 ha) of eroded areas impacted by volunteer trails. The Glass Beach Headlands is a 30+ acre (12 ha) parcel located at the southern end of MacKerricher State Park, approximately 5 miles south of the Dune Rehabilitation project area, that supports the only known population of Point Reyes *Blennosperma* that occurs north of Point Reyes. Natural resource staff has begun hand removal of non-native plants, as well as collecting seeds of native plants.

Eradication of European beachgrass – The removal of European beachgrass has been an ongoing integrated pest management project in the Preserve since approximately 2000. A 2-acre (0.8 ha) patch north of Inglenook Creek and a 3.5-acre (1.4 ha) patch south of Fen Creek were pulled by hand from 2001-2004. In September 2006 an 80-acre (32.4 ha) prescribed burn was conducted to reduce the European beachgrass thatch and promote new, green shoots for herbicide treatment the following year. Since 2007 different areas of European beachgrass have been treated and retreated with glyphosate and imazapyr herbicides.

### CHAPTER 3 ENVIRONMENTAL CHECKLIST

#### PROJECT INFORMATION

1. Project Title: Force main and Sewer Lift Station Maintenance and 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: MacKerricher 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: State Park
7. Zoning: Open Space/Recreation
8. Description of Project:  
The Department of Parks and Recreation proposes to replace the force main and sewer lift station near Lake Cleone at MacKerricher State Park to prevent the discharge of sewage into adjacent water bodies and the Pacific Ocean.
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, Section 2.9 Public Agencies

**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.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agricultural Resources             | <input type="checkbox"/> Air Quality            |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources      | <input type="checkbox"/> Geology/Soils          |
| <input type="checkbox"/> Hazards & Hazardous Materials   | <input type="checkbox"/> Hydrology/Water Quality            | <input type="checkbox"/> Land Use/Planning      |
| <input type="checkbox"/> Mineral Resources               | <input type="checkbox"/> Noise                              | <input type="checkbox"/> Population/Housing     |
| <input type="checkbox"/> Public Services                 | <input type="checkbox"/> Recreation                         | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems       | <input type="checkbox"/> Mandatory Findings of Significance | <input type="checkbox"/> 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.

*Don Osanna for Patti DuMont*

Patricia DuMont  
Environmental Coordinator

*7-23-12*

Date

## 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

MacKerricher State Park is one of California’s largest and finest coastal parks. It contains many varied natural communities including extensive dunes, unique wetland habitats, and a relatively undisturbed marine environment typical of the northern California coast. Important scientific resources in the Park range from several sensitive and rare plant and animal species to Inglenook Fen, the only coastal fen in California. In addition, MacKerricher’s cultural resources chronicle Native American activities in the area dating back more than 2,000 years.

The park spans 10 miles of coastline, starting at Glass Beach in Fort Bragg, and continuing north up the coast to Ten Mile River. An old haul road passes through MacKerricher, parallel to the coastline. Between the highway and ocean an extensive dune system covers more than 1,200 acres, one of the major scenic attractions and prominent features of the Park. The sweeping vista of undulating dunes formed at the ocean’s edge and sculpted by relentless wind is a visual opportunity found in few other places in the state. Hidden among the ridges and swales are pockets of life where highly specialized plants take hold in the shifting sands, including the unique flora of the Inglenook Fen, a relic plant community from the last ice age. In spring and summer, low mats of vegetation carpet the dunes with delicate and colorful blooms. Meandering tracks of insects, birds, small mammals and larger predators provide further proof that this harsh environment supports a rich diversity of life.

The project occurs in the southern section of the park from the Pinewood Campground at Lake Cleone to the northern portion of the City of Fort Bragg.

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

### DISCUSSION

- a) The proposed project would temporarily affect the scenic qualities of the park in the immediate vicinity of the work. Construction equipment, materials and crew activities have the potential to disrupt visitors’ enjoyment of the natural landscape for the duration of the

project. However, upon completion the park would be returned back to its original appearance. Due to the temporary nature of the work, the project would have a less than significant impact on scenic vistas.

- b) Highway 1 is a designated National Scenic Byway, but is not an officially designated State Scenic Highway in this portion of Mendocino County. Highway 1 runs adjacent to some portions of the park, but the majority of the project site would not be visible from the highway. The proposed project would not damage any scenic resources or historic buildings within a state scenic highway and would therefore have no impact.
- c) As with any construction project, there would be some temporary decrease in the visual appeal of the area immediately affected by the work being performed. The presence of construction vehicles and other support equipment and associated emissions and noise may make it difficult for visitors to appreciate and experience the visual character and quality of the project site and the surrounding landscape. The project would enhance the visual character of the site by replacing portions of the existing main that are exposed and removing an restroom that suffers from periodic inundation by tides. There would be no permanent or long-term degradation of the visual character of the site or its surroundings as a result of this project. Therefore, the impact from this project would be less than significant.
- d) Lighting is not an element of this project and no new light sources would be introduced into the landscape. All construction work would be limited to daylight hours, eliminating the need for work lights. The proposed project would have no impact.

## II. AGRICULTURAL RESOURCES AND FOREST RESOURCES

### Environmental Setting

The proposed project is located in MacKerricher State Park. The land within MacKerricher State Park is zoned open space. None of the land within or immediately adjacent to MacKerricher SP is zoned as forest land or timberland production. The proposed project area contains no land zoned for agriculture or in agricultural use, forest land or timberland production. None of the land within MacKerricher SP is zoned for agricultural use, enrolled under the Williamson Act (California Land Conservation Act of 1965), or included in any of the Important Farmland categories, as delineated by the California Department of Conservation, under the Farmland Mapping and Monitoring Program (FMMP).

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT*:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

\* 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. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

### Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Agricultural Resources is based on criteria II a-c, described in the environmental checklist above.

### DISCUSSION

- a) As noted in the Environmental Setting above, MacKerricher SP does not support any agricultural operations. All work proposed as part of this project in the Park would be confined within park

boundaries. No land adjoining the park is zoned as agricultural land or used for agricultural purposes, as defined by the United States Department of Agriculture land inventory and monitoring criteria (modified for California). The Force Main and Sewer Lift Station Project would not cause the conversion of any prime, unique or important farmlands to non-agricultural use.

- b) This project would have no effect on any category of California Farmland and would not conflict with any existing zoning for agricultural use or Williamson Act contract. No impact..
- c) This project would not conflict with any existing zoning or cause rezoning of forest land or timberland. No impact.
- d) No aspect of this project would result in the loss of forest land or conversion of forest land to non-forest use. No impact.
- e) The Force Main and Sewer Lift Station Project would not cause changes to the existing environment that would result in the conversion of any farmlands or forest land to non-agricultural or non-forest uses. No impact.

### III. AIR QUALITY

#### Environmental Setting

MacKerricher SP is in Mendocino County, part of the North Coast Air Basin (Basin), the Mendocino County Air Quality Management District (MCAQMD), and the U.S. Environmental Protection Agency Region IX. Ocean winds, moderate levels of highway traffic, and a small industrial base result in relatively clean air in the vicinity of the Park.

According to the MCAQMD, the entirety of the Basin has been designated as “attainment” for all criteria pollutants including; Ozone, CO<sub>2</sub>, NO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub>, NH<sub>3</sub> and Reactive Organic Gases (ROG), under federal Clean Air Act guidelines. However, the MCAQMD is in “non-attainment”, having not met the state standard under the California Clean Air Act for a specified pollutant, particulate matter sized less than 10 microns (PM<sub>10</sub>). In accordance with state non-attainment status for PM<sub>10</sub>, MCAQMD has created the required Particulate Matter Attainment Plan to work toward attainment. The final draft of 2005 sets a target of “reasonable improvement” or a 5% reduction in PM<sub>10</sub> emissions per year as a goal until attainment is reached. In June of 2010 the MCAQMD recommended that project planning agencies follow the Bay Area Air Quality Management District (BAAQMD) CEQA guideline thresholds to evaluate new projects.

The MCAQMD has high levels of biogenic volatile organic compounds (VOC) many of which are ROGs which through complex chemical reactions with ozone (O<sub>3</sub>) result in PM<sub>10</sub> creation. Higher rates of PM<sub>10</sub> in the coastal Fort Bragg area, relative to the rest of the MCAQMD, are attributable to geogenic conditions of salt released into the air from the ocean. Additional PM<sub>10</sub> sources are anthropogenic, including more hazardous particle matter less than 2.5 microns in size (PM<sub>2.5</sub>) often associated with combustion engines. Wood smoke also contains PM<sub>2.5</sub> which tends to bind into PM<sub>10</sub> after some time. As of 2009 Mendocino County had no high emitting facilities for any criteria pollutants (ARB, 2009).

PM<sub>10</sub> levels fluctuate in the coastal area of the MCAQMD seasonally relative to temperature and rainfall. Highest levels of PM<sub>10</sub> are registered in the late fall as temperatures dip and seasonal rains have yet begun. The increase in woodstove use, fugitive dust and lifting of burn bans are all anthropogenic factors adding to the heightened levels. Once winter rains begin, fugitive dust diminishes, lowering PM<sub>10</sub> levels. The MCAQMD has seen a decrease in the PM<sub>10</sub> levels from the late 1980’s through the 1990’s to the early 2000’s, attributable to increased rain amounts, improvements in emissions and efficiency of combustion engines, reductions in forest industry activities, enforcement of district outdoor burning policies and woodstove emission standards implementation.

MacKerricher State Park is bordered by the Pacific Ocean on the west side and small residential neighborhoods which lie between the eastern edge of the Park and Highway One. The residential neighborhoods to the northeast, east and southeast contribute compounds creating criteria pollutants through the use of wood burning stoves, burning carbon based fuels, and operating primarily light duty combustion engines.

<b>WOULD THE PROJECT*:</b>	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
a) Conflict with or obstruct implementation of the applicable air quality plan or regulation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations (e.g., children, the elderly, individuals with compromised respiratory or immune systems)?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

\* 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.

### Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Air Quality is based on criteria III a-e, described in the environmental checklist above.

### DISCUSSION

- a) Work proposed by this project, and any associated emissions, would not conflict with or obstruct the implementation of any applicable air quality management plan for MCAQMD  
No impact.
  
- b-c) The proposed project would not emit air contaminants at a level that, by themselves, would violate any local, state, or federal ambient air quality standard (AAQS), or contribute to a permanent or long-term increase in any air contaminant. However, project construction would generate short-term emissions of fugitive dust (PM10) and involve the use of equipment that would emit ozone precursors (i.e., reactive organic gases [ROG] and nitrogen oxides, or NOx). Increased emissions of PM10, ROG, and NOx could contribute to existing non-attainment conditions and interfere with achieving the projected attainment standards. Consequently, construction emissions would be considered a potentially significant short-term adverse impact. Implementation of Standard Project Requirements implemented during the project would minimize generating compounds contributing to criteria pollutants would reduce potential impact to a less than significant level.
  
- d) As noted in the discussion above, project construction would generate dust and equipment exhaust emissions for the duration of the project. No residences are located in the project site; however, day use areas are located nearby. Park visitors with conditions that make them sensitive to these emissions would have the option of avoiding the area altogether or remaining in portions of the park that would be upwind or protected from blowing dust or other emissions. These conditions, in conjunction with Standard Project Requirements would reduce the potential adverse impact to a less than significant level.

- e) During project activities there would be temporary increases in pollutants and odors associated with project vehicles and equipment. Implementation of Standard Project Requirements would minimize these impacts and all thresholds under guidelines from the MCAQMD would be met. The project would not subject sensitive receptors to substantial pollutant concentrations or substantial objectionable odors affecting a substantial number of people. The project would have a less than significant impact.

## IV. BIOLOGICAL RESOURCES.

### ENVIRONMENTAL SETTING

Mackerricher State Park (MSP) is a 2519-acre unit of coastal Mendocino County located west of State Route 1 and stretching approximately nine miles from the north end of the city of Fort Bragg to the Ten Mile River. Park acreage includes tidal and submerged lands leased from the State Lands Commission for an underwater park and terrestrial lands leased from the federal Bureau of Land Management.

The southern portion of MSP consists of a coastal terrace dissected by small to medium sized drainages and terminating in steep, rock bluffs and isolated beaches. A relatively gentle topography, highlighted by Lake Cleone and surrounding wetlands and coniferous forests, characterizes the central portion of MSP. Most of the park acreage occurs north of Lake Cleone, consisting primarily of an extensive dune system punctuated by small seasonal wetlands and two large wetland complexes, including a very rare coastal fen. A continuous stretch of beach extends from Laguna Point north to the Ten Mile River.

Grasslands and coastal scrub vegetation predominate on the coastal terraces south of Laguna Point. Coniferous forest dominated by bishop pine (*Pinus muricata*) and shore pine (*Pinus contorta* ssp. *contorta*) occupy upland areas surrounding Lake Cleone, while wetland/riparian vegetation occur in low-lying areas adjacent to the lake and its primary source, Mill Creek. The dune system north of Lake Cleone supports dune scrub, grassland swales, and wetland/riparian vegetation (Inglenook Fen, Inglenook Creek) contrasting with larger areas of barren sand. A narrow strip of coastal strand vegetation borders the park's beaches.

Vegetation within or immediately adjacent to the project areas consist of nine vegetation types (equivalent to plant communities). These are:

- *Pinus contorta* ssp. *contorta* Alliance/*Pinus muricata* Alliance
- *Carpobrotus chilensis* Alliance
- *Holcus lanatus*/*Anthoxanthum odoratum* Semi-natural Non-native Stand
- *Agrostis stolonifera* Semi-natural Non-native Stand
- *Rubus discolor* Semi-natural Non-native Stand
- Coastal Brackish Marsh
- Northern Coastal Scrub
- California Annual Grassland Alliance

Five of these types are classified as Alliances or Semi-natural Non-native Stands, 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 (CDFG) Vegetation Classification and Mapping Program (CDFG 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). Two of the vegetation types, Coastal Brackish Marsh and Northern Coastal Bluff Scrub, are not adequately described by this classification

system and more closely correspond to “terrestrial natural communities” described by Holland (1986), a precursor to the current system.

Shore pine and to a lesser extent bishop pine dominate the canopy of the *Pinus contorta* ssp. *contorta* Alliance. Locations dominated by bishop pine constitute the *Pinus muricata* Alliance. Common shrub and herbaceous species include wax myrtle (*Myrica californica*), salal (*Gaultheria shallon*), twinberry (*Lonicera involucrata*), bracken fern (*Pteridium aquilinum* var. *pubescens*), reed grass (*Calamagrostis nutkaensis*), California blackberry (*Rubus ursinus*), false Solomon’s seal (*Smilacina stellata*), hedge nettle (*Stachys ajugoides* var. *rigida*), and non-native velvet grass (*Holcus lanatus*). The Pinewood and Surfwood Campground project sites and the northern segment of the Haul Road sewer force main (i. e. south end of Laguna Point) are located within these vegetation types.

The *Carpobrotus chilensis* Alliance is dominated by sea fig (*Carpobrotus chilensis*), with minor amounts of seashore lupine (*Lupinus littoralis*), dune rush (*Juncus leseurii*), and non-native wild radish (*Raphanus raphanistrum*). This vegetation type is limited to areas surrounding the old and proposed new lift stations at Lake Cleone.

Velvet grass and/or sweet vernal grass (*Anthoxanthum odoratum*), both non-native species, dominate the *Holcus lanatus*/*Anthoxanthum odoratum* Semi-natural Non-native Stand. Other common species include native bracken fern and non-native species such as bird’s-foot trefoil (*Lotus corniculatus*), rattlesnake grass (*Briza maxima*), and English plantain (*Plantago lanceolata*). Within the project areas, this vegetation occurs along the northern segment of the Haul Road sewer force main line and at the site of the proposed Pinewood lift station.

While not widely distributed in MSP, the *Agrostis stolonifera* Semi-natural Non-native Stand occurs in a patchy distribution on relatively moist sites adjacent to Lake Cleone, including a location just south of the comfort station. Creeping bentgrass (*Agrostis stolonifera*), a water-loving species, dominates this vegetation type. Other common species include beach cinquefoil (*Potentilla anserina* ssp. *pacifica*) and water parsley (*Oenanthe sarmentosa*). This vegetation intergrades with Coastal Brackish Marsh in more moist locations.

Coastal Brackish Marsh is composed of several water-loving species, including slough sedge (*Carex obnupta*), dune rush, creeping bentgrass, beach cinquefoil, water parsley, and broad-leaved cattail (*Typha latifolia*). This wetland community occurs on the west side of Lake Cleone where weakly brackish conditions exist due to the proximity of the Pacific Ocean.

Himalaya berry (*Rubus discolor*, syn. *Rubus armeniacus*) dominates the *Rubus discolor* Semi-natural Non-native Stand, although several other species may co-dominate with Himalaya berry, depending on location. In drier locations wax myrtle and salal are common, while in more moist locations this vegetation may be co-dominated by Himalaya berry and several other species such as slough sedge, giant horsetail, and water parsley. Within the project areas *Rubus discolor* Semi-natural Non-native Stand occurs along the Haul Road south of Laguna Point in small patches surrounded by other vegetation types, such as *Holcus lanatus*/*Anthoxanthum odoratum* Semi-natural Non-native Stand and Northern Coastal Scrub.

Although a native vegetation type, Northern Coastal Scrub is poorly developed and somewhat degraded within the project areas; it is largely restricted to locations south of Laguna Point. Depending on location, this vegetation is composed of such species as coyote brush (*Baccharis pilularis*), Douglas Iris (*Iris douglasiana*), cow parsnip (*Heracleum lanatum*), seaside daisy (*Erigeron glaucus*), bracken fern, California aster (*Lessingia filaginifolia*), gumplant (*Grindelia stricta* var, *platyphylla*), English plantain, and velvet grass.

## **SPECIAL-STATUS SPECIES**

Sensitive biological resources that occur or potentially occur in or near the proposed project area 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 (SSC), 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.

All special-status species and their habitats were evaluated for potential impacts from the proposed MacKerricher SP Relocate Sewer Force Main and Sewage Lift Stations Project. Existing available data, such as the MacKerricher State Park General Plan (DPR 1995), were collected and reviewed to determine the proximity of special status plants, animals, and their habitats to the project areas. Queries of the California Department of Fish Game's California Natural Diversity Database (CDFG 2009), the California Native Plant Society's<sup>1</sup> On-line Inventory (CNPS 2009), and the U.S. Fish and Wildlife Service (USFWS 2009) were conducted for special-status species and habitats within the Fort Bragg and five 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 area and the impacts this project could cause to these species.

## **PLANT SPECIES**

Forty-nine special-status plant species have been identified by the California Natural Diversity Data Base (CNDDDB 2009), CNPS (2009), and/or the USFWS (2009) for the Fort Bragg and five surrounding USGS quads. Seventeen of these species are reported to occur or have a potential to occur within or adjacent to the project areas (Appendix 1). Suitable habitat is available within the project areas for eleven of the seventeen species, which are described below.

---

<sup>1</sup> 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.

Extensive surveys for special status plant species were conducted in 2001 in the southern portion of MSP from just north of Lake Cleone to Pudding Creek (EDAW, Inc. 2001). Additional surveys were conducted by DPR biologists in the project areas in 2007, 2008, and 2009 (DPR 2007, 2008, 2009) during the appropriate blooming periods.

### **Special-Status Plant Species that are Known to Occur, or Could Potentially Occur within the Project Area**

**Blasdale's bent grass** (*Agrostis blasdalei*) – Blasdale's bent grass is a CNPS List 1B.2 perennial herb of coastal Santa Cruz, Marin, Sonoma, and Mendocino Counties that blooms May through July. It occupies coastal dunes, coastal scrub, coastal bluff scrub, and coastal prairie habitats at elevations of approximately 20 feet to 500 feet above mean sea level (amsl). Although known to occur in MSP (DPR no date), this species has not been located within any of the project areas during surveys conducted by DPR biologists (DPR 2007, 2008, 2009). EDAW, Inc. (2001) reported a location for Blasdale's bent grass near the north tie-in point for the northern replacement segment of the Haul Road sewer force main line.

**Dark-eyed gilia** (*Gilia millefoliata*) – Dark-eyed gilia is a CNPS List 1B.2 annual herb that blooms April through July. It is restricted to coastal dunes habitat from Marin County north to Oregon at elevations of approximately 6 feet to 765 feet amsl. Although this species has been identified in MSP (DPR no date) it has not been located within any of the project areas during surveys conducted by DPR biologists (DPR 2007, 2008, 2009).

**Dune gilia** (*Gilia capitata* ssp. *chamissonis*) – Dune gilia is a CNPS List 1B.1 annual herb that blooms April through July in coastal dunes and coastal scrub habitats at elevations of approximately 6 feet to 660 feet amsl. It occurs from San Francisco to Mendocino Counties and has been reported from MSP (DPR no date), but has not been located within any of the project areas during surveys conducted by DPR biologists (DPR 2007, 2008, 2009).

**Howell's spineflower** (*Chorizanthe howellii*) – Howell's spineflower is a CNPS List 1B.2 annual herb that is listed as state Threatened and federally Endangered. It blooms May through July at elevations from sea level to approximately 120 feet amsl in coastal dunes, coastal prairie, and sandy coastal scrub habitats within MSP (DPR no date) or locations immediately adjacent to the park. Howell's spineflower occurs in sandy areas at or adjacent to two project locations: 1) Along the sewer force main alignment between the new Lake Cleone lift station and the new Pinewood Campground lift station (this section of the force main would be slip-lined); and 2) Approximately 10 feet west of the existing Lake Cleone lift station that is proposed to be abandoned (2007, 2008, 2009).

**Maple-leaved checkerbloom** (*Sidalcea malachroides*) – Maple-leaved checkerbloom is a CNPS List 4.2 perennial herb that blooms April through August. It inhabits coastal prairie, coastal scrub, coastal coniferous forest, and broad-leaved upland forest habitats at elevations from approximately 10 feet to 2,300 feet in elevation amsl. It is reported to occur from Santa Cruz to Del Norte Counties, and has been identified in MSP (DPR no date), but has not been located in any of the project areas during surveys conducted by DPR biologists (DPR 2007, 2008, 2009).

**North Coast phacelia** (*Phacelia insularis* var. *continentis*) – North Coast phacelia is a CNPS List 1B.2 annual herb that is restricted to coastal dunes and coastal bluff scrub habitats of Mendocino and Marin Counties. It blooms March through May at elevations from approximately 30 feet to 550 feet amsl and has been identified in MSP (DPR no date). North Coast phacelia occurs in sandy areas along the section of the sewer force main proposed to be slip-lined between the new Lake Cleone lift station and the new Pinewood lift station (EDAW, Inc. 2001; DPR 2007, 2008, 2009).

**Pacific gilia** (*Gilia capitata* ssp. *pacifica*) – Pacific gilia is a CNPS List 1B.2 annual herb that blooms from May through August in coastal bluff scrub and coastal prairie habitats. It occurs from Mendocino County north to Oregon at elevations from approximately 15 feet to 990 feet amsl. Pacific gilia has been identified in MSP (DPR no date), but has not been located in any of the project areas during surveys conducted by DPR biologists (DPR 2007, 2008, 2009).

**Point Reyes ceanothus** (*Ceanothus gloriosus* var. *gloriosus*) – Point Reyes ceanothus is a CNPS List 4.3 shrub species that occurs in coastal dunes, coastal scrub, coastal bluff scrub, and closed-cone coniferous forest habitats of Mendocino, Marin, and Sonoma Counties. It blooms from March through May and ranges in elevations from approximately 20 feet to over 1700 feet (amsl). Two patches of Point Reyes ceanothus have been located immediately adjacent to the Haul Road along the southern replacement segment of the sewer force main line (EDAW, Inc. 2001; DPR 2009).

**Purple-stemmed checkerbloom** (*Sidalcea malviflora* ssp. *purpurea*) – Purple-stemmed checkerbloom is a CNPS List 1B.2 perennial herb that blooms May through June. It occurs from San Mateo to Mendocino Counties in broad-leaved upland forest and coastal prairie habitats at elevations of approximately 50 feet to 210 feet amsl. Although reported from MSP (DPR no date), purple-stemmed checkerbloom has not been located within any of the project areas during surveys conducted by DPR biologists (DPR 2007, 2008, 2009).

**Round-headed Chinese houses** (*Collinsia corymbosa*) – Round-headed Chinese houses is a CNPS List 1B.2 annual herb that blooms from April to June and is restricted to coastal dunes habitat. It occurs from Sonoma to Humboldt Counties at elevations from sea level to approximately 65 feet amsl. Round-headed Chinese houses occurs in sandy areas along the section of the sewer force main between the new Lake Cleone lift station and the new Pinewood Campground lift station (EDAW, Inc. 2001; DPR 2009).

**Short-leaved evax** (*Hesperis matronalis* var. *brevifolia*) – Short-leaved evax is a List 1B.2 annual herb that inhabits sandy coastal bluff scrub and coastal dunes habitats at elevations from sea level to approximately 700 feet amsl. It blooms from March through June in coastal areas from Sonoma County north to Oregon. Short-leaved evax occurs in sandy areas along the section of the sewer force main line between the new Lake Cleone lift station and the new Pinewood Campground lift station (DPR 2009). EDAW, Inc. (2001) reported a location for short-leaved evax near the north tie-in point for the northern replacement segment of the Haul Road sewer force main; however, it was not located in this project area during surveys conducted in 2007-2009 (DPR 2007, 2008, 2009).

## WILDLIFE SPECIES

Thirty-eight special status wildlife species have been identified by the California Natural Diversity Data Base (CNDDDB 2009) and/or the United States Fish and Wildlife Service (USFWS 2009) for the Fort Bragg and five surrounding USGS quads (Appendix 2). Based on unpublished biological surveys and inventories there are several other special status wildlife species that are known or suspected to occur in MSP. Suitable habitat is available in or adjacent to the project areas for sixteen special status wildlife species, which are described below.

### **Special-Status Wildlife Species that are Known to Occur, or Could Potentially Occur within the Project Area**

**Ten Mile shoulderband** (*Noyo intersessa*) – Ten Mile shoulderband is an invertebrate species that inhabits coastal dunes, coastal scrub, montane riparian, and redwood forest habitats (Mendocino County 2009). This snail species has been reported from MSP at Pudding Creek and north of Ward Avenue at the south end of Ten Mile Beach (CNDDDB 2009). Potential habitat for Ten Mile shoulderband is located within project areas with a sandy substrate (e.g. between the new Lake Cleone lift station and the new Pinewood Campground lift station).

**Northern red-legged frog** (*Rana aurora*) – Northern red-legged frog is a California Species of Special Concern (SSC) amphibian species that breeds in permanent water bodies such as ponds, lakes, slow moving streams, marshes and wetlands from Mendocino County to British Columbia, Canada (Jennings and Hayes 1994; Stebbins 2003). Northern red-legged frogs are known to inhabit the Inglenook Fen portion of MSP (CDFG 2009) and suitable habitat may be present in Lake Cleone. Although the related California red-legged frog (*Rana draytonii*) has been reported from northern Mendocino County, biologists have determined it does not range north of Elk Creek (AmphibiaWeb 2009).

**Western pond turtle** (*Actinemys marmorata*) – Western pond turtle is a SSC species that 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; Stebbins 2003). Mating usually occurs in April and May and females then lay eggs in upland nest locations. Nests must have sufficient internal humidity for eggs to develop and hatch properly (Jennings and Hayes 1994). Potential aquatic habitat for the western pond turtle is found in Lake Cleone.

**Purple martin** (*Progne subis*) – Purple martin is a SSC avian species that inhabits woodlands and coniferous forests at low to intermediate elevations throughout much of the state (Shuford and Gardali 2008). Conifer snags (occasionally dead-top trees and hardwood snags) are the most common nesting substrate in more than 70% of the California population. Purple martin nests in California from March through August, with its most active period in June, and migrates to South America during the winter months. Suitable habitat may be available in forested project areas such as the Pinewood and Surfwood Campgrounds.

**Western snowy plover** (*Charadrius alexandrinus nivosus*) – Western snowy plover is a small

shorebird that is federally listed as Threatened and a California Species of Special Concern. The Pacific coast population of the snowy plover nests adjacent to tidal waters of the Pacific Ocean, including all nesting locations on the mainland coast, peninsulas, offshore islands, adjacent bays, estuaries, and coastal rivers (USFWS 2009). It breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. Breeding habitat includes locations above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Sandy, gravelly, or friable soils for nesting are required. This species is known to nest within a USFWS-designated Snowy Plover Recovery Unit (CA-14) at MSP near Virgin Creek; however, no suitable habitat is available within or adjacent to project areas.

**Osprey** (*Pandion haliaetus*) – Osprey is a large diurnal raptor with long narrow wings, dark brown upperparts, white underparts, and a white head with a prominent dark eye streak (NatureServe 2009). Ospreys typically build large stick nests both on living and dead trees, but also will use numerous human-made structures such as utility poles, wharf pilings, etc. Since ospreys eat fish almost exclusively they are closely associated with bodies of water, including salt marsh, lake, bog, reservoir or river. Ospreys are known to inhabit the Lake Cleone area.

**Other Raptors** – Several other raptor species are known to occur within MSP, including short-eared owl, northern harrier, white-tailed kite, Cooper's hawk, and sharp-shinned hawk. All are California Species of Concern except for the white-tailed kite, which is a California Fully Protected Species. There is a potential for these species to nest within the general vicinity of the project areas.

**Nesting Migratory Birds and Raptors** 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 the project areas.

**Sensitive bat species** – There are several sensitive bat species that may occur within MSP. Some of these species have been known to roost in tree cavities. The California Species of Concern bats that might roost within the project areas are the pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*). Other sensitive bat species that might roost within the project areas are the long-eared myotis (*Myotis evotis*), the long-legged myotis (*Myotis volans*), and the Yuma myotis (*Myotis yumanensis*).

## **SENSITIVE NATURAL COMMUNITIES**

Sensitive plant communities are those that 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. The California Department of Fish Game's California Natural Diversity Database (CNDDB) maintains a list of the state's plant communities (also known as alliances) and identifies those of high inventory priority due to their rarity and threat. These are considered sensitive natural

communities by regulatory agencies.

A search of the CNDDDB records produced a list of seven sensitive natural plant communities for the Fort Bragg and surrounding 7.5-minute quadrangles, none of which occur within project areas. CNDDDB records are reported observations from knowledgeable scientists and laypeople, but are not complete records of every possible sensitive vegetation type in a given area, and do not necessarily represent the latest accepted classification methodology. Hence, two sensitive natural plant communities not reported in the CNDDDB records for these quads but recognized as sensitive by CDFG (2007) occur in the Pinewood and Surfwood Campground sites and the south end of Laguna Point. These are the *Pinus contorta* ssp. *contorta* Alliance and *Pinus muricata* Alliance.

Riparian habitat, which is identified by Mendocino County (2009) as “Environmentally Sensitive Habitat” (ESHA), occurs within project areas south of Laguna Point. A few small intermittent stream systems with associated riparian habitat drain under the Haul Road through culverts, three of which would be replaced through project implementation.

### **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 2009). 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.

Mendocino 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 2009). 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 (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. There 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.

The California Coastal Commission defines wetlands as all “lands which may be covered periodically or permanently with shallow water...” (Section 30121, Coastal Act). The presence of only one of the three wetland parameters (i.e., soils, vegetation, or hydrology) that are needed to meet the USACE definition of a wetland is needed to meet the criteria for a Coastal Commission wetland.

There are both Coastal Commission-defined wetlands and USACE wetlands and Waters of the U.S. at MSP. Extensive USACE-jurisdictional wetlands border the west side of Lake Cleone, but do not extend into project areas. A few small, intermittent drainages that are potentially USACE-jurisdictional Waters of the U.S. pass through culverts under the Haul Road and the sewer force main south of Laguna Point. A small California Coastal Commission-defined wetland occupies the site of the south tie-in point for the northern replacement segment of the Haul Road sewer force main. Small disconnected patches of California Coastal Commission-defined wetlands occur along the route of the sewer force main between the new Pinewood Campground lift station and its terminus in Pinewood Campground.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Criteria for Determining Significance**

The analysis of determining the significance of impacts of the Proposed Action to Biological Resources is based on criteria III a-f, described in the environmental checklist above.

**DISCUSSION**

a) The proposed project would construct two lift stations (at Surfwood Campground and near Pinewood Campground), replace portions of the sewer force main in several locations from south of Laguna point to Pinewood Campground, provide other sewer infrastructure (e.g. electrical power connections), and replace three wooden culverts, and decommission/abandon two lift stations. Replacement of sections of the sewer force main will be accomplished by either slip-lining the existing lines or directionally drilling and/or trenching new lines, which will require excavations. Installation of electrical power connections will require trenching to connect to existing power sources. Installation of new culverts will require limited grading in small coastal drainages. Decommissioning/abandoning lift stations at Virgin Creek and the Lake Cleone area will require limited to moderate ground disturbing activities.

In order to reduce impacts to sensitive, candidate, or special status species to a less than significant level, **Project Requirements** would be incorporated into the project description and implemented.

(i) **Ten Mile shoulderband.** Potential habitat for the sensitive Ten Mile shoulderband snail occurs within project areas with sandy substrates, including the sewer force main segment between the new Lake Cleone lift station and the new Pinewood Campground lift station and the Lake Cleone and Virgin Creek lift Stations which are proposed to be decommissioned and abandoned. Ground disturbing activities could have a significant impact to Ten Mile shoulderband within project areas. Implementation of **Project Requirement Bio-1: Ten Mile**

**Shoulderband** (see Chapter 2, Project Description) would reduce any potential impacts to a less than significant level.

(ii) **Northern red-legged frog.** Although suitable breeding habitat for Northern red-legged frog may be present in Lake Cleone, there is no potential breeding or upland habitat available for this species within any of the project areas. No impact.

(iii) **Western pond turtle.** Potential aquatic habitat for this species is found in Lake Cleone, but not within project areas. Upland breeding habitat is not available within project areas because these locations lack sufficient internal nest humidity for eggs to develop and hatch properly. No impact.

(iv) **Western snowy plover.** Western snowy plover is a small shorebird that is federally listed as Threatened and a SSCSSC species. Although known to nest in MSP, no nesting or foraging habitat would be affected by project implementation. No impact.

(v) **Nesting Bird Species.** Nesting Migratory Birds and Raptors 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 the project areas;

**Purple martin and other sensitive migratory bird species.** Suitable habitat for purple martin may be available in forested project areas such as the Pinewood and Surfwood Campgrounds. Suitable habitat may also be available within project areas for other sensitive migratory bird species.

**Osprey and other raptors.** . Since ospreys eat fish almost exclusively they are closely associated with bodies of water and are known to inhabit the Lake Cleone area. Several other special-status raptor species are known to occur within MSP, including short-eared owl, northern harrier, white-tailed kite, Cooper's hawk, and sharp-shinned hawk. All are SSC species except for the white-tailed kite, which is a California Fully Protected Species (FP). There is a potential for these species to nest within the general vicinity of the project areas.

If migratory birds or raptors are present within the project areas, temporary impacts to nesting birds could result from project implementation. No permanent habitat loss would occur as a result of the project. Implementation of **Standard Project Requirement Bio-2: Nesting Migratory Bird and Raptor Species** (see Chapter 2, Project Description) would reduce any potential impacts to a less than significant level.

(vi) **Sensitive bat species.** There are several sensitive bat species that may occur within MSP, including species that have been known to roost in tree cavities. The California Species of Concern bats that might roost within the project areas are the pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*). Other sensitive bat species that might roost within the project areas are the long-eared myotis

(*Myotis evotis*), the long-legged myotis (*Myotis volans*), and the Yuma myotis (*Myotis yumanensis*). Potential roosting sites are in forested project locations (e. g. Pinewood and Surfwood Campgrounds).

Construction activities that generate noise above ambient levels during the breeding season could have a significant impact to bats. Implementation of **Standard Project Requirement Bio-3: Sensitive Bat Species** (see Chapter 2, Project Description) would reduce any potential impacts to a less than significant level.

(vii) **Special-status plant species.** Suitable habitat is available within the project areas for eleven of seventeen special-status species that are reported to occur or have a potential to occur within or adjacent to the project areas. Four of these species, Howell's spineflower (state Threatened and federally Endangered), North Coast phacelia, short-leaved evax, and Point Reyes ceanothus have been located within project areas (EDAW, Inc. 2001; DPR 2007, 2008, 2009). Howell's spineflower, North Coast phacelia, and short-leaved evax occur in sandy areas along the section of the sewer force main between the new Lake Cleone lift station and the new Pinewood Campground lift station. This section of the sewer line would be replaced through slip-lining of the existing underground line and would not impact any plants.

A small area of sandy habitat containing Howell's spineflower occurs within 10 feet of the existing Lake Cleone lift station that is proposed to be abandoned. Two patches of Point Reyes ceanothus are located immediately adjacent to the Haul Road along the southern replacement segment of the sewer force main. Construction activities at these locations could have a significant impact to Howell's spineflower and Point Reyes ceanothus. Implementation of **Project Specific Requirement Bio-4: Howell's Spineflower and Point Reyes Ceanothus** (see Chapter 2, Project Description) would reduce any potential impacts to a less than significant level.

- b) Sensitive riparian habitat, which is designated as an ESHA by Mendocino County, occurs in project areas south of Laguna Point. Work activities in this habitat type are subject to regulation by the County as well as the CDFG through provisions of the Fish and Game Code, Section 1602 (CDFG 2009). This project would improve drainage under the Haul Road at three locations by replacing three culverts and grading the adjacent slopes.

Some of the project areas are located in the *Pinus contorta* ssp. *contorta* Alliance and *Pinus muricata* Alliance vegetation types, which are identified in the CDFG's CNDDDB as sensitive natural communities. Construction activities that involve directional drilling, trenching, or other ground excavations could have a significant impact to these sensitive natural communities at two project locations: 1. The sewer force main segment between the new Pinewood Campground lift station and its terminus in the Pinewood Campground; and 2. The north tie-in point for the northern replacement segment of the Haul Road sewer force main.

Implementation of **Project Specific Requirement Bio-5: Sensitive Natural Communities** (see Chapter 2, Project Description) would reduce any potential impacts to a less than significant level.

- c) Small, intermittent drainages that are potentially USACE-jurisdictional Waters of the U.S. pass through culverts under the Haul Road and the sewer force main south of Laguna Point. However, none of these drainages would be affected by project activities. Culvert replacements are proposed for three small, intermittent drainages in this project area; however, they do not satisfy the USACE definition of Waters of the U.S. since they do not sustain flows sufficient to scour the streambed. These three drainages are subject to CDFG and Mendocino County jurisdiction, as identified in Section b) above.

No USACE-jurisdictional wetlands are located within any of the project areas. Small disconnected patches of California Coastal Commission-defined wetlands occur along the route of the sewer force main between the new Pinewood Campground lift station and its terminus in Pinewood Campground. Potential impacts to these wetlands would be addressed through implementation of **Project Specific Requirement Bio-5: Sensitive Natural Communities** (see Chapter 2, Project Description), which would provide for directional drilling underneath these wetlands and avoidance of surface ground disturbance.

A small California Coastal Commission-defined wetland occupies the site of the south tie-in point for the northern replacement segment of the Haul Road sewer force main. Ground disturbing activities at this location would result in removal of vegetation and temporary disruption of surface hydrology. Implementation of **Mitigation Measure Bio-1: Coastal Commission Wetlands** would reduce potential impacts to a less than significant level.

<b>MITIGATION MEASURE BIO-1: COASTAL COMMISSION WETLANDS</b>
<ul style="list-style-type: none"> <li>a. The total area subject to ground disturbing activities would be revegetated with wetland species appropriate to native coastal terrace prairie habitat and obtained from local genetic stock.</li> <li>b. Nearby degraded wetland habitat within MacKerricher State Park would be enhanced through planting of wetland species appropriate to native coastal terrace prairie habitat and obtained from local genetic stock, at a 1:1 ratio (or as required by Mendocino County).</li> </ul>

- d) The proposed project would not impede fish passage or wildlife movement. No fish-bearing streams would be affected by project implementation. The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. No impact.
- e) As stated in the Environmental Setting above, Mendocino 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. Project activities could inadvertently transport this disease to new uninfected locations through pathogen spores in soil or on infected plant material that stick to construction vehicles, equipment, or personnel. Implementation of **Project Specific**

**Requirement Bio-6: Sudden Oak Death** (see Chapter 2, Project Description) would reduce any potential impacts to a less than significant level.

- f) This project would not conflict with any Habitat Conservation Plans, Natural Communities Conservation Plans, or other approved habitat conservation plan. No impact.

## **V. CULTURAL RESOURCES.**

### **ENVIRONMENTAL SETTING**

The project area is located within MacKerricher State Park (SP) on the northern Mendocino Coast. The park spans approximately 2,500 acres west of Highway 1 and encompasses much of the land west of the town of Cleone on a strip of coastline between Fort Bragg and Ten Mile River. The Park includes one of the few flat ocean terraces on the Mendocino coast with an elevation range from sea level to 120 feet at the northern end (CDPR 1995).

“Mediterranean maritime” aptly describes the climate on the Mendocino Coast which is influenced by proximity to the ocean and consists of moderate temperatures with small daily and seasonal fluctuations, frequent dense fogs, and northwesterly winds. The average annual temperature is about 54 degrees F. The rainy season is October through April with average annual precipitation in the park around 40 inches. This can vary from 20 to 80 inches (CDPR 1995).

Situated on the western edge of the Coast Range, MacKerricher SP is characterized by marine terraces and extensive dune fields which divide the park into two distinct sections, north and south. The northern portion extends south from Ten Mile River to Lake Cleone and is comprised of five and a half miles of sandy shoreline backed by low bluffs and coastal dunes. The southern portion of the park is an open, relatively flat marine terrace with rocky bluffs and small secluded beaches that gradually slopes up from the Glass Beach parcel, north towards Lake Cleone and Laguna Point.

The natural topography in the park supports diverse plant communities including coastal strand vegetation on the beaches; dune swale plant communities; grasslands and coastal scrub, conifer forests, and riparian vegetation associated with the numerous streams, lagoons, lakes (Sandhill Lake and Lake Cleone), Inglenook Fen, and other wetland communities located throughout the park. In addition to the varied terrestrial plant communities, the marine and tidal environments are plentiful and diverse, consisting of a wide range of marine habitats supported on the sandy beaches and rocky shores.

The fauna in the park is also considerable and consists of a variety of large and small terrestrial mammals, anadromous fish, and from the ocean and littoral zones, marine mammals and marine invertebrates.

### **Cultural Setting**

There are two main categories of cultural resources, the archaeological environment and the historic environment, both influenced by the resources available in the area. The topography, weather, and abundance of natural resources on the Mendocino Coast provided an ideal setting for both prehistoric and historic utilization and settlement in the region. Archaeological and ethnographic data from studies in the park suggest Native populations heavily utilized the area encompassing MacKerricher SP including Ten Mile Dunes, the Lake Cleone locale, and the

southern bluffs (coastal terraces). These areas provided access to a rich and varied ecological setting, ideal for subsistence which included resource procurement and processing, and other activities related to occupation of major year-round villages to short term campsites. Historically, the entire park was part of the Mendocino Indian Reservation. When the reservation was abandoned and placed in the public domain, the land was bought for settlement and used for agricultural and ranching. Several years later as the value of timber in the region increased, land now located within MacKerricher SP was used for transporting timber.

## **Prehistoric/Ethnographic Background**

### Prehistory

Human presence on the Mendocino Coast extends back approximately 11,000 years; however, because archaeological investigations in the region are limited, knowledge of the prehistory remains sparse. Since populations during the earliest periods are assumed to have been quite meager and mobile, archaeological evidence associated with these periods is underrepresented and poorly defined. The region's archaeological record of the last 3,000 years is more comprehensive, and as a result, more clearly understood. Investigations on the Mendocino Coast by Layton (1990) and White (1989), as well as numerous others have aided in developing a regional chronological sequence for the area and have furthered our understanding of prehistoric settlement patterns on the Mendocino Coast.

White (1989) focused his archaeological studies at MacKerricher SP. In addition White's work at the park, Lindahl conducted a subsurface investigation in 2003 at a large shell midden site on the south side of Virgin Creek. To date, this work has not been completed or published. This investigation was particularly important because it produced some of the oldest reliable dates for prehistoric sites in the park and possibly some of the oldest dates on the Mendocino Coast. Additionally, the site may have the potential to produce significantly older dates in a deeper deposit that currently has not been investigated. Dates derived from radiocarbon analysis range from circa 900 +/- 40 BP to 2890 +/- 40 BP and fit well with the dates obtained through obsidian hydration of several specimens collected at the site.

The work by White (1989) in the park is the most comprehensive and includes both archaeological survey and the excavation of 11 prehistoric sites at MacKerricher SP. The excavations generated chronological data from reliable radiocarbon dating and distinctive "time-marker" artifacts that were used to develop a local expression of the late cultural history related to prehistoric sites in the park. The chronological sequence generated from this work has been grouped into three cultural/historical phases.

The phases developed by White (1989:141) for late period sites at MacKerricher SP include:

- MacKerricher Phase – is radiocarbon dated between AD 0 and AD 530. This phase was characterized by residency over fairly long periods on the coast. Occupation occurred sometime during the late spring through summer season. Visits may have been scheduled to correspond to the appearance of elk on the coastal prairie, and Stellar sea lion in the near-by shore zone. Shellfish

were a significant staple, and were probably taken by searching out a varied catch from tide pools and rocks on the open coast, selecting for larger individuals.

- Sandhill Phase – is radiocarbon dated between AD 1300 and 1850. This phase was characterized by short term camps used in the early fall season. The site inventories reflect a narrow economic spectrum focused on mussel, supplemented by opportunistic hunting of terrestrial and marine mammals and gathering of vegetal foods. In comparison to MacKerricher Phase seasonal residences, the Sandhill Phase deposits may be regarded as simple shellfish processing camps, probably used once or twice and then abandoned for long stretches in favor of other locations.
- Ten Mile Phase – is radio carbon dated between AD 1850 and 1870. This phase was characterized by residence in limited, possibly seasonal episodes. Seasonality data are as yet unclear, although summertime occupation is indicated. The economy included both native foods and foods obtained from the reservation authority.

## Ethnography

Two Native American groups reportedly inhabited the area of MacKerricher SP before the 1850s; however, the boundaries are not necessarily agreed upon since traditional settlement patterns had already been altered from Euro-American intrusions prior to conducting comprehensive ethnographic studies in the area. Additionally, critical resource procurement areas were shared by different tribal and linguistic groups. Generally, the location north of Cleone was considered Coast Yuki territory with Lake Cleone forming the approximate southern boundary. To the north, Coast Yuki territory extended past Rockport. The Northern Pomo occupied the coastline around Fort Bragg and extended north to Virgin Creek and present day Lake Cleone. In the Lake Cleone area, the territory of the Coast Yuki and Northern Pomo overlapped (CDPR 1995).

### *Coast Yuki*

Dialectically, the Coast Yuki was a subgroup of the inland Yuki, speaking a language representing a small, isolated speech family (Kroeber, 1925). The Coast Yuki were comprised of 11 groups who inhabited a 50 mile strip along the Mendocino Coast (Miller 1978). The Coast Yuki groups in MacKerricher were the *Laliam-ontilka* near Cleone, the *Lilhuyak-ontilka* at Inglenook Beach, and the *Metkuyak-ontilka* at the mouth of Ten Mile River. After Euro-American settlement in the region the population of the Coast Yuki dropped significantly and in 1972, they were determined ethnographically extinct (Miller 1978).

According to Kroeber (1953) the Coast Yuki called themselves *Yukoht-ontilka* (ocean people). Described as a small group of shell mound dwellers that occupied beach camps in the summer months and in the winter, groups moved more inland (Miller 1978). Although their economy focused on a variety of marine and terrestrial resources, their quest for marine foods was of particular importance. Invertebrates from the mid to high littoral rocky coast were gathered by everyone. Mussel and barnacles were preferred but gastropods and bivalves were also collected. Other resources from the ocean environment and littoral zone were seaweed, surf

fish, sea lions, seal, and salt. Salmon caught in the local rivers was also vital to the Coast Yuki diet. Important terrestrial resources included acorns, seeds, and other vegetal products as well as elk and deer. Women were responsible for collecting plant resources and the men hunted and fished. The Coast Yuki traveled to neighboring areas to acquire resources not readily available in their territory.

### *Pomo*

The Northern Pomo were one of seven tribes that spoke languages of the Pomoan linguistic family (McLendon and Oswalt 1978). Various tribelets of the Northern Pomo inhabited central Mendocino County on 22 miles of coastal frontage that extended into present day MacKerricher SP. To the east, their territory extended in an irregular band to the northwest shore of Clear Lake and followed the Navarro River south. The *Mato-Poma* was the tribelet whose territory encompassed MacKerricher SP (McLendon and Oswalt 1978). Not until encroachment by Euro-American settlers into the interior valleys around 1850 did the Northern Pomo live year-round on the coast. Prior to permanent occupation on the coast, various Northern Pomo tribes had favorite coastal campsites and procurement areas which were occupied during the summer months.

In addition to their own territory, the Northern Pomo hunted and gathered food and procured various other resources in the Ten Mile River watershed and north along the coast in the tribal lands of the Coast Yuki. Like their Yuki neighbors, the Northern Pomo had similar resource preferences and relied heavily on the rich littoral resources of the coast which provided an abundance of shellfish, seaweed, and surf fish. Marine mammals including sea lions and seal were hunted while runs of salmon and steelhead were taken seasonally in the larger drainages. Terrestrial animals including deer, elk and small mammals such as rabbit were hunted or trapped. Tan oak, black oak, and hazel were important vegetal resources to the Northern Pomo. Birds were valued mainly for their brightly colored feathers; used to adorn baskets and ceremonial regalia (Van Bueren 2007).

### *Mendocino Indian Reservation*

MacKerricher SP found its beginnings as an Indian Reservation. The Mendocino Indian Reservation was established in 1856 and was the first official reservation in the northwestern section of the state. It was established because of pressures from American settlers troubled by Indian depredations, and threatened vigilante reprisals unless the government intervened (CDPR 1995). The reservation was approximately 25,000 acres and included the entire Ten Mile Township and covered all of what is now MacKerricher SP. The Noyo River formed the southern boundary of the reservation which extended north to Ten Mile River. The coast formed the western boundary, and inland, the boundary was the first forested ridgeline.

The primary objective of the reservation was to concentrate Native people into one area where they could be controlled, less vulnerable to attacks by Euro-American settlers, and could be taught farming and simple trades (GP 1995). In addition to the local Native American groups, the US Army brought indigenous people from throughout Northern California to the reservation including Indians from Anderson Valley, Ukiah, Round Valley, Russian River Valley, Sulphur Creek, Bodega Bay, Humboldt County, Pit River, Hat Creek, Butte Creek, Feather River, and

greater Mendocino County. This grouping of local Native American tribes with more distant neighbors resulted in former enemies residing in close contact on reservation land. The inevitable consequence related to this assemblage of people was constant strife amongst the various tribal groups.

In 1856, it was reported that over three-thousand Indians were residing on the reservation (CDPR 1995). On the reservation, the government attempted to establish agricultural activities and educate the Indians. In addition to farming, the Indians were encouraged to continue gathering their traditional foods, particularly fish (GP 1995).

In 1857, the town of Fort Bragg was established as a military garrison to maintain order and keep peace on the reservation and surrounding land. Troops stationed at Fort Bragg watched over the reservation and attempted to mitigate problems between the various tribal groups and between Native populations and settlers. During the 1850s and 1860s, the presence of the military had little effect at reducing the continued conflict between the settlers and the Indian population (CDPR 1995).

The Mendocino Indian Reservation was considered a failure and was abandoned in 1867, once the reservations and Indian control programs were found to be ineffective. Several years later when the value of timber resources and other economic opportunities were realized in the region, pressure was put on the government to release reservation property into public domain so the lands could be purchased. Once put into public domain the land was offered for settlement/development at \$1.25 per acre (Unit History File n.d.).

After the Mendocino Indian Reservation was terminated most native people returned to their former homes, especially those forced onto the reservation from out of the area. For local tribal groups, their traditional ancestral lands were taken over by settlers once the land was placed into the public domain. Hunting, fishing and gathering places were no longer available. Forced from their traditional life-ways, local Native American groups gradually became more dependent on employment for their livelihood. Many were allowed to settle on large ranches with the owner's permission, and as needed, worked on the ranches. Other employment included working in the hop and grain fields or as wood choppers (Unit History File n.d.).

## **Historic Background**

### *Early Exploration*

Established in 1812, Fort Ross was the first permanent settlement on the Northern California coast. In 1841, after the Russians left Fort Ross, California's Mexican government encouraged permanent settlement in the Mendocino area by making land grants available to Mexican citizens. By 1845, William Richardson established one of two ranchos on the Mendocino coast. Richardson's Albion Rancho, situated approximately ten miles south of present-day MacKerricher SP, aided in the settlement of the Mendocino coast area by making the region more accessible to other settlers (CDPR 1992:47).

By 1851, a handful of settlers found their way to the Mendocino coast and settled in the Big River area, just north of Richardson's Albion Rancho. In winter 1850-51, the brig *Frolic*, bound for San Francisco with a cargo of Chinese goods, wrecked in the ocean near Point Cabrillo. The salvage crew sent from San Francisco was unable to retrieve the lost cargo, but did report back on the established settlements, and giant redwoods, along the Mendocino Coast. Their report exposed the opportunities for a redwood lumber industry in the Mendocino area underway. In 1852 the first lumber mill in the area was constructed at Big River. This, in turn, hastened the influx of American settlers. As more and more lumber mills were constructed, additional settlers and lumbermen journeyed to the Mendocino Coast to settle (CDPR 1992:47).

Settlers established towns along the Mendocino coast wherever it was possible to load lumber products onto ships. As the number of settlers increased, so did agitation between the Indians and settlers, resulting in calls for both a military outpost and an Indian reservation. In 1855, a government survey party selected a 25,000-acre tract for an Indian Reservation. This tract encompassed an area that extended north from the Noyo River to a point one mile north of Ten Mile River and from the coast to the mountains. Located within this area was all of what is now MacKerricher State Park (CDPR 1992:47; CDPR 1996:19).

In 1856, the federal government established the Mendocino Indian Reservation, and in 1857, a military outpost named Fort Bragg. The government abandoned both the military outpost and the Mendocino Indian Reservation, in 1864 and 1866, respectively. The former military outpost would evolve into the present-day city of Fort Bragg. In 1869 the General Land Office surveyed the former reservation lands and returned them to the public domain. Duncan MacKerricher was one of the Mendocino area settlers to purchase some of the former reservation land.

### *MacKerricher*

Duncan MacKerricher and his wife Jesse arrived in the Mendocino coast area in 1864. For the first few years they lived in the area, MacKerricher worked on the Mendocino Indian Reservation in the reservation's dairy. After the federal government abandoned the reservation, the MacKerrichers purchased 640 acres of the newly available former reservation land, paying \$1.25 an acre. They later added an equal amount of land to their holdings, amassing over 1200 acres. A portion of the MacKerricher's holdings became the core of the present-day state park (CDPR n.d., 1866, 1868; CDPR 1992:48).

The MacKerrichers raised their family, crops and livestock on their ranch. In 1882, MacKerricher granted lumbermen Alexander Jefferson and Samuel Kennedy the right to build a wharf, an apron chute, and a shipping yard on his property. This shipping point served two sawmills; one built in 1883 on Laguna Creek (present day Mill Creek), and the other, built around the same time, on the south fork of Ten Mile River. In 1885, winter storms washed away the chute and wharf; they were replaced by a new chute and wharf.

Also in 1885, the Little Valley Lumber Company (Little Valley) incorporated, and then purchased Jefferson and Kennedy's Laguna Creek Mill to add to Little Valley's existing mill (CDPR 1992:48; CDPR 1996: 19). In 1887, Duncan MacKerricher sold a tract of land one mile up Laguna Creek for a saw mill site and deeded a 30 foot roadway down to the county road, now State Highway 1,

to Little Valley. Little Valley constructed a two-and-one-half-mile-long tramway to transport lumber from their Laguna Creek Mill to the wharf. The track was laid at an incline; gravity ran the cars from the mill landing and bulls were used to return the cars to the mill (CDPR n.d. 1887; CDPR 1992:49).

Duncan and Jesse MacKerricher ran their ranch until 1908, when they moved to Fort Bragg. Jessie MacKerricher died in 1923; Duncan died in 1926. The ranch property, reduced in size due to previous sales of parcels, remained in the family until 1949 when the MacKerricher heirs sold a 205-acre parcel to the state for use as a state park.

### *Logging in Mendocino*

Though the Mendocino area was sparsely settled when the first lumber mill was constructed in 1852, the following decades saw a substantial increase in both the number of people and lumber mills in this area. In 1882 Charles Russell Johnson, James Hunter and Calvin Stewart established the Newport Sawmill Company (NSC) on Mill Creek which is located within the boundaries of the present-day state park and supplies almost all of the inflow to Lake Cleone. In search of better shipping facilities, the NSC merged with the Noyo Lumber Company (NLC) in 1884, forming the Fort Bragg Redwood Company. In 1885, the Fort Bragg Lumber Company constructed a new mill at Fort Bragg and moved their milling operations there. Settlements established near this new mill eventually led to the incorporation of the town of Fort Bragg in 1889 (CDPR 1996:19-20; 43).

In need of greater capital for expansion and timber, in 1891 the Fort Bragg Redwood Company merged with other small lumber companies in the area to form the Union Lumber Company (ULC). Between 1905 and 1921, ULC acquired controlling interest in the Glen Briar Redwood Company, the Little Valley Lumber Company and the California Lumber Company (CDPR 1996:20).

### *The Haul Road*

In 1916, the ULC constructed the Ten Mile Railroad in order to transport their timber from its source on Ten Mile River to their mill in Fort Bragg. The Ten Mile Railroad alignment traveled north from the Fort Bragg mill, across both Pudding and Virgin Creeks and continued north along the coastal terrace to Laguna Point. The alignment continued past Laguna Point, dropping in elevation nearly to the level of the beach along the edge of Ten Mile Dunes. It then turned east, then south, running parallel to Ten Mile River, up the river drainage. In order to maintain elevation for the railroad alignment along the coast, within the boundaries of what is now MacKerricher SP, the ULC constructed a berm for the tracks. This berm resulted in the creation of what is now known as Lake Cleone. Between 1917 and 1949, ULC transported over 95% of their logs to the mill over the Ten Mile Railroad (CDPR 1996:20).

In 1945, ULC ceased using the Ten Mile Railroad alignment for lumber transport via railcar. They removed the rails from the alignment, paved the alignment to create a roadbed (the haul road), and started using trucks to transport the logs to their mill in Fort Bragg. In 1969 the Union

Lumber Company mill merged with the Boise-Cascade Corporation. In 1973, the entire enterprise was sold to the Georgia-Pacific Corporation (GP) (CDPR 1992:49; CDPR 1996:20-21).

Within MacKerricher State Park, ULC continued to use the haul road, including the trestles across Pudding and Virgin Creeks, and the underpass west of Lake Cleone for transporting logs to their Fort Bragg mill. In the summer of 1977, Georgia-Pacific opened the Ten Mile River Logging Road (haul road) to public use on the weekends. In 1983, one-half mile of the haul road was severely eroded by high waves during a particularly violent storm and the Georgia-Pacific Corporation (GP), then owner of the road, stopped using it to transport lumber. In 1986, DPR entered into an agreement with GP to maintain and operate the portion of the haul road within the park. In 1992 the State purchased the Pudding Creek Trestle and in 1994 the state purchased the rest of the haul road within the park. This inactive section of the haul road is now used by hundreds of walkers, runners, bicyclists and other park visitors annually (CDPR n.d. 1977; CDPR 1996:21).

The State acquired lands for MacKerricher SP after the massive park expansion, fueled by California's booming population, and economy, after World War II. The park opened to the public on a limited basis in 1951 and opened 'officially' the summer of 1953 with the completion of a 20-site campground and day use facilities. In 1957, the State expanded the number of camping sites to 70 and constructed a combination building in the East Pinewood campground. Additional comfort stations, including the one located at Lake Cleone, and a new combination building were constructed in 1961. The State Park Commission officially classified the unit as a state park in 1963 (CDPR 1992:49). According to the DPR Facility Inventory List, the state installed the utility infrastructure components of the park at various times between the years 1957 and 1975. In 2001, State Parks replaced the existing (1961) comfort station at Lake Cleone with a new comfort station.

Since 1953 the park has expanded to approximately 1,700 acres. The State continues to maintain the Haul Road for recreational use but it is no longer open to vehicle traffic. The haul road is one of the few remaining features representative of the logging industry within MacKerricher State Park (CDPR 1996:21).

## **Cultural Resources**

### **Archaeological Resources -**

The library and other archival records and sources on file at the DPR Northern Service Center (NSC) were consulted for the project to assemble pertinent information related to the archaeological resource potential in the project area. Additionally, the cultural resource specialist assigned to this Deferred Maintenance Project contacted relevant institutions and searched pertinent data bases for further information concerning cultural resources in the park.

This comprehensive information search yielded significant information related to the archaeological resources in the park and in particular, the project area. The information search

indicates MacKerricher SP has been the subject of numerous archaeological investigations over the last 60 years. These studies have consisted of both terrestrial surveys and subsurface investigations related to park projects (development and maintenance) and scientific studies. The first official archaeological investigation was conducted in 1949 when the park was acquired and included the survey of the entire unit. Schulz (1985) in 1985 surveyed the whole park for a coastal site protection program and a bluff stabilization project. The study by Schulz resulted in the subsurface investigation of eleven prehistoric sites identified as having been damaged or threatened by bluff or dune erosion. Greg White was hired to carry out the subsurface investigations of these 11 sites. The work conducted by White was important because it led to the development of a regional chronology (prehistoric) based on three periods of settlement, beginning around AD 80 and terminating in 1866 with the demise of the Mendocino Indian Reservation. Since the 1980s, copious other archaeological studies have occurred in the park for of a multitude projects including major and minor capital outlay projects, routine park maintenance, and deferred maintenance.

Several terrestrial and subsurface investigations were conducted in support of this current project to collect pertinent information concerning the archaeological resources in the proposed project area. The information generated from these investigations was considered during project planning and design in an effort to reduce potential impacts to the archaeological resources to a "less than significant level."

The profuse number of archaeological studies at MacKerricher SP has led to the identification of over 40 Native American archaeological sites in the unit. Three of these sites have historic components and may be related to aboriginal occupation during Mendocino Indian Reservation era at MacKerricher SP. These sites contain historic materials found in association with traditional prehistoric artifacts and food refuse. In addition to the Native American sites, one isolated prehistoric artifact and two historic sites have been documented in the park.

Research for this deferred maintenance project identified eight previously recorded archaeological sites in the project area. Several other sites are located in close proximity to the project location but not within the area of proposed ground disruption. Seven of these sites are related to aboriginal land-use patterns on the Mendocino Coast. The eighth site is a linear feature associated to historic logging activities in the region. During field investigations (surface and subsurface) in support of this project no previously undocumented sites were discovered.

The project is divided into two components. The first component includes relocation of the sewer lift stations in the Lake Cleone, Pinewood Campground, and Surfwood Campground areas. Archaeological sites located in this section of the project area include sites CA-MEN-419 and -825. Both are large prehistoric midden sites comprised of dark brown sandy soil and copious amounts of marine shell. CA-MEN-419 is situated on a knoll south of CA-MEN-825 and includes two loci. The site has been badly damaged by historic and park development but still retains deposits of dense shell midden mixed with chert flakes. CA-MEN-825 is associated with an ethnographic Pomo settlement and contains a complex archaeological assemblage that extends over a broad area. Finds at the site (CA-MEN-825) include an obvious mound in addition to a diverse mix of marine shell, chert flakes and other lithic debitage, flake tools, groundstone

fragments, and Fire Affected Rock (FAR). Human remains associated with Native American burial practices have also been documented in the area.

A brief interview with Clyde Stanley (Noyo Pomo) by F. A. Riddell and W. Olsen on April 3, 1974 included the following comments about CA-MEN-825 by Mr. Stanley:

*“The open meadow area immediately above Lake Cleone is a Pomo village. A battle took place there between the villagers and the Interior Pomo. There is a good spring in the willows just below the site.”*

The second component of this deferred maintenance project is located south of Lake Cleone and extends south to Virgin Creek (south side) along the historic Haul Road (CA-MEN-2946H). The primary objective of this component of the project is to relocate failing segments of the existing sewer force main from the west side of the Haul Road to the center of the road to prevent further degradation to the line from coastal erosion. In addition to installation of a new sewer force main, the lift station at Virgin Creek will be abandoned and the area rehabilitated.

Archaeological sites located in this section of the project area include CA-MEN-414/415, -416, -417, and -835. All five of these sites are related to Native American utilization of the area and contain midden soil composed of a mixture of marine shell and dark brown sandy soil. The primary constituent of most of these midden sites is marine shell; however, also included in the assemblages are FAR, groundstone, debitage (chert), and sometimes bone. A shell bead was observed on the surface at one site. White (1989) tested a site in the project area which included the excavation of a rock-lined hearth. Found in the hearth were flakes, anvils, hammers (stone), and charcoal. CA-MEN-412 is a large prehistoric site indicative of extended use over thousands of years. The site is located adjacent to the project area near Virgin Creek. To date this is the oldest site in the park and consists of a large shell mound and includes significant deposits of obsidian and chert flakes, FAR, groundstone, and bone.

The concentration of Native American sites at MacKerricher SP including those present in the project area represent a unique and relatively intact series of settlement systems in an area used with varying intensity over the last 3,000 years along the Mendocino Coast. The archaeological resources represent Pomoan and Coast Yuki occupation and are significant in their demonstrated potential to answer research questions relating to chronology, resource utilization, settlement dynamics, and acculturation processes (CDPR 1995) either as individual sites or when studied in a larger context of an “archaeological district.” To date these Native American sites have not been officially evaluated for inclusion into the National Register of Historic Places (NRHP). Until an official determination of significance is made in consultation with the California State Historic Preservation Officer (SHPO), these sites will be treated as eligible for inclusion into the NRHP because of their potential scientific value.

Only one historic site is located in the project area. CA-MEN-2946H (Haul Road) is the remains of a historic logging grade. The grade was built by the Union Lumber Company between 1915 and 1917 to transport timber from the Ten Mile River watershed to the mill in Fort Bragg. A 6.4

mile segment of the grade still exists in MacKerricher SP and traverses almost the entire project area. Currently the Haul Road is used for hiking, biking, jogging, and horseback riding.

The project calls for relocating segments of the sewer force main to the center of the haul road which will require trenching. These activities will not impact the alignment of the grade which over the years has been compromised by coastal erosion and past park projects including repairs to the Pudding Creek Trestle.

In 2007, the Department of Parks and Recreation (DPR) completed repairs to the historic trestle over Pudding Creek. The trestle was considered a major contributing element to the significance of the site (CA-MEN-2946H). During the course of repairs to the trestle, emergency design changes were required which resulted in the project no longer being in compliance with the Secretary of Interior's Standards for rehabilitation. The needed repairs to stabilize the trestle resulted in a loss of integrity of design, materials, workmanship, and feeling. The trestle and likely the entire grade no longer retain the integrity to be eligible for inclusion in either the California Register of Historic Places (CRHP) or the NRHP given the impacts from these repairs. The SHPO concurred with these findings during a 2007 meeting with DPR regarding the integrity of the trestle.

Although it is probable CA-MEN-2946H is no longer eligible for inclusion into the CRHP or the NRHP there are several unique drainage features (wooden culverts) located along the grade that will be protected during project work. Parks considers these culverts of unique design and construction and in the past, has made attempts to protect these features when replacement was required because of structural failure. These wooden culvert boxes are located under the haul road and were/are used to channel water away from the grade to the ocean to the west. Seven wooden culverts are located in the project area; three culverts are failing and will require replacement during project work. Replacement will consist of abandoning and filling the wooden boxes with a slurry mixture. A new culvert will be placed adjacent to the existing culverts. Excavation for the new sewer force main will avoid the culverts by restricting trenching to avoid the features.

Past archaeological excavations in the park by White (1989) and Lindahl (2003) focused on the retrieval of data that would yield information related to prehistoric land-use patterns on the Mendocino Coast. This deferred maintenance project also required subsurface testing; however, the goals of these investigations differed for past excavations. Subsurface archaeological investigations in support of this current project were employed to identify the extent of archaeological deposits in specific locations around the project area where ground disturbing activities are proposed rather than for scientific studies (data potential). Subsurface testing was required to determine the "presence or absence" of archaeological deposits in specific locations of the project where identified work had the potential to impact site deposits.

The information generated (results) from these studies was used during project planning and influenced the need for changes in design, construction methodologies, and/or relocation of specific components of the project in an effort to avoid significant impacts to archaeological deposits during project implementation. The currently proposed project area has been subjected to extensive ground disturbing activities (historic activities including construction of the Haul

Road, park development and maintenance, and recreation) over the years. Two subsurface investigations were conducted in the project area (Gruver 2008, 2009) to identify the extent of these previous disturbances within the boundaries of the archaeological deposits so that proposed project work could be confined to these areas. Within archaeological sites, the identification of these disturbed areas established for the project, minimum and/or maximum depths of allowable ground disruptions and where trenches must to be placed to avoid new impacts to sites. As a result of the subsurface testing for this project, the design was changed so that ground disturbing activities will be restricted to the extent of previously disturbed soils including existing trench footprints, highly disturbed areas, or where fill material has been introduced for the construction of CA-MEN2946H or more recent road development (Mill Creek Drive).

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
a) Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource, pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Cultural Resources is based on criteria **IV** a-c, described in the environmental checklist above.

### DISCUSSION

a) As designed, project will not have a significant impact on historic resources. Neither the lift stations nor the restrooms at MacKerricher are considered to be historic resources. While the Old Haul Road is a potentially historic resource, the Pudding Creek Trestle, a significant component of the Haul Road, was determined ineligible for both the California Register of Historical Resources and National Register of Historic Places. While the portion of the project taking place along the Haul Road does propose trenching and/or directional drilling these activities will not alter the use, alignment, or appearance of the Haul Road.

**b) Discussion - Archaeological Resources and the avoidance of substantial adverse change in significance - Specific and Standard Project Requirements:**

As indicated from archival research and field investigations conducted in support of this project, MacKerricher SP has a very high level of archaeological sensitivity related to prehistoric utilization of the coastal economy. Over forty prehistoric sites have been recorded

in the park, seven within the project area. Project planning took into consideration the archaeological sensitivity of the area and was designed to avoid impacting documented archaeological resources based on the cultural resource studies.

To reduce the risk of impacts to the archaeological resources during project implementation, project planning and 5024 Review analyzed every aspect of the project (design and placement of the sewer force main, lift stations, associated infrastructure, and construction methodologies) in relationship to the archaeological resources and potential impacts from project work. Based on this analysis the project design was altered, locations changed, and construction methodologies adapted to avoid significant impacts to archaeological deposits. This resulted in the development of Specific Project Requirements by the Cultural Resource Specialist that outlines detailed conditions for the treatment of cultural resources during project planning and implantation. Refer to Cultural SPR2 of this document for the Specific Project Requirements developed for this project.

Additionally, Standard Project Requirements have been developed by DPR for projects to address changes in project scope/design, project staging locations, material procurement and disposal, archaeological monitoring needs, and protocol in the event of inadvertent archaeological finds during project work. Refer to Cultural SPR1 of this document for the Standard Project Requirements.

#### Discussion - Inadvertent Archaeological Finds – Standard Project Requirements:

The boundaries of the prehistoric sites located in the project are based on surface observations from terrestrial archaeological surveys and limited subsurface investigations. The reliability of these surface surveys is dependent on ground visibility and the extent of the surface manifestation associated with the archaeological deposits. Given the inherent nature of archaeological deposits, often located below the surface, and the placement of these archaeological deposits on the coastal terraces and sand dunes, it is probable the full extent of these sites and their boundaries are not clearly defined. Concise determination of the horizontal and vertical distributions of these archaeological sites is difficult at best. Unless extensive and costly subsurface investigations have been conducted, boundaries associated with these sites are somewhat arbitrary.

Although subsurface testing and terrestrial surveys have been conducted in support of this project to identify the level of previous ground disruptions in the project area and the extent of archaeological deposits in proposed ground disruptions locations, there is always the possibility of encountering archaeological deposits in areas where the archaeological sensitivity is high. To account for inadvertent discovery of archaeological resources during project work, DPR has developed protocol to handle such finds during all DPR projects. The treatment of inadvertent archaeological finds is identified in Cultural SPR4 and 5 of this document under Standard Project Requirements.

- c) MacKerricher SP and the Mendocino Coast were used intensively by indigenous groups for thousands of years. Because of this intensive utilization of the area it is not surprising that

human remains associated with Native American burial practices have been recorded at five locations in the park and at numerous locations surrounding the park on private property. One site is located within the project area near Lake Cleone and two others at the southern end of the project near Virgin Creek. Other skeletal remains have been documented in the park but are not near the project area. These finds include the remains of an adolescent boy that are approximately two to three hundred years old and a cluster of skeletons indicative of a Native American cemetery unearthed during excavation for the Union Lumber Railroad grade around 1910 (Thomsen and Heizer 1964).

The evidence cumulated from archival research and field studies indicate the park including the project area has a high degree of archaeological sensitivity associated with prehistoric land-use patterns. Given the previous finds in the park, there is the potential during project implementation to unearth human remains associated with Native American burial practices.

In the event of an inadvertent discovery of human remains during any project work, DPR and the Native American Heritage Commission (NAHC) have developed a protocol for the treatment of such finds to reduce impacts to a “less than significant level.” The treatment of human remains discovered during project work is identified in Cultural SPR 5 of this documented under Standard Project Requirements.

## VI. GEOLOGY AND SOILS.

### ENVIRONMENTAL SETTING

The coastal zone, in which MacKerricher State Park is situated, is comprised of gentle slopes and nearly flat terraces on the west side and of steep, heavily wooded ridges on the east. The terraces are underlain by Franciscan Complex rocks that have been cut by wave action. Remnants of these gently seaward-sloping sand and alluvium-mantled erosional terraces rise from the ocean's edge in a series of step-like platforms that increase in age and elevation to the east. These terraces have been deeply dissected by seaward-bound coastal rivers and streams (DPR, 1995).

#### Topography

The topography of MacKerricher State Park includes beaches, sand dunes, steep coastal bluffs, creeks, forests, a freshwater lake, coastal terraces, and marshes. The majority of the project area follows an old haul road that is on coastal terrace and is relatively flat. Elevations in the project area range from 10 to 40 feet (USGS, 1960).

#### Geology

Mendocino County lies entirely within the Coast Ranges Geomorphic Province of California. Its western limit is marked by the Pacific Ocean. The province is characterized by a series of northwest trending mountain ranges with intervening canyons or valleys. Elevations range from sea level at the coast to nearly 8,000 feet at the highest peaks along the northeastern margin of the county (Mendocino County, 2003).

The vast majority of the County is underlain by bedrock of the Franciscan Complex, which is divided into two "belts" that roughly divide the county into two equal parts. The Coastal Belt and Eastern Belt occupy the western and eastern portions of the County, respectively. The Franciscan Complex consists primarily of large blocks of graywacke sandstone interbedded with shale, and melange. Melange consists of a matrix material that is pervasively sheared argillaceous material with variable density of harder blocks consisting of greenstone, sandstone, shale, chert, serpentinite, blueschist, and conglomerate. Blocks within the melange vary in size from gravel size to cubic miles. The Coastal Belt consists primarily of marine sandstone and shale with lesser conglomerate, while the Eastern Belt is weakly to moderately metamorphosed, more extensively deformed and contains abundant melange, metavolcanic rock, ultramafic rocks, serpentinite, and schist (Mendocino County, 2003). The proposed project area is within the Coastal Belt of the Franciscan Complex.

#### Seismicity

The Coast Ranges Geomorphic Province, where MacKerricher State Park sits (USGS, 2008), was formed primarily from remnants of the Pacific tectonic plate that were scraped off and uplifted after collision with the North American tectonic plate, under which the Pacific plate is moving. The mountains were formed after millions of years of subduction and subsequent transform faulting movement. Seismicity in the region is extremely high. The most seismically active area in the continental United States, known as the Mendocino Triple Junction, occurs only

70 miles from the park unit. This area, capable of magnitude 9 earthquakes, is the location where the Gorda tectonic plate collides with the Pacific and North American plates (CGS, 2007b; DPR, 2001). These three plates are moving in complex geometries—including subduction, collision, and transform faulting. The net plate displacement averages 2-3 inches per year; some of which is expressed as smaller (~magnitude 6) earthquakes; however, most of the plate slip comes during less frequent, large and great earthquakes (Vaughan, 2009). In the 1990's, there were at least nine magnitude 6.0 earthquakes in the north coast region, which was a higher seismicity rate 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). The San Andreas Fault is located approximately 10 miles offshore from the project area and terminates at the Cascadia Subduction Zone. Because of the proximity of MacKerricher State Park to the fault (which is a tectonic plate boundary), the park would be strongly affected by groundshaking in response to a rupture of the Cascadia Subduction Zone.

The San Andreas Fault is approximately 10 miles offshore from the project area and the Maacama Fault occurs approximately 23 miles to the east of the site (USGS, 2007). The northern segment of the San Andreas fault is capable of a magnitude 7.4 earthquake and the Maacama Fault is capable of a magnitude 7.1 earthquake (CGS, 2007b; CGS, 2007c).

The Mendocino County General Plan (1991) places the project area within Geotechnical Hazard Zone 1. Zone 1 is the San Andreas Fault Zone and is subject to four types of seismic hazards: ground shaking, surface faulting, ground failure, and seismically induced water waves. During the 1906 San Francisco earthquake, the town of Fort Bragg experienced the destruction of most of its brick buildings and many frame buildings were shifted off their foundations (Mendocino County, 1991). Downcoast at Fort Ross where the fault trace is onshore, the ground surface ruptured, producing a near-instantaneous offset of 13 feet.

According to *Probabilistic Seismic Hazard Mapping* (CGS, 2008), there is 10% probability that the project area would receive moderate to strong shaking, between 0.4g to 0.6g (i.e., acceleration due to gravity). The seismic 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).

### Soils

The Ferncreek-Quinliven-Shinglemill soil map unit is the only one that occurs within the project area. It is described as very deep, gently sloping to steep, poorly drained to moderately well drained soils that have little seasonal fluctuation in soil temperature and that formed in marine terrace deposits. This map unit occurs on marine terraces of the Pacific Ocean from sea level to 1,000 feet in elevation (NRCS, 1999).

The Ferncreek-Quinliven-Shinglemill map unit is made up of approximately 31 percent Ferncreek and similar soils, 25 percent Quinliven and similar soils, and 11 percent Shinglemill and similar soils. The remaining 33 percent is composed of soils that are of minor extent such as: Dystropepts, Tropaquepts, and Abalobadiah, Aborigine, Biaggi, Blacklock, Bruhel, Cabrillo, Caspar, Cleone, Crispin, Fishrock, Flumeville, Gibney, Gibwell, Harecreek, Havensneck, Heeser,

Iversen, Mackerricher, Mallopass, Seaside, Sirdrak, Stornetta, Tregoning, Vandamme, Vizcaino, and Windyhollow soils. Also included in this map unit are areas of coastal beaches, dunes, pits and dumps, riverwash, rock outcrop, and urban land (NRCS, 1999).

Ferncreek soils are very deep and somewhat poorly drained soils that formed in marine sediments. These soils have a surface layer of sandy loam and subsoil that is clay loam, clay, or sandy clay loam. The substratum is sandy loam to a depth of 60 inches or more. The slope ranges from 2 to 30 percent. From zero to seven inches in depth, these soils have a low shrink-swell potential; from seven to 43 inches in depth, the shrink-swell potential is moderate; from 43 to 61 inches in depth, the shrink-swell potential is low (NRCS, 1999).

Quinliven soils are very deep, moderately well drained soils that formed in marine sediments. Typically, the surface layer is sandy loam and the subsoil is clay. The substratum is sandy loam to a depth of 60 inches or more. The slope ranges from 2 to 50 percent. From zero to 11 inches in depth, these soils have a low shrink-swell potential; from 11 to 60 inches in depth, the shrink-swell potential is moderate; from 60 to 64 inches in depth, the shrink-swell potential is low (NRCS, 1999).

Shinglemill soils are very deep, poorly drained soils that formed in marine sediments. The surface layer is loam and the subsoil is clay or sandy clay to a depth of 60 inches or more. The slope ranges from 2 to 15 percent. From zero to eight inches in depth, these soils have a low shrink-swell potential; from eight to 63 inches in depth, the shrink-swell potential increases to moderate (NRCS, 1999).

### Coastal Erosion

The coastline at the outlet of Mill Creek is prone to coastal erosion from wave action generated by periodic strong winter storm events. Past storm events have breached the haul road berm at this location. Currently, a portion of the park unit's existing sewage line and a sewage lift-station are located near Mill Creek immediately adjacent to, and on the downstream (western) side of, Lake Cleone. The depth below surface varies, with some segments of the sewer line less than 2 feet below the ground surface.

NOAA's National data Buoy Center (NDBC) has deployed a wave buoy offshore of the project site since 1981 (Station ID 46014, Latitude: 39°11'45" N, Longitude: 123°58'10") in a water depth of 274.3 meters (approximately 900 feet). A wave analysis was conducted to determine the extreme wave conditions from wave data collected by this buoy between 1981 and 2007. The annual maximum significant wave height was found to range between 17 feet to 34 feet, with the wave period varying between 14 seconds to 20 seconds. These extreme wave events can result in a wave runup varying between several feet to more than 10 feet high. When extreme wave events coincide with a high tide, the wave runup elevation can be high enough to overtop breached areas of the Old Haul Road and cause water to flow into the interior of the park. The water will then flow towards the lowest point, which is near the parking lot and restroom facilities near the edge of Lake Cleone (WRA, 2008).

The extreme wave events coinciding with a high tide event will also induce erosion on the sandy dune in the back beach or along the front face of the Old Haul Road berm fronting the beach,

and may expand the existing Haul Road breaches. The Haul Road berm was breached in 1982, 1992, 1998, and 2005. In 1983, 1992 and 1998 the haul road berm was breached and the parking lot and restroom adjacent to Lake Cleone were flooded. Although the sandy dunes can be eroded away during the extreme storm events, they most likely will reform again after the storm season passes (WRA, 2008).

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
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.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Criteria for Determining Significance**

The analysis of determining the significance of impacts of the Proposed Action to Geology and Soils is based on criteria V a-f, described in the environmental checklist above.

**DISCUSSION**

- a) Moderate to strong seismic ground shaking is possible from earthquake events on the faults discussed in the Environmental Setting section above. Due to the presence of loose, saturated, granular soils in the vicinity of Lake Cleone, this portion of the project area may be susceptible to liquefaction during strong ground-shaking events and settlement of several inches (Loutzenhiser, 2009).
- 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 project site is not located within a special-study zone under the Alquist-Priolo Earthquake Fault Zoning Act as mapped by the California Geological Survey (CGS 2007a) and no structures that would be designed for human occupancy are proposed as part of this project. No impact.
- ii) As noted in the Environmental Setting under Seismicity, the project site is located near the most seismically active area in the continental United States. As a result, there is a significant chance for moderate to strong ground-shaking at the project site during a seismic event in this area.

The project includes abandoning an existing lift station and installing a new one in another location. The project also involves installing new force main and gravity sewer lines. The proposed project would improve existing infrastructure in order to prevent failure of the existing system due to erosion at the site. Failure of the existing system would significantly increase the threat to public health due to the likelihood that untreated sewage would be discharged into adjacent water bodies and the ocean. Because of the potential for moderate to strong ground-shaking at the project site, there is a chance that the new infrastructure could be affected by an earthquake, thereby resulting in the discharge of untreated sewage. The following project-specific requirement along with Specific Project Requirement Haz-2 will reduce the potential for affects to the public to a less than significant level.

<b>Project-Specific Requirement GEO-1 – Seismic Design Features</b>
<ul style="list-style-type: none"> <li>• HDPE pipelines, which are flexible in the event of ground movement, will be used to reduce the risk of system failure during seismic ground-shaking.</li> <li>• The new force main line will be placed within the existing sewer line for further protection during ground-shaking events.</li> <li>• Granular backfill will be used at all connection points of the pipe with structures to allow for ground movement during earthquake events.</li> </ul>

- iii) Seismic-induced ground failure, such as liquefaction, usually occurs in unconsolidated granular soils that are water saturated. The potential for secondary seismic effects such as liquefaction, rapid settlement, or lateral spreading is significant for locations with relatively loose saturated granular soils, such as at the Lake Cleone Lift Station location. Settlement of several inches could occur during a strong ground-shaking event (Loutzenhiser, 2009). 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). Project-specific requirement GEO-1 will reduce the risk for failure

of the system as a result of seismic-related ground failure to a less than significant level.

- iv) Although the coastal bluffs in this region are highly erodible, the project area is away from the bluff edge, is relatively flat and is, therefore, not susceptible to landsliding. The risk for landslides would not be increased as a result of this project. No impact.
- b) The coastline in the vicinity of the Mill Creek outlet will eventually retreat from coastal erosion from wave action and sea level rise. As part of this project, the sewer-line will be slip-lined with plastic pipe which provides for more flexibility under stresses, including impacts from wave action and undermining due to erosion. This project to upgrade the sewage system is not expected to contribute to increased erosion issues at the site. However, ground-disturbing construction activities could temporarily result in increased soil erosion. To minimize the potential for soil erosion during construction activities, the following standard project requirement will be implemented which will reduce potential impacts to a less than significant level.

**Standard Project Requirement GEO-2 Erosion Control BMPs**

- Prior to the start of construction, Contractor will prepare a Storm Water Pollution Prevention Plan (SWPPP) 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 ground-disturbing activities.
- If construction activities extend into the rainy season (October 15 to April 15) or if an un-seasonal storm is anticipated, the contractor will properly winterize the site by covering (tarping) any stockpiled materials or soils and by constructing silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and graded areas.

- c) The component of the project that occurs in the vicinity of Lake Cleone, is located on soils that could be subject to liquefaction during seismic-induced ground shaking. Implementation of Project-Specific Requirement GEO-1 would reduce project-related impacts to a less than significant level.
- d) Expansive soils are those soils that have high clay content that swell when wet and shrink when dry. Expansive soils do not occur on the sites where the two new lift stations would be placed. However, expansive soils do occur along the sewer line alignment. Implementation of Project-Specific Requirement GEO-1 will reduce the potential for project-related impacts to a less than significant level.
- e) The proposed project is to install a new sewer line and relocate a lift station. It does not involve the installation of a septic system or a leach field; therefore, there is no impact.

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

## VII. Green House Gas Emissions and Climate Change

### ENVIRONMENTAL SETTING

The Mendocino County Air Quality Management District has not adopted formal CEQA Thresholds in the past. The District has traditionally relied informally on the CEQA thresholds adopted by the Bay Area Air Quality Management District (BAAQMD) with minor modifications reflecting location conditions. In 2010 the Bay Area Air Quality Management District formally adopted new Criteria and Greenhouse Gas emissions CEQA thresholds.

The Mendocino County District currently requests that the Bay Area Air Quality Management District CEQA thresholds and CEQA guidelines be followed to evaluate air quality impacts. In addition to the BAAQMD guidelines, this project would comply with state recommendations and guidelines to reduce GHG emissions.

California Assembly Bill No. 32 (AB-32), also known as the Global Warming Solutions Act, was passed on August 31, 2006. AB 32 codifies the state's goal by requiring that the state's greenhouse gas (GHG) emissions be reduced to ten percent below the 1990 GHG emissions level as a target to be achieved by 2020. Regulating carbon dioxide (CO<sub>2</sub>), which is the major GHG contributor to global warming, has been the main focus for achieving the 1990 levels.

In December 2009, the Natural Resource Agency adopted amendments to the *Guidelines for Implementation of the California Environmental Quality Act* addressing the significance of impacts for greenhouse gas emissions (State of California 2009). Section 15064.4 of the amended CEQA Guidelines states: "A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project."

BAAQMD does not have an adopted *Threshold of Significance* for construction-related Greenhouse Gas (GHG) emissions. However, lead agencies should quantify and disclose GHG emissions that would occur during construction, and make a determination on the significance of these construction-generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals. The BAAQMD also encourage agencies to incorporate best management practices to reduce GHG emissions during construction.

Best management practices may include, but are not limited to: using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet; using local building materials of at least 10 percent; and recycling or reusing at least 50 percent of construction waste or demolition materials.

According to the Mendocino County General Plan, the county is primarily rural and thus the amount of greenhouse gases generated by human activities (primarily the burning of fossil fuels for vehicles, heating and other uses) is small in total compared to other more urban counties (although higher per capita due to the distances involved in traveling around the county) and miniscule in statewide or global terms. However, Mendocino County acknowledges its responsibility to reduce GHG emissions. In the long-term County efforts will focus on reductions

in the sources of greenhouse gases in the county through a comprehensive greenhouse gas reduction plan for both County operations and the broader area governed by Mendocino County. For the near-term, the General Plan identifies energy-reducing policies that will lower overall CO<sub>2</sub> emissions (County of Mendocino 2009).

California State Parks (CSP) has developed a “Cool Parks” initiative to address climate change within the State Park system. Cool Parks proposes that CSP 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 (CSP 2008).

The best available data for analyzing potential GHG emissions are models that apply project specific data to a modeling program for calculating impact to air quality. The closest model currently available to a state park environment is the California Emissions Estimator Model (CalEEMod) as developed by the South Coast Air Quality Management District. The CalEEMod is a land use based model with a recreation option that includes a city park subtype. Project specific data including annual operations and construction activities can be input to the model and project based results generated. As a baseline reference for existing statewide GHG emissions, the Mendocino County Criteria Pollutants annual estimates for 2010 were used for ROG, NO<sub>x</sub>, CO, PM<sup>10</sup> and PM<sup>2.5</sup>. The California transportation sector annual CO<sub>2</sub> estimates for GHG-contributing emissions was used as the carbon dioxide baseline

### **Sea Level Rise**

Under CSP policy, landscapes are allowed to change through natural occurrences and processes. However, climate change is generating natural changes beyond conventional boundaries. Sea level and storm surge are two processes affected by climate change. A sea level rise (SLR) of as much as 55 inches (1.4 meters) is predicted by 2100, 8 times the sea level increase of the prior century (Pacific Institute, 2009).

CSP began assessing the susceptibility of State Parks and Beaches to SLR beginning in 2011 with the help of the Pacific Institute and the United State Geological Survey (USGS). MacKerricher SP scores a “high” vulnerability criterion in both Pacific Institute and USGS Coastal Vulnerability Index (CVI) models used for CSP project evaluation (both models use elevation as a primary metric and acknowledge local conditions may vary results). Pacific Institute modeling for the year 2100 suggests the mean tide line would remain west of the project area. However, modeling demonstrates the potential for dune erosion affecting a large portion of the foredunes currently stabilized by the remnant haul road.

Forecasted SLR could affect Lake Cleone area. Removing the restroom, abandoning the lift station, and moving the pipeline would reduce potential health and safety risks.

There are no foreseeable effects to recreational opportunities or park revenue in the Park due to SLR in relation to the proposed project.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environmental?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**DISCUSSION**

- a) The State has not developed specific GHG thresholds of significance for use in preparing environmental analyses under CEQA, although the State has provided guidance to lead agencies in determining significant impacts from GHG emissions. The Mendocino County Air Quality Management District has not adopted GHG thresholds to determine significance. Equipment used in construction including delivery trucks, crew truck, and concrete mixers would contribute to a temporary increase in CO<sub>2</sub> and N<sub>2</sub>O levels. However, the construction work is temporary and would not entail a significant and long-term contribution to these levels.
- b) As stated in “Discussion A” above, the State has not developed specific GHG thresholds of significance for use in preparing environmental analyses under CEQA, and the Mendocino County Air Quality Management District has not adopted GHG thresholds to determine significance. The Association of Environmental Professionals’ document *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*, states that emissions for criteria pollutants tend to follow similar patterns as the emissions for GHG emissions”(AEP 2007). Therefore, it is reasonable to assume that if all other pollutants from the Project are determined to be less than significant, the CO<sub>2</sub> emissions can also be deemed less than significant. The proposed Force Main and Sewer Lift Station Replacement Project would not violate Mendocino County’s air quality standards and would not result in a cumulatively considerable increase in emissions. Therefore, the proposed Force Main and Sewer Lift Station Replacement Project would not generate significant GHG emissions and would therefore not conflict with the current State and Mendocino County guidelines or any applicable plans, policies or regulations concerning GHG emissions.

To reduce potential GHG emissions due to construction activities, the project would undertake the following best management practices:

- Use alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment as feasible.
- Use local (within 100 miles) building materials of at least ten percent.
- Recycle at least 50 percent of construction waste or demolition materials.

In addition, the project would implement Standard Project Requirements to limit impacts to air quality and reduce GHG emissions during project activities. Implementation of these project requirements would ensure that the project would have a less than significant impact.

## VII. HAZARDS AND HAZARDOUS MATERIALS.

### ENVIRONMENTAL SETTING

The present "Haul Road" was originally constructed in 1917 by the Union Lumber Company as a rail line of the Ten Mile logging railroad. The alignment was utilized for transporting timber, from all over Mendocino County to the Union Lumber Company mill located at the southern terminus of the rail line. The tracks and rails were removed from the line in 1949, and after paving, the line was used by logging trucks. Portions of this trail are now incorporated into the MacKerricher Coastal Trail.

The structural elements of the "Haul Road" consist of asphalt overlaying a gravel roadbed. There is no known hazardous contamination of the area where the "Haul Road" is located and there is no indication the site contains any hazardous waste, debris, or soils. Any remaining wooden structural elements used for culverts are probably constructed of pressure-treated wood, which contains several potentially hazardous materials (e.g., arsenic), or weather proofed in some manner — possibly with creosote, a human carcinogen.

There are ten schools and one district school office located within the Fort Bragg School District. None of the schools are within a quarter-mile of the proposed project area.

The privately owned Fort Bragg Airport is located approximately 1/4 mile east of the proposed project area. There are approximately nine single engine aircraft based at this privately owned airport; operations average 68 per month. Although the runway configuration would occasionally result in overflight of the project area, the project area is not a recognized reporting point and is not within the normal airport traffic pattern. Another small private airstrip is located approximately three miles to southwest of the project area. Activity at this location is unknown, and there is no published approach for this airstrip, it is most likely used for drug trafficking. Once again, air traffic from this strip would only overfly the project area.

State Route (Highway) 1 is a designated truck route and is occasionally used by trucks transporting Level I, II, and III hazardous materials. The project location is more than 300 feet from the closest approach of the southbound lane of Hwy. 1.

Maintenance yards for MacKerricher SP are located near the proposed project site, however none of the unit's facilities use or store substantial amounts of hazardous materials on-site.

The project area is situated between the coastal escarpment and the Old Haul Road consisting of primarily sparse vegetation, in a sandy beach environment. Fuel for wildfires is extremely limited, except in small locations supporting closed cone pine or cypress forests, and coastal scrub and grasslands located along the coast.

<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
---	--	---	----------------------

**WOULD THE PROJECT:**

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 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?                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

### Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Hazards and Hazardous Materials is based on criteria VII a-h, described in the environmental checklist above.

### DISCUSSION

- a) Construction activities will require the use of potentially hazardous materials, such as fuels, oils, and solvents. The project would also involve the routine transportation of small amounts of diesel fuel to the work site. However, large quantities of these materials would not be stored on-site. These materials are generally used for generators, excavation equipment, boring equipment and other vehicles, and would be contained in vessels engineered for safe storage. Spills, upsets, or other construction-related accidents could result in a release of fuels or other hazardous substances into the environment. Accidental spills or improper use of these materials could result in a significant impact to Virgin Creek, Mill Creek, Lake Cleone and the Pacific Ocean. Implementation of Standard Project Requirement HAZMAT 1

(See Chapter 2) would reduce the potential for adverse impacts from these incidents to a less than significant level.

- b) The stretch of coastline at the outlet of Mill Creek is prone to the natural process of coastal erosion caused by waves as generated by periodic strong winter storm events. Past storm events have breached the Haul Road berm, located west of the park access road, however no undermining of the park access road or its berm has occurred to-date. The existing sewage line, which will be slip-lined as part of this project, is located approximately 7 ft. below the surface of the park access road and there is no evidence that it has been affected by storm events. However, climate change may have the effect of accelerating sea level rise, which would ultimately lead to further coastal erosion and intrusion into the project area. Over the past several centuries, the sea level along the California coast has risen approximately 17 -20 centimeters per century (Cayan et al, 2009). Estimates based on weather model simulations of increased atmospheric greenhouse gas scenarios conclude that the rise in sea level could be as much as 30 cm to 45 cm by 2050. While results of model simulations of winter storm forced winds suggest that wave heights will be shorter in height, and that waves will be increasingly shorter in height with higher greenhouse gas concentrations, researchers have concluded that simulations suggest that interannual and inter-decadal fluctuations in larger wave episodes will continue (Cayan et al, 2009). Under these increased atmospheric greenhouse gas scenarios one may foresee the potential for storm events to damage or otherwise compromise the integrity of the sewage lines in the Lake Cleone area, potentially resulting in a sewage spill. However, we cannot predict when this would be likely to happen. The life expectancy of the sewage lines after repairs are completed is estimated to be 25 years. In order to prevent the potential release of sewage into the environment as caused by wave action damaging or other-wise compromising the sewer line, and thereby reduce the impact of a potential spill to a level below significance, the following mitigation measure will be implemented:
- c) There are no schools or proposed schools within one-quarter mile of the project area. The nearest school (Fort Bragg Middle School) is located approximately 1.5 miles from the project site. No impact.
- d) The Haul Road and the adjacent project area are not included on a list of hazardous materials sites (Cortese List) compiled by the California Department of Toxic Substances Control, pursuant to Government Code §65962.5. The former Union Lumber Company Mill, now called the Louisiana Pacific/Georgia Pacific Lumber Mill is listed on the Cortese List as a major industrial complex; however, no work for this project would occur on or impact this property. No impact.
- e,f) The proposed project site is not located within an airport land use plan, within two miles of a public airport, or in the immediate vicinity of a private air strip. As noted in the Environmental Setting above, the privately owned Fort Bragg Airport is located approximately 1/2 miles east of the project area and there is an additional private air strip approximately two miles to the southwest. The air traffic at both of the private airstrips is minimal. No work associated with the project would interfere with airport operations. No impact.

- g) All proposed project activities would occur within the boundaries of MacKerricher SP and would not restrict access to or block any public road. All areas within the park would remain open to the public during construction, although access to the areas under construction would be restricted to authorized personnel only. The construction and staging areas are not part of any adopted emergency response or evacuation plan, and no elements of the project would interfere with the execution of existing plans. No impact.
  
- h) The project area is located on a coastal terrace that contains coastal scrub vegetation. This vegetation does not pose a high fire hazard, but equipment can get very hot with extended use and would sometimes be in close proximity to dry vegetation. Improperly outfitted exhaust systems or friction between metal parts and/or rocks could generate sparks, resulting in a fire. In addition, project work may involve the use of volatile, flammable substances. Improper use, storage, or disposal of these materials could also result in a fire. Implementation of the mitigation measures listed below, along with HAZMAT-1 above, would reduce the potential for fire-related adverse impacts from this project to a less than significant level.

## VIII. HYDROLOGY AND WATER QUALITY.

### ENVIRONMENTAL SETTING

#### Watershed

No major streams or drainages are present within the project boundary (Archambault, 2002). The nearest major freshwater bodies are Mill Creek and Lake Cleone to the northeast (see Appendix A). The project area has some small drainages, but in general surface water moves by sheetflow toward the ocean or percolates into the marine terrace deposits and then exits from the bluff face. Most of the project site is considered to be a California Coastal Act-defined wetland (Warner, 2004).

#### Flooding

According to FEMA (2003) the project site is not located within the floodplain of any major creek and would not be subjected to a 100-year flood. The coastal area is also subject to potential flooding from a tsunami, an earthquake-generated ocean wave. According to the Mendocino County General Plan (Mendocino, 1981b), the area of MacKerricher State Park should be under a special caution during a tsunami alert, and the beach area should be cleared if a flood tide and a tsunami are coincident. The beach area from sea level to 25 feet above sea level is considered susceptible to tsunami inundation (DPR, 1995).

#### Water Quality and Water Supply

Water quality in the area is regulated by the North Coast Regional Water Quality Control Board (NCRWQCB). The NCRWQCB Basin Plan (NCRWQCB, 1994) designates the project area as part of the Minor Coastal Streams Hydrologic Unit (HU). Existing Beneficial Uses for this HU include municipal supply, commercial and sport fishing, and estuarine habitat. The proposed Beneficial Uses include agricultural supply; industrial service supply; groundwater recharge; recreation (contact and non-contact activities); cold water habitat; wildlife habitat; migration of aquatic organisms; spawning, reproduction, and/or early development, and aquaculture.

Groundwater resources are limited within the coastal marine terrace deposits, due to the thinness and limited east-west extent of those terraces (DPR, 1995). The water source for MacKerricher State Park is from Lake Cleone, located approximately ½ mile northeast of the project site. Lake Cleone is subject to pollution from State Route 1 runoff and other sources (DPR, 1995). Treating the water (by chlorination) for potable supply creates possible carcinogenic compounds. Salt water intrusion is also a possibility.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f) Substantially degrade water quality?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| h) Place structures that would impede or redirect flood flows within a 100-year flood hazard area?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| j) Result in inundation by seiche, tsunami, or mudflow?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Criteria for Determining Significance**

The analysis of determining the significance of impacts of the Proposed Action to Hydrology and Water Quality is based on criteria VIII a-j, described in the environmental checklist above.

**DISCUSSION**

- a) Potential small releases of sediment could occur during grading for the parking lot drainage repairs and the concrete walkway replacement. Some release of concrete or its components could occur during the reconstruction of the concrete boardwalk entrance. Other potential impacts to water quality could result from releases of fuels or other fluids from vehicles and equipment during the construction process.

These activities could result in a violation of water quality standards and waste discharge requirements. Project Requirement Hydro 1 will control releases of pollutants in storm (or other) water runoff and reduce potential impacts to a less than significant level.

- b) The project does not involve the extraction of groundwater. No new facilities will be constructed as part of this project, therefore water usage should remain the same. No impact.
- c) Existing drainage patterns and stream courses will not be altered in a manner that would significantly increase on- or off-site erosion or siltation. During grading and minor excavation activity the use of Best Management Practices for erosion control (see Mitigation Measure Hydro-1 above) will result in a less than significant impact.
- d) Existing drainage patterns and stream courses will not be altered in a manner that would significantly increase the rate or amount of surface runoff in a manner that would result in on- or off-site flooding. Upgrades to the existing parking area drainage system are planned as part of this project. Therefore, no impacts should occur due to this project.
- e) This project will not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. No substantial additional sources of polluted runoff are expected from this project. Upgrades to the existing parking area drainage system are planned as part of this project. Implementation of Mitigation Measure Hydro-1 will reduce any impacts from polluted runoff to a less than significant level.
- f) This project has the potential to substantially degrade water quality if BMPs to control soil erosion and runoff or release of vehicle or equipment fluids are not in place during construction. If Mitigation Measure Hydro-1 listed above is implemented, then no substantial degradation of water quality will occur and impacts will be less than significant.
- g) This project is not located within the 100-year floodplain of any nearby freshwater body (FEMA, 2003), and does not include the construction of housing. Therefore, there is no impact from this project.
- h) This project will not place structures that could impede or redirect flood flows within a 100-year floodplain (FEMA, 2003). Therefore, there is no impact from this project.
- i) The project will not expose people or structures to an increased risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam. Therefore, there is no increased impact from this project.
- j) The project will not result in an increased risk of inundation by tsunami, as only people on the beach would be at risk, as the maximum expected run-up is 25 feet above mean sea level. People on the boardwalk will not be at risk. No impact from this project.

**IX. LAND USE AND PLANNING.**

**ENVIRONMENTAL SETTING**

The proposed project site is situated near State Route 1 north of the city of Fort Bragg, in an unincorporated portion of Mendocino County. The boardwalk is in the central portion of MacKerricher SP, a 2,300-acre coastal recreation area, zoned as Open Space in the Mendocino County General Plan (MCGP, 1981) and Coastal Element (1991). Open Space lands are those considered unsuitable for development or most valuable left in the undeveloped natural state. The project site is bounded on three sides by the Park, and to the west by the Pacific Ocean. Lands adjacent to the Park near the project site are designated Rural Residential by the County.

Development and uses within MacKerricher SP are guided by the park's General Plan, along with the Mendocino County LCP (Coastal Element of the MCGP) and the regulations of various agencies with jurisdiction over some or all areas of the park. As a recreational facility, the development of permanent housing (other than a limited number of staff residences) is not a planned use of the park. The park is both a local recreational resource and a destination park, used by locals and out-of-town visitors alike, but does not offer residential opportunities within its boundaries. Business opportunities are limited to DPR-approved concessions or in-holdings that retained the right to operate when land around their businesses was incorporated into the park. The boardwalk entryway and parking and surrounding area has been designated as a High Use Intensity Area under the Park's GP. Such areas provide for facilities such as trails, roads, and parking areas, and represent places where most of the park resource values have been degraded or lost. This portion of the project site is also designated as a Development Zone in the Park's GP, which allows facilities serving a large number of visitors. The remainder of the boardwalk is located in a Low Use Intensity Area, where park resources have, for the most part, been impacted lightly or not at all. These areas are generally reserved for trails and existing roads, and are monitored to avoid unacceptable damage to important resources. Resource restoration is also recommended, as necessary. Activities in Low Use Intensity Areas generally include sightseeing, beachcombing, hiking, nature observation, informal picnicking (MacKerricher SP GP, Land Use Element, pp. 97-112). This part of the project site is designated as a Natural Zone in the Park's GP, which provides for devilmnts essential for the management, modest use, and appreciation on the Park. Replacement of the Laguna Point boardwalk to widen it is called for in the Park's GP (Facilities Element, p. 157).

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### **Criteria for Determining Significance**

The analysis of determining the significance of impacts of the Proposed Action to Land Use Planning is based on criteria **IX** a-c, described in the environmental checklist above.

### **DISCUSSION**

- a) The proposed project site is wholly within the boundaries of MacKerricher SP. The site does not contain or define an established community and no project activities would disrupt or divide any community functions. Project activities would not prevent access to adjacent parcels. No impact.
  
- b,c) Development and uses within MacKerricher State Park are guided by California State Parks policies, the park's General Plan, Mendocino County's Local Coastal Plan (Coastal Element of the Mendocino County General Plan), and the regulations of various agencies with jurisdiction over some or all areas of the park. Vehicle and equipment use during the project would be necessary to complete the sewer line and lift station project. Project activity would be concentrated along the existing haul road and adjacent disturbed areas. State Parks staff and the project contractors would adopt best management practices to limit impacts to the immediate project area. The project activity would be temporary in nature and would benefit the Park and the public in the long term. No other project elements would be in conflict with the 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. Implementation of project requirements and mitigation measures proposed in this document would reduce any potential adverse environmental impacts associated with project implementation to a less than significant level.

**X. MINERAL RESOURCES.**

The main mineral resource in Mendocino County is aggregate, primarily sand and gravels mined from alluvial deposits (Mendocino County GP, 2009). No significant mineral resources have been identified within the boundaries of the project area. Mineral resource extraction on CSP-owned lands is not permitted under the Department's Resource Management Directives.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Criteria for Determining Significance**

The analysis of determining the significance of impacts of the Proposed Action to Minerals is based on criteria X a,b, described in the environmental checklist above.

**DISCUSSION**

- a) The project would not result in the loss of availability of a known mineral resource, as no known mineral resources exist within the project boundary. No impact.
- b) The project would not result in the loss of availability of a locally important mineral resource recovery site, as none exist within the project boundary. 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). 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).

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.

Mendocino County has a zoning ordinance that controls potential nuisances such as noise and vibration. The noise zoning ordinance states that the  $L_{max}$  for any activity over a one hour period shall not exceed 60 dBA between 7:00 a.m. to 10 p.m. or 45 dBA between 10 p.m. to 7:00 a.m. for residential, agricultural, and resource zoning districts (MCGP, Noise Policies, Policy DE-100). Maximum noise exposure limits are applicable beyond any property lines of the property containing the noise, but construction site sounds between the hours of 7:00 a.m. and 7:00 p.m. are exempt as long as standard, reasonable practices are followed.

**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
<b>Constant exposure to the following sound levels can lead to hearing loss</b>	
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)

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generate or expose people to excessive groundborne vibrations or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Create a substantial permanent increase in ambient noise levels in the vicinity of the project (above levels without the project)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Criteria for Determining Significance**

The analysis of determining the significance of impacts of the Proposed Action to Noise is based on criteria VI a-f, described in the environmental checklist above.

## DISCUSSION

- a) Trucks and heavy equipment such as a backhoe, dump truck, or pump could operate during equipment delivery, lift station repair and replacement, telemetry system installation, and associated electrical upgrades. Project related noise levels at and near the lift station sites could fluctuate, depending on the type and number of vehicles and equipment in use at any given time. Depending on the specific project related activities being performed, short-term increases in ambient noise levels could result in speech interference near the project sites and could annoy park visitors. Under these circumstances, park visitors could also seek out other nearby parks or recreation areas. Generally, project related work would not occur during the summer or on weekends or holidays when visitation is high. Weekend work could be implemented, but only to accelerate the proposed project or address emergency or unforeseen circumstances.

Not all lift stations would be repaired or replaced at one time; several lift stations and associated park facilities would remain open for visitor use during project implementation. If project related noise disturbs park visitors, other nearby parks and recreational areas are available for use.

Noise associated with the proposed project is considered to have a potentially significant short-term impact to nearby noise-sensitive receptors. Implementation of the following minimization measure would reduce potential impacts to a less than significant level.

- b) Project related activities would not involve the use of explosives, pile driving, or other intensive construction techniques that could generate significant ground vibration or noise. Minor vibration adjacent to excavating and heavy equipment during construction work would be generated only on a short term basis. Therefore, ground borne vibrations and noises would have a less than significant impact.
- c) Once repair and replacement of lift stations, associated electrical upgrades, and installation of a new telemetry system is completed, project related noises would cease. The project would not create any source of noise that would contribute to a substantial permanent increase in noise levels in the vicinity of the project areas. No impact.
- d) See Discussion (a) and (c) above. Implementation of **STANDARD PROJECT REQUIREMENT NOISE-1** will reduce any potential impacts to a less than significant level.
- e) The project is not located within an airport land use plan but is less than half a mile west of the privately owned Ferndale Resort Seaplane Base. The seaplane base has traditionally been for public use, but is not open at this time (Miller 2007). See Discussion (a) and (c) above. Implementation of **STANDARD PROJECT REQUIREMENT NOISE-1** will reduce any potential impacts to a less than significant level.
- f) The project is not located in the vicinity of a private airstrip. No impact.

## XII. POPULATION AND HOUSING

### ENVIRONMENTAL SETTING

MacKerricher SP is located in Mendocino County, on the northern California coast. The park is bounded on the west by the Pacific Ocean; its southern end adjoins the city limits of Fort Bragg. In the year 2000, approximately eight percent of the Mendocino County's total population resided in Fort Bragg. The city's population is expected to increase 24 percent from 2000 to 2020. According to the 2001 Interim County Population Projections from the California Department of Finance, the population for Mendocino County will reach 116,700 people in 2020, a 30-50% increase over current levels.

No residences are located in the project site. As a recreational facility, the development of permanent housing is not a planned use of the park. The park is both a local recreational resource and a destination park, used by locals and out-of-town visitors alike, but does not offer residential opportunities within its boundaries.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Population and Housing is based on criteria **XII** a-c, described in the environmental checklist above.

### DISCUSSION

- a) The project would have no housing component and all work would take place within the confines of the park boundaries with maintenance (no additions) to the existing infrastructure. No impact.
- b-c) The project is a maintenance project in a State Park. The project would neither modify nor displace any existing housing nor displace any people, either temporarily or permanently. No impact.

### **XIII. PUBLIC SERVICES.**

#### **ENVIRONMENTAL SETTING**

Mackerricher SP is bordered on the south by the City of Fort Bragg, on the north by the Ten Mile River, on the east by the Mendocino County unincorporated community of Cleone, and on the west by the Pacific Ocean. The project location is immediately north of the Fort Bragg city limits. Emergency access to the project site is via Hwy. 1, a two-lane, state paved and maintained highway. The general area is urban/rural in nature; Fort Bragg has a population of just over 7,000.

State Park Peace Officers (Rangers) are trained law enforcement officers. They provide immediate police protection within the park boundaries, with backup provided by both the Fort Bragg Police and Mendocino County Sheriff's Departments. Both departments have stations within 6-10 miles (10-16 km) of the proposed project site. The California Shock Trauma Air Rescue (CALSTAR 4) service helicopters, based at Ukiah Municipal Airport, provide air ambulance service for Mendocino County, available for medical emergencies, search and rescue, and fire support 24 hours a day, 7 days a week. Response time is generally under 30 minutes. The Mendocino Coast District Hospital, located in Fort Bragg, is the closest full-service medical facility to the project site.

Fire protection is provided by the California Department of Forestry and Fire Protection (CAL FIRE), as outlined in a Cooperative Fire Protection Agreement with CSP. They are supported by the Mendocino Fire Protection Department and the Fort Bragg Fire Department, as necessary. The CAL FIRE Fort Bragg Fire Station is approximately 5-9 miles (8-14 km) from the project site. Additional assistance is available from Parlin Fork Conservation Camp (California Department of Corrections). CAL FIRE also maintains an Air Attack Base at the Ukiah Municipal Airport, approximately 65 miles (105 km) and 15-20 minutes flight time away. The CAL FIRE Helitack Base is located in Willits, about 35 miles (56 km) to the east of Fort Bragg.

The Coast Guard maintains an active station at Noyo Harbor for search and rescue efforts and law enforcement at sea.

Mackerricher SP is in the Fort Bragg School District. There are no existing or proposed schools within one-quarter mile (0.40 km) of the sewer line and lift station project.

There are no other public facilities in the vicinity of the proposed project area.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Criteria for Determining Significance**

The analysis of determining the significance of impacts of the Proposed Action to Public Services is based on criteria XIII a, described in the environmental checklist above.

**DISCUSSION**

a) The project does not include new governmental facilities, but proposes to replace Force Main and Sewer Lift System. The project would not create any increase in public service requirements. Project work would not significantly increase visitation or the demand for public services, and therefore would not necessitate the construction of new facilities.

Fire Protection: Use of construction equipment around flammable vegetation presents an increased fire risk that could result in the need for CAL FIRE, CDF and local fire response teams during project implementation. Any impact on services would be temporary; no elements of the project would contribute to the need for an increase in the existing level of public service. In addition, State Park Rangers would be available to respond to incidents and provide support for logistics and public safety. Implementation of Project Requirement HAZ-3, combined with the availability of on-site fire suppression equipment (fire extinguishers) would ensure that potential impacts on Fire Protection services would remain at a no impact.

Police Protection/Emergency Response: State Park Rangers provide law enforcement protection within MacKerricher SP. However, demand for law enforcement would be no greater than present in the project area and would not require an increase in emergency personnel. No element of the proposed project would create a situation that would significantly increase the demand for police protection, increase staffing needs, or adversely affect emergency response times. No impact.

Schools: There are no elements of this proposed project that would affect schools. No changes would occur that would require additional school facilities or personnel. No impact.

Parks or Other Public Facilities: Access to the Park would remain open to the public except in the immediate project area. None of the project elements would interrupt normal activities at MacKerricher SP or contribute to a significant increase in visitation. The level of required services within the park is expected to remain relatively static, subject only to seasonal fluctuations in visitor use. County administrative requirements would be equivalent to any other minor commercial construction project. No impact.

## XIV. RECREATION.

### ENVIRONMENTAL SETTING

MacKerricher SP is a semi-rural, coastal recreation area, emphasizing the importance of the marine and shore environments, sand dunes, marine terrace, wetland areas, geology, plant and animal life, and numerous cultural sites within and adjacent to the park. The purpose of the park is to make beach access and the rest of these features available, in an essentially natural condition, for visitor enjoyment, while protecting the resources for future generations.

More than half a million people enjoy MacKerricher SP annually. Visitation is heaviest during the summer months, but continues throughout the entire year. People come to the park for camping, picnicking, freshwater and surf fishing, beachcombing, nature observation, walking on the park's boardwalk, horseback riding, and hiking, biking, or jogging on the historic Haul Road. The old Haul Road spans most of the southern portion of MacKerricher State Park, and is part of the Coastal Trail. With the exception of a short detour at Lake Cleone due to a washout, visitors can walk or bicycle the old haul road route from Glass Beach across the Pudding Creek Trestle and continue north for over 3 miles (4.8 km) to Ward Avenue.

There are five state parks and the Point Cabrillo Light Station and Preserve within 15 miles of the Lake Cleone area. The proposed project area is within the boundaries of MacKerricher SP.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Recreation is based on criteria **XIV** a-b, described in the environmental checklist above.

### DISCUSSION

- a) During construction activities, access to the immediate project area would be closed to visitors to ensure public safety. Pinewood Campground however, would remain open. Temporary closure of the Haul Road/Coastal Trail will be necessary for brief periods during the project to

accommodate equipment access and provide for public safety. In this instance alternative options for access would be publicized. State Parks would provide notification in the local media and through park postings prior to and during all construction activities that would result in closures. Access to certain areas of MacKerricher State Park is routinely restricted or closed temporarily in winter due to storms, flooding, high tides or unsafe conditions. Seasonal and temporary closures to park access in the interest of public safety or resource protection are a standard practice of park management and park policy. In general the public understands the need for these temporary restrictions to access and the constantly changing nature of our coastal environment. Such closures have not resulted in the increased use or the deterioration of other recreational parks or facilities. Construction would occur only during daylight hours and would not occur on weekends or holidays. The closure would be temporary and short-term, estimated to last 3 weeks. All other areas of the park would remain open. The project would not cause increased use of other parks or recreational facilities nor would the project lead to physical deterioration of any known facilities. There would be no impact.

- b) The intent of the Force Main and Sewer Lift Station Replacement Project is to prevent the discharge of sewage into adjacent water bodies and the Pacific Ocean. The project would have a beneficial physical effect on the environment by added safety for the public and improved recreational opportunities. Ocean erosion is removing portions of the "Old Haul Road" that currently protect the Lake Cleone lift station and coastal areas that protect the primary force main which transports raw sewage from the Park to the City of Fort Bragg's sewage treatment facility. Without this project, continued erosion will undermine the structural integrity of this infrastructure causing system failure and significantly increasing the threat to public health due to the likelihood of discharge of untreated sewage into adjacent water bodies and the ocean. The proposed project would not include the construction or expansion of any recreational facilities within the Park. The project would have no impact.

## **XV. TRANSPORTATION/TRAFFIC.**

### **ENVIRONMENTAL SETTING**

The Force Main and Sewer Lift station Replacement Project site is located within MacKerricher State Park in Mendocino County. This portion of northern California is somewhat isolated from the more heavily populated, central part of the state, with limited transportation routes and access into and through the area.

The main transportation route along the Mendocino Coast is State Highway 1, also known as the Pacific Coast Highway. The section of Highway 1 adjacent to MacKerricher State Park is a two-lane, state-maintained (Caltrans) highway and has been designated as a National Scenic Byway. Due to the limited number of transportation routes along the coast, Highway 1 is also a designated truck route and vehicle traffic includes local as well as regional delivery trucks. Traffic volumes vary seasonally, with increased traffic in the spring and summer months, including tour buses and recreational vehicles. Highway 1 is the main thoroughfare through the town of Fort Bragg and seasonal traffic can cause congestion in the downtown area. Bicycle tourists traveling the popular Pacific Coast Bike Route use Highway 1 as the designated bicycle route along the Mendocino Coast, especially during the summer months. A scenic alternative allows bicyclists to access MacKerricher State Park at Mill Creek Drive, where riders can continue south along the coast on the old Haul Road and over the restored Pudding Creek Trestle into the town of Fort Bragg. North of MacKerricher State Park the Coastal Trail is part of Highway 1. Hikers exploring the Coastal Trail within the Preserve follow a route along the beach between the Ten Mile River and Ward Avenue.

Caltrans defines the Level of Service (LOS) on state routes as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. According to Caltrans, the recommended concept Level of Service for Highway 1 on the Mendocino coast is "E", except through the City of Fort Bragg, where no concept level of service has been established. Level of Service "E" is defined as unstable traffic flow with rapidly fluctuating speeds and flow rates, short headways, low maneuverability and low driver comfort and convenience. Highway 1 is expected to operate at or above the established concept level of service through the year 2020.

There are four public parking areas associated with the Park. One is located on county property at the Ward Avenue access; it is unpaved and has space for 8 to 10 vehicles. The Silvergate parking lot is located just before the Park entrance; it is also unpaved and accommodates approximately 20 vehicles.

The Pudding Creek parking area and the Glass Beach parking area are located at the south end of the Park and accommodate 5-10 vehicles each.

Historically there was significant rail traffic to and through Fort Bragg. What is now the remnant "haul road" within MacKerricher State Park was once a railroad line used to transport logs and lumber to and from the Fort Bragg Mill. Eventually this line was removed and converted to a paved road for truck use. Much of this route has been washed away and heavily eroded on the northern end of the Park. Rail service on the coast is currently limited to excursion trips on the

California Western Railroad's famous Skunk Train (which travels from downtown Fort Bragg east to Willits). The Skunk Train provides roundtrip sightseeing tours but no regular passenger service

The Fort Bragg Airport is located approximately 4 miles (6.4 km) south of the project site at the northern city limits of Fort Bragg. There are approximately a dozen single engine aircraft based at this privately owned airport. There are no commercial flights available from this location.

There is no direct bus service available to the project site. The closest bus stop for the Mendocino Transit Authority "BraggAbout" route is on the north end of Fort Bragg city limits.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, individually or cumulatively, the level of service standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Criteria for Determining Significance**

The analysis of determining the significance of impacts of the Proposed Action to Transportation and Traffic is based on criteria **XV** a-g, described in the environmental checklist above.

**DISCUSSION**

- a) All construction activities associated with the project would occur within the boundaries of MacKerricher SP. None of the activities proposed as part of this project would have the potential to cause traffic delays on a public road. State Route 1 would be the primary access to the project site, with a turn into the parking lot to enter the project area.

b) As mentioned in the Environmental Setting, the recommended concept Level of Service for Highway 1 on the Mendocino coast at MacKerricher State Park is “E”. Level of Service “E” is defined as unstable traffic flow with rapidly fluctuating speeds and flow rates, short headways, low maneuverability and low driver comfort and convenience.

The limited number of construction-related vehicles visiting the site daily would not substantially increase traffic volume or congestion on Highway 1 in the vicinity of the project area. The project would have a less than significant impact.

c) The project site is not located within an airport land use plan, within two miles (3.2 km) of a public airport, in the vicinity of a private air strip, and does not serve as a normal reporting point for air traffic in the area. Nothing in the proposed project would in any way affect or change existing air traffic patterns in the area. Therefore, no impact would occur as a result of this project.

- d) No portion of the project design or implementation would permanently alter existing roads or traffic conditions, or add any element that would increase hazards to traffic or other forms of transportation. The project may have a temporary increase in traffic hazards during construction due to a lane closure on MacKerricher Drive during installation of the force main. Due to the temporary nature of the impact this is a less than significant impact.
- e) The project area is located in MacKerricher State Park. Emergency access would remain intact, vehicle access by park rangers, staff or emergency medical services is currently allowed in the event of an emergency on the Haul Road from either side of the construction activity and on MacKerricher State Park Road. In the event of life-threatening emergencies, the California Shock Trauma Air Rescue (CALSTAR 4) service helicopters, based at Ukiah Municipal Airport, provide air ambulance service for Mendocino County, available for medical emergencies, search and rescue, and fire support. Response time is generally under 30 minute. Therefore, the impact of this project on emergency access or response would be less than significant.
- f) No portion of the project design or implementation would result in reduced or inadequate parking capacity. Visitors wishing to access the Park at the southern end would have parking available at the Ward Avenue area. A Caltrans viewpoint also offers parking at the south end of the Ten Mile River Bridge near the northern end of the Park. Potential staging areas for the project include the Lake Cleone parking area, parking the Pinewood and Surfwood campgrounds. Use of these areas could result in inadequate parking capacity at that location however other parking areas exist so there would be adequate within the MacKerricher State Park. The project would have no impact.
- g) No specific policies, plans, or programs supporting alternative transportation apply to this project. The proposed project entails replacing a force main, removing a restroom and replacing left stations. There is no conflict with any policies regarding transit or alternative transportation. The project would have no impact.

## XVI. UTILITIES AND SERVICE SYSTEMS.

### ENVIRONMENTAL SETTING

MacKerricher State Park is a 2,520-acre coastal park that borders the City of Fort Bragg to the south. Sewage for the park is transported via tight line from the park headquarters area near Lake Cleone to Fort Bragg. The underground line runs down the west side of the park along the haul road, extends under the road and adjacent Beachcomber Motel property, then follows Highway 1 south to the Fort Bragg lift station. The sewer lift station is situated on the edge of the Caltrans right of way which parallels Pudding Creek. Solid waste disposal service is provided under contract with Waste Management of Fort Bragg. Electrical power is obtained from Pacific Gas and Electric. The park supplies its own water from Lake Cleone, approximately 2 miles (3.2 km) from the southern end of the project site.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
a) Exceed wastewater treatment restrictions or standards of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Would the construction of these facilities cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Would the construction of these facilities cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations as they relate to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Utilities and Service Systems is based on criteria **XVI** a-d, described in the environmental checklist above.

## **DISCUSSION**

- a) MacKerricher State Park is within the jurisdiction of the North Coast Regional Water Quality Control District. Capacity of the wastewater facilities of the Park would remain the same and the project would be in compliance with all applicable water quality standards and State Parks would obtain a water quality permit from the NCRWQCD if deemed necessary. No additional wastewater would be produced by this project. The project would have no impact.
- b) As noted above, water for the park is supplied from CSP owned and/or controlled private water supplies. No new facilities are proposed just repairs and replacement. The proposed project would not result in the expansion of the existing internal plumbing or wastewater lines and would have no impact on public wastewater treatment facilities. Portable toilets would be provided at the job site and maintained in compliance with North Coast Regional Water Quality Control District requirements. Therefore, the project would have no impact.
- c) The proposed project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities. The project would have no impact.
- d) The proposed project may require minimal water for project related activities; existing entitlements and resources will be sufficient. No impact.
- e) This project would either replace the parts of the Parks force main and sewer lift stations the capacity of the Parks wastewater system would remain the same. The Project would have no impact.
- f) The proposed project includes the removal of restroom and several feet of old piping CSP would strive to recycle as much of the materials as possible. The asphalt and road base would be processed for reuse by the contractor or delivered to the old quarry on State Park property at Big River for future use. Concrete blocks would be crushed and reused or delivered to Akeff Construction or Baxman Gravel in Fort Bragg for recycling. Any timber associated with the culvert removal would be retained by CSP and reused for future park projects. Remaining waste material generated during the removal of the remnant haul road, if any, would be hauled to the appropriate transfer station for disposal. Mendocino County has no remaining operational landfills. Solid waste generated in Mendocino County is transported to the Potrero Hills Landfill located in Solano County (County of Mendocino 2009). The proposed project would not increase the park's solid waste disposal needs in the long-term and short-term impacts would be minimal. The Project would have a less than significant impact.
- g) Solid waste generated from this project would include asphalt pieces, road base fill material, pieces of the old restroom, and parts of the old forces main. Efforts would be made to recycle all reusable materials in cooperation with local agencies and businesses such as the project contractor, Caltrans, Akeff Construction, and Baxman Gravel. All trash produced by Park

staff, contractors and equipment operators would be removed from the site daily and disposed of properly at State Park facilities at MacKerricher or Russian Gulch maintenance yards. The project would comply with federal, state and local statutes and regulations related to solid waste. The project would have no impact.

## CHAPTER 4

### MANDATORY FINDINGS OF SIGNIFICANCE

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
<b>WOULD THE PROJECT:</b>				
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have the potential to eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have environmental effects that will cause substantial adverse effects on humans, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### DISCUSSION

- a) The California State Parks has evaluated the proposed project and its impacts on the environment, fish and wildlife, plants, animals and plant communities, and rare or endangered plants and animals. While the project has the potential to degrade the environment in the short-term, the purpose and goal of the project is provide a sewage elimination system that meets current Health and Safety standards and to prevent the discharge of sewage into adjacent water bodies and the Pacific Ocean due to continued erosion of the Haul Road . Most project activities have been designed to avoid potentially significant impacts to the physical or biotic environment. Standard and Specific Project Requirements have been developed to further avoid or ensure that potential impacts remain less than significant. In addition, for potentially significant impacts for which avoidance is infeasible in order to accomplish project objectives, mitigation measures have been incorporated into the project design. Full implementation of these measures would eliminate or reduce impacts to a less-than significant level.
- b) California State Parks has evaluated the proposed project for its potential impacts on historical, cultural, and archaeological impacts. However, as a result of the evaluations of the project site, several Standard and Specific Project Requirements have been incorporated into the project design, including avoidance of sensitive surface features,

onsite archaeological monitoring during soil-disturbing project activities, and training for workers and stoppage-of-work requirements for any incidents of discovery of potentially significant archaeological or cultural resources; these measures are to be applied in project activity areas where soil disturbance activities are proposed. Implementation and fulfillment of these project requirements would render project impacts on cultural resources less than significant.

- c) No other projects are planned for any of the proposed sites for this project within the foreseeable future. These activities themselves constitute the effective mitigations for any negative impacts that might accrue from this project. The cumulative impacts of the collective components of this project are designed to be to the benefit of the ecological condition of the State Park. Any negative impacts are expected to be less than significant, short-lived, and isolated during and immediately following project implementation and State Parks would respond to these impacts as they are detected, through regular monitoring and maintenance of the sewage elimination system.
- d) Most project activities would have no potentially significant effects on humans. However, environmental impacts on air quality (e.g., heavy equipment emissions), ambient noise levels (e.g., heavy equipment operation), could have substantially adverse effects on humans. While this project could have substantially adverse, direct or indirect effects on humans, implementation of this project according to designed safety standards, engineering specifications, park closure and warning notices and other prescribed safety precautions, project monitoring, and measures outlined in Standard and Specific Project Requirements would ensure potential impacts from emissions remain at a less than-significant level.

## **CHAPTER 5**

### **Summary of Project Requirements and Mitigation measures**

The following project requirements and mitigation measures would be implemented by DPR as part of the Force Main and Sewer Lift Station Replacement Project at MacKerricher State Park.

#### **Aesthetics**

No Project Requirements or Mitigation Measures necessary

#### **Agricultural Resources**

No Project Requirements or Mitigation Measures necessary

#### **Air Quality**

- 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**

Ten Mile Shoulderband

- A morning site inspection for the Ten Mile shoulderband will be conducted by a DPR-approved biological monitor prior to the start of construction for each day that construction activities are scheduled in the following project locations: the sewer force main segment between the new Lake Cleone lift station and the new Pinewood Campground lift station; and, at the Lake Cleone and Virgin Creek lift Stations.
- If a Ten Mile shoulderband is found within the project area then it will be removed by a DPR-approved biological monitor and placed outside of the project area in adjacent similar habitat.

Nesting Migratory Bird and Raptor Species

- If construction-related activities are conducted between February 1 and August 31 then surveys for nesting migratory bird and raptor species will be conducted by a DPR-approved biologist before construction activities occur in these months to identify active nests.
- Surveys for active raptor nests will be conducted within a 500-foot radius of the project areas. The surveys will be conducted within 10 days prior to the beginning of construction at each work site. If nesting raptors are found, no construction will occur

within a 500-foot radius of the nest tree between February 1 through August 31, or until the young have fledged and the young will no longer be impacted by project activities (as determined by a DPR-approved biologist), or unless otherwise negotiated with the California Department of Fish and Game.

- Surveys for active migratory bird nests will be conducted within a 100-foot radius of the project areas 10 days prior to commencement of construction at each work site. If active nests are located, all construction disturbance activities within a 100-foot radius (or as negotiated with CDFG on a case-by-case basis, based upon species and location of nest) of the nest tree shall be postponed until the end of the breeding season (September 15) or until the young have fledged and the young will no longer be impacted by project activities (as determined by a DPR-qualified biologist).

#### Sensitive Bat Species

- No work will occur between February 1 and September 31, if possible, to avoid the bat maternity season.
- If work activities must be conducted during the bat maternity season (i.e., February 1 through September 31), a DPR-approved bat specialist will conduct a survey for bats within 100 feet of those project areas with suitable bat habitat. If bat roosts are observed, a buffer of 100 feet will be established around the roost in which only those activities that the bat specialist determines could occur without significant impacts to bats will be conducted within the buffer zone during the bat maternity season.

#### Howell's Spineflower and Point Reyes Ceanothus

- Occurrences of Howell's spineflower adjacent to the existing Lake Cleone lift station and occurrences of Point Reyes ceanothus adjacent to the Haul Road along the southern replacement segment of the sewer force main will be flagged or otherwise identified on the ground. Fencing will be installed around the perimeter of these occurrences and construction monitors and work crews will be instructed to avoid these areas.

#### Sensitive Natural Communities

- Proposed directional drilling operations between the new Pinewood Campground lift station and its terminus in the Pinewood Campground will occur at a minimum depth of three feet below the soil surface.
- Proposed trenching operations in unpaved locations between the new Pinewood Campground lift station and its terminus in the Pinewood Campground will be manually excavated. No roots 2 inches or greater for any native tree with a dbh of 12 inches or greater will be severed unless authorized in advance by a DPR--approved biologist.
- The north tie-in point for the northern replacement segment of the Haul Road sewer force main will be manually excavated from the edge of the Haul Road pavement to the connection point with the existing force main. No roots 2 inches or greater for any native tree with a dbh of 12 inches or greater will be severed unless authorized in advance by a DPR--approved biologist.

## Sudden Oak Death

- All project activities and proper that could spread *Phytophthora ramorum* to new locations will be subject to Best Management Practices (including proper sanitation measures) developed by the California Oak Mortality Task Force and available online at <http://www.suddenoakdeath.org/index.html>

## MITIGATION MEASURE BIO-1: COASTAL COMMISION WETLANDS

- The total area subject to ground disturbing activities would be revegetated with wetland species appropriate to native coastal terrace prairie habitat and obtained from local genetic stock.
- Nearby degraded wetland habitat within MacKerricher State Park would be enhanced through planting of wetland species appropriate to native coastal terrace prairie habitat and obtained from local genetic stock, at a 1:1 ratio (or as required by Mendocino County).

## Cultural Resources

### Project Specific Requirements

- Only vehicles with rubber tires will be allowed to operate in the project area. Metal tracked vehicles are prohibited.
- All staging of equipment and materials will be limited to paved or hardened surfaces unless a DPR archaeologist approves an alternate location.
- A DPR archaeologist must review and approve the methods used to plug and abandon existing force main lines. A DPR archaeologist will flag off environmental sensitive areas prior to the start of construction to insure the protection of resources during project work.
- No mechanized equipment (backhoe, trencher, auger etc.) will be allowed off the paved surfaces of the Haul Road for any component of this project unless prior approval is obtained from the DPR archaeologist.
- Five wooden culvert boxes are located within the project areas on the Haul Road. Features associated with the wooden culvert boxes will be protected during work on the Haul Road and during culvert replacement/stabilization.
- All grading to reroute the drainage flow after installation of new culverts will be conducted using hand tools.
- Suspension of Archaeological Monitoring – monitoring can be suspended by a DPR archaeologist in some locations of the APE where archaeological sensitivity is low and the archaeologist determines that it is unnecessary.
- Staging - all staging of equipment and materials will be limited to paved or hardened surfaces unless a DPR archaeologist approves an alternate location.
- Plug and Abandon – A DPR archaeologist must review and approve the methods used to plug and abandon existing force main lines.
- Fill Material – if needed, fill material for project work will be procured from sources outside of the park.
- Spoils – Any spoils generated from the project must be taken outside of the park unless a DPR archaeologist reviews and approves any proposed spoil disposal areas within park.

- A DPR archaeologist will flag-off environmentally sensitive areas prior to the start of construction to insure the protection of resources during project work.

#### Inadvertent Finds during trenching for Force Main in Haul Road

- If archaeological deposits are encountered during trenching for the new force main in the haul road, then trenching activities will be limited to disturbed soil above the deposit and mechanized equipment will be prohibited within the boundary of the site. From the point of encounter (archaeological deposit), all trenching will be hand dug until 10 meters beyond the horizontal extent of the site.

#### Ground Disturbance Monitoring

- A DPR qualified archaeologist will monitor all ground disturbing phases of this project at his/her discretion.
- 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.

#### Inadvertent Finds during trenching for Force Main in Haul Road

- If archaeological deposits are encountered during trenching for the new force main in the haul road, then trenching activities will be limited to disturbed soil above the deposit and mechanized equipment will be prohibited within the boundary of the site. From the point of encounter (archaeological deposit), all trenching will be hand dug until 10 meters beyond the horizontal extent of the site.

#### Inadvertent Finds

- In the event that previously unknown cultural resources (including but not limited to dark soil containing shellfish, bone, flake stone, groundstone, or deposits of historic trash) are encountered during project work by anyone, the state representative will put work on hold at that specific location and contractors will be redirected to other areas (tasks). A DPR-qualified archaeologist will record and evaluate the find and work with the state representative to implement avoidance, preservation, or recovery measures as appropriate to any work resuming at that specific location.
- In the event that significant cultural resources are found in the project location, a qualified historian and/or archaeologist will monitor all subsurface work including trenching, grading, and excavations in that area from that point forward to ensure avoidance of significant cultural resources .

#### Discovery of Human Remains

- 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 monitor is on-site at the time of the discovery, the monitor will be responsible for notifying the appropriate Native American Authorities.

## **Geology and Soils**

- HDPE pipelines, which are flexible in the event of ground movement, will be used to reduce the risk of system failure during seismic ground-shaking.
- The new force main line will be placed within the existing sewer line for further protection during ground-shaking events.
- Granular backfill will be used at all connection points of the pipe with structures to allow for ground movement during earthquake events

## **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, trenching, and repaving.
- If construction activities extend into the rainy season (October 15 to April 15) or if an unseasonal storm is anticipated, the contractor will properly winterize the site by covering (tarping) any stockpiled materials or soils and by constructing silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and graded areas.

## **Hazards and Hazardous Materials**

### **Spill Prevention**

- All equipment would be inspected for leaks immediately prior to the start of construction, and regularly inspected thereafter until equipment is removed from park premises.
- A Spill Prevention, Control, and Countermeasure Plan (SPCC Plan) would be prepared prior to the start of construction and a spill kit maintained onsite throughout the duration of the project. This SPCC Plan would include a map delineating construction staging or storage areas and areas where refueling, lubrication, and maintenance of equipment may occur.
- Equipment would be cleaned and repaired (other than emergency repairs) outside the park boundaries. All contaminated water, soil, sludge, spill residue, or other hazardous compounds would be disposed of outside park boundaries, at a lawfully permitted or authorized site. a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur
- Prior to the operation of the repaired sewer system, the Department will revise its Business Plan to include procedures that must be followed to prevent sewage from potentially being spilled into the environment as the result of severe winter storms and associated wave action on the integrity of sewer lines located adjacent to Lake Cleone.
- Park unit employees will be trained in the proper procedures to follow to prevent sewage spills that may result from the wave action of severe winter storms.

### **Fire Safety**

- A fire safety plan would be in place prior to the start of any construction, including identified fire suppression equipment and completion of any required employee training.
- Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire

extinguishers would be required for all heavy equipment.

- Construction crews would be required to park vehicles away from flammable material, such as dry grass and brush. At the end of each workday, heavy equipment would be parked over mineral soil, asphalt, or concrete to reduce the chance of fire.
- A Hazardous Materials Abatement Plan and Specifications for the proper use, storage, and disposal of any flammable materials used on site would be prepared, in conjunction with the plan indicated in HAZMAT-1 above, prior to start of work and implemented during all phases of the project.
- Park staff would be required to have a State Park radio on site, which would allow direct contact with Mendocino County Fire Department and centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire. Fire suppression equipment would also be available within the park.

### **Hydrology and Water Quality**

#### Water Quality

- Implementation of Standard Project Requirement Geo 1 providing BMPs to control erosion and runoff during ground-disturbing construction activities.
- The project would be in compliance with all applicable water quality standards and waste discharge requirements as specified in the North Coast Regional Water Quality Control Board Basin Plan for the area.
- Implementation of Standard Project Requirement Hazmat 1 will reduce impacts to water quality from possible pollutants (fuels and other vehicle fluids) released from vehicles and/or other equipment during construction

### **Land Use Planning**

No Project Requirements or Mitigation Measures necessary

### **Mineral Resources**

No Project Requirements or Mitigation Measures necessary

### **Noise**

- Construction activities will generally be limited to the daylight hours Monday – Friday from 7:00 a.m. to 7:00 p.m.; however, weekend work could be implemented to accelerate construction or address emergency or unforeseen circumstances. If weekend work is necessary, no work will occur on Saturday or Sunday before 8:00 a.m. or after 7:00 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

### **Population and Housing**

No Project Requirements or Mitigation Measures necessary

**Public Services**

No Project Requirements or Mitigation Measures necessary

**Recreation**

No Project Requirements or Mitigation Measures necessary

**Transportation/Traffic**

No Project Requirements or Mitigation Measures necessary

**Utilities and Service Systems**

No Project Requirements or Mitigation Measures necessary

## Chapter 6

### REFERENCES

#### Bio

AmphibiaWeb. 2009. Information on amphibian biology and conservation: *Rana draytonii* California Red-legged Frog. Web application 2009. Berkeley, California. Website: <http://amphibiaweb.org/>. Accessed May 20, 2009.

CaliforniaHerps. 2009. Website: *Actinemys marmorata marmorata* - Northern Pacific Pond Turtle. Website: [www.californiaherps.com/turtles/pages/a.m.marmorata.html](http://www.californiaherps.com/turtles/pages/a.m.marmorata.html) Accessed May 18, 2009.

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

\_\_\_\_\_. 2009. Rare Find: California Department of Fish and Game Natural Diversity Database. Version 3.1.0 Accessed April 3, 2009.

\_\_\_\_\_. 2009. Lake and Streambed Alteration Program. Website: <http://www.dfg.ca.gov/habcon/1600/> Accessed June 14, 2009.

California Native Plant Society (CNPS). 2009. Inventory of Rare and Endangered Plants of California, 7<sup>th</sup> edition, electronic version. Website: <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi> Accessed March 17, 2009.

California Oak Mortality Task Force (COMTF). 2008. Website: <http://www.suddenoakdeath.org> Accessed May 20, 2009.

County of Mendocino. 2009. General Plan Update, Draft Environmental Impact Report. Prepared for the County of Mendocino by PMC, Davis, CA.

Department of Parks and Recreation (DPR). No date. List of vascular plants of MacKerricher State Park. List compiled from 2002 and 2003 MacKerricher State Park Plant Lists of Teresa Sholars, Biology Professor, College of the Redwoods; and California State Parks Flora Database.

\_\_\_\_\_. 1995. MacKerricher State Park General Plan.

\_\_\_\_\_. 2007. Plant surveys of MacKerricher State Park conducted by Roy W. Martin, DPR Environmental Scientist, Northern Service Center, Sacramento, California.

\_\_\_\_\_. 2008. Plant surveys of MacKerricher State Park conducted by Roy W. Martin, DPR Environmental Scientist, Northern Service Center, Sacramento, California.

- \_\_\_\_\_. 2009. Plant surveys of MacKerricher State Park conducted by Roy W. Martin, DPR Environmental Scientist, Northern Service Center, Sacramento, California.
- EDAW, Inc. 2001. MacKerricher State Park 2001 Botanical Survey. Prepared for CA Department of Parks and Recreation, Russian River/Mendocino District.
- Jennings, M.R. and M. P. Hayes. 1994. *Amphibians and Reptiles of Special Concern in California*. Final Report, California Department of Fish and Game, Rancho Cordova, California.
- Mendocino County. 2009. Mendocino County Planning and Building Services, Division II of Title 20--Coastal Zoning Code. Website:  
<http://www.co.mendocino.ca.us/planning/CoastZO/ZO496.htm#Sec.%2020.496.030%20Open%20Coastal%20Waters,%20Lakes,%20Streams,%20Rivers>. Accessed June 14, 2009.
- NatureServe. 2009. NatureServe Explorer, An Online Encyclopedia of Life, Version 7.1 (2 February 2009). Website:  
<http://www.natureserve.org/explorer/servlet/NatureServe?searchName=Pandion%20haliaetus> Accessed May 25, 2009.
- Shuford, W. D., and T. Gardali, 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. pp. 292-299.
- Stebbins, Robert C. 2003. *A Field Guide to Western Reptiles and Amphibians*. 3rd Edition, Houghton Mifflin Company.
- U. S. Fish and Wildlife Service (USFWS). 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*), Volume 1: Recovery Plan. California and Nevada Operations Office, Sacramento, California.
- \_\_\_\_\_. 2009. Western Snowy Plover, *Charadrius alexandrinus nivosus*. California and Nevada Operations, Region 8, Arcata Fish and Wildlife Office. Website:  
<http://www.fws.gov/arcata/es/birds/WSP/plover.html> Accessed May 21, 2009.

### **Cultural Resources**

- Barrett, Samuel A. 1909. The Ethno-Geography of the Pomo and Neighboring Indians. *University of California Publications in American Archaeology and Ethnography* 6(1):1-332. Berkeley.
- Barry, W. J. 1977. *Inglenook Fen: A Study and Plan*. State of California – The Resource Agency. Sacramento.

- California Department of Parks and Recreation (CDPR). 1995. MacKerricher State Park General Plan. On file at the Northern Service Center, Sacramento, CA.
- California Department of Parks and Recreation (CDPR). n.d. MacKerricher State Park Unit History, Vol. 1. On file at the CDPR – Northern Service Center.
- California Department of Parks and Recreation (CDPR). 1996. Historic Property Survey Report Including: Archaeological Survey Report. The Haul Road Trail; MacKerricher State Park, Mendocino County, California. On file at the Northern Service Center, Sacramento, CA.
- Fredrickson, David A. 1984. The North Coast Region. In *California Archaeology* by Michael J. Morrato, pp. 471-527. Academic Press, Orlando.
- Kroeber, Alfred L. 1976. *Handbook of the Indians of California*. Reprinted Dover Publications, Inc. Originally published 1925, Bulletin No. 78, Bureau of American Ethnology, Smithsonian Institution, Washington D.C.
- McLendon, Sally and Robert L. Oswalt. 1978. Pomo: Introduction. In *Handbook of North American Indians, Volume 8: California*, edited Robert F. Heizer, pp 274-288. Smithsonian Institution, Washington, D.C.
- Miller, Virginia P. 1978. Yuki, Huchnon and Coast Yuki. In *Handbook of North American Indians, Volume 8; California*, edited by. R. F. Heizer, pp 249-255. Smithsonian Institution, Washington, D.C.
- Thomsen, Harriette and Robert F. Heizer 1964. *The Archaeological Potential of the Coast Yuki*. University of California Archaeological Survey Reports, No. 63. Berkeley, California.
- Schulz, Jennette K. 1985. *Cultural Overview: MacKerricher State Park*. California Department of Parks and Recreation. Manuscript on file, CDPR - Northern Service Center.
- Van Bueren, Thad M. 2006. *Intensive Archaeological Survey for the Big River Watershed Restoration Project, Big River Unit, Mendocino Headlands State Park, Mendocino County, California*. Manuscript on file at DPR – Northern Service Center, Sacramento, CA.
2007. *Archaeological Survey of the Glass Beach Headlands in Fort Bragg, California*. Manuscript on file at CDPR – Northern Service Center, Sacramento, CA.
- White, G. 1989. *A Report of Archaeological Investigations at Eleven Native American Coastal Sites, MacKerricher State Park, Mendocino County, California*. Manuscript on file at CDPR – Northern Service Center, Sacramento, CA.

## Geo

- California Department of Conservation – California Geological Survey (CGS). 2007a. Alquist-Priolo Earthquake Fault Zones. Website accessed April 9, 2009:  
[http://www.consrv.ca.gov/cgs/rghm/ap/map\\_index/Pages/index.aspx](http://www.consrv.ca.gov/cgs/rghm/ap/map_index/Pages/index.aspx)
- California Department of Conservation – California Geological Survey (CGS). 2007b. California Fault Parameters. Website accessed April 13, 2009  
[http://www.consrv.ca.gov/cgs/rghm/psha/ofr9608/Pages/b\\_faults5.aspx](http://www.consrv.ca.gov/cgs/rghm/psha/ofr9608/Pages/b_faults5.aspx)
- California Department of Conservation – California Geological Survey (CGS). 2007c. Probabilistic Hazards Assessment. A Faults. Website accessed April 13, 2009  
<http://www.consrv.ca.gov/cgs/rghm/psha/Pages/Index.aspx>
- California Department of Conservation – California Geological Survey (CGS). 2008. Probabilistic Seismic Hazards Mapping Ground Motion Page for the selected site. Website (accessed April 10, 2009):  
<http://redirect.conservation.ca.gov/cgs/rghm/pshamap/pshamap.asp?Longitude=-123.7853&Latitude=39.475>
- California Department of Parks and Recreation (DPR). 1995. MacKerricher State Park General Plan, adopted June 21, 1995.
- California Department of Parks and Recreation (DPR). 2001. Humboldt Redwoods State Park General Plan. Approved October 26, 2001. 136 pp.
- Loutzenhiser, R.E. 2009. Personal communication April 10, 2009. Tabor Consultants, Engineer.
- Mendocino County. 1991. General Plan. Seismic Safety Element. Website accessed on April 9, 2009. <http://www.co.mendocino.ca.us/planning/GenPlan/Seismic/Contents.htm>
- Mendocino County. 2003. Mendocino County General Plan Update, Background Report. Natural Environment, Geology and Seismicity.
- Natural Resources Conservation Service (NRCS). 1999. Soil survey of Mendocino County, California, western part. Includes soils map. Website accessed on April 9, 2009.  
[http://soils.usda.gov/survey/printed\\_surveys/state.asp?state=California&abbr=CA](http://soils.usda.gov/survey/printed_surveys/state.asp?state=California&abbr=CA)
- U.S. Department of the Interior – National Park 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](http://www.nps.gov/redw/naturescience/naturalfeaturesandecosystems.htm#CP_JUMP_64243)
- U.S. Department of the Interior. U.S. Geological Survey (USGS). 1960. Fort Bragg, California – Mendocino County 7.5-minute series topographic map.
- U.S. Geological Survey (USGS) and California Geological Survey. 2007. Earthquake Hazards Program. Ukiah Quad. Accessed website on April 13, 2009:  
<http://earthquake.usgs.gov/regional/qfaults/ca/index.php>

U.S. Department of the Interior. U.S. Geological Survey (USGS). 2008. Physiographic Provinces of California. Website (accessed April 9, 2009):  
<http://education.usgs.gov/california/provinces.htm#coast>

Vaughan, Patrick. 2009. Personal communication, January 26, 2009. California Department of Parks and Recreation, North Coast Redwoods District, Engineering Geologist.

WRA. 2008. Restoration Feasibility Study, Lake Cleone, MacKerricher State Park, Mendocino County, California. 57 pp.

## **Report Preparation**

### **California Department of Parks and Recreation**

Roy W. Martin  
Environmental Scientist

Steve Hilton  
Associate State Archaeologist

Patricia DuMont  
Staff Park and Recreation Specialist

Dionne Gruver  
Associate State Archaeologist

Gerhard Panushka  
Engineer

This Page Left Intentionally Blank

APPENDIX A  
**MAPS, TABLES, AND CHARTS**

---

This Page Left Intentionally Blank

## APPENDIX 1: Special Status Plant Species

List of Special Status Plant Species Known to Occur or Potentially Occur Within the Project Areas					
Scientific Names	Common Names	CNPS <sup>1</sup>	Status	Probability of Occurrence in MSA	Probability of Occurrence in Project Area
<i>Abronia umbellata</i> ssp. <i>breviflora</i>	pink sand-verbena	List 1B.1		occurs in park	potentially suitable habitat
<i>Agrostis blasdalei</i>	Blasdale's bent grass	List 1B.2		occurs in park	potentially suitable habitat
<i>Blennosperma nanum</i> var. <i>robustum</i>	Point Reyes blennosperma	List 1B.2	SR	occurs in park	no suitable habitat
<i>Castilleja mendocinensis</i>	Mendocino Coast paintbrush	List 1B.2		occurs in park	no suitable habitat
<i>Ceanothus gloriosus</i> var. <i>gloriosus</i>	Point Reyes ceanothus	List 4.3		occurs in park	occurs in project area
<i>Chorizanthe howellii</i>	Howell's spineflower	List 1B.2	ST, FE	occurs in park	occurs in project area
<i>Collinsia corymbosa</i>	round-headed Chinese-houses	List 1B.2		occurs in park	potentially suitable habitat
<i>Gilia capitata</i> ssp. <i>chamissonis</i>	dune gilia	List 1B.1		occurs in park	potentially suitable habitat
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	List 1B.2		occurs in park	potentially suitable habitat
<i>Gilia millefoliata</i>	dark-eyed gilia	List 1B.2		occurs in park	potentially suitable habitat
<i>Hesperervax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	List 1B.2		occurs in park	potentially suitable habitat
<i>Horkelia marinensis</i>	Point Reyes horkelia	List 1B.2		occurs in park	no suitable habitat
<i>Lilium maritimum</i>	coast lily	List 1B.1		occurs in park	no suitable habitat
<i>Phacelia insularis</i> var. <i>continentis</i>	North Coast phacelia	List 1B.2		occurs in park	occurs in project area
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	List 4.2		occurs in park	potentially suitable habitat
<i>Sidalcea malviflora</i> ssp. <i>purpurea</i>	purple-stemmed checkerbloom	List 1B.2		occurs in park	potentially suitable habitat
<i>Viola palustris</i>	alpine marsh violet	List 2.2		occurs in park	no suitable habitat

SE State listed Endangered  
 ST State listed Threatened  
 SR State listed Rare

SC State Candidate for Listing  
 FE Federally listed Endangered  
 FT Federally listed Threatened

FPE Federally Proposed Endangered  
 FPT Federally Proposed Threatened

<sup>1</sup> 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.

APPENDIX 2: Special Status Wildlife Species

Scientific Names	Common Names	Status	Probability of Occurrence in MSP	Probability of Occurrence in Project Areas
<b>INVERTEBRATES</b>				
<i>Calileptoneta wapiti</i>	Mendocino leptonetid spider		no suitable habitat	no suitable habitat
<i>Coelus globosus</i>	globose dune beetle		occurs in park	no suitable habitat
<i>Haliotis cracherodii</i>	black abalone	FE	potentially suitable habitat	no suitable habitat
<i>Noyo intersessa</i>	Ten Mile shoulderband		occurs in park	potentially suitable habitat
<i>Plebejus idas lotis</i>	Lotis blue butterfly	FE	potentially suitable habitat	no suitable habitat
<i>Speyeria zerene behrensii</i>	Behren's silverspot butterfly	FE	potentially suitable habitat	no suitable habitat
<b>FISH</b>				
<i>Eucyclogobius newberryi</i>	tidewater goby	FE, SSC	occurs in park	no suitable habitat
<i>Oceanodroma homochroa</i>	ashy storm petrel	SSC	potentially suitable habitat	no suitable habitat
<i>Oncorhynchus kisutch</i>	central California coast coho salmon ESU	FE, SE	occurs in park	no suitable habitat
<i>Oncorhynchus mykiss</i>	northern California steelhead ESU	FT	occurs in park	no suitable habitat
<b>AMPHIBIANS</b>				
<i>Ascaphus truei</i>	western tailed frog	SSC	potentially suitable habitat	no suitable habitat
<i>Rana aurora</i>	northern red-legged frog	SSC	occurs in park	potentially suitable habitat
<i>Rana draytonii</i>	California red-legged frog	FT, SSC	no suitable habitat	no suitable habitat
<i>Rhyacotriton variegatus</i>	southern torrent salamander	SSC	potentially suitable habitat	no suitable habitat
<b>REPTILES</b>				
<i>Actinemys marmorata marmorata</i>	northwestern pond turtle	SSC	potentially suitable habitat	potentially suitable habitat
<i>Caretta caretta</i>	loggerhead turtle	FT	potentially suitable habitat	no suitable habitat
<i>Chelonia mydas (incl. agassizi)</i>	green turtle	FT	potentially suitable habitat	no suitable habitat
<i>Dermochelys coriacea</i>	leatherback turtle	FE	potentially suitable habitat	no suitable habitat
<i>Lepidochelys olivacea</i>	olive (=Pacific) Ridley sea turtle	FT	potentially suitable habitat	no suitable habitat
<b>BIRDS</b>				
<i>Accipiter cooperii</i>	Cooper's hawk		occurs in park	potentially suitable habitat
<i>Accipiter gentilis</i>	northern goshawk	SSC	no suitable habitat	no suitable habitat
<i>Accipiter striatus</i>	sharp-shinned hawk		occurs in park	potentially suitable habitat
<i>Agelaius tricolor</i>	tricolored blackbird	SSC	potentially suitable habitat	potentially suitable habitat
<i>Asio flammeus</i>	short-eared owl	SSC	occurs in park	potentially suitable habitat

<i>Brachyramphus marmoratus</i>	marbled murrelet	FT, SE	no suitable habitat	no suitable habitat
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	FT, SSC	occurs in park	no suitable habitat
<i>Circus cyaneus</i>	northern harrier	SSC	occurs in park	potentially suitable habitat
<i>Coccyzus americanus</i>	western yellow-billed cuckoo	C	no suitable habitat	no suitable habitat
<i>Elanus leucurus</i>	white-tailed kite	FP	occurs in park	potentially suitable habitat
<i>Fratercula cirrhata</i>	tufted puffin	SSC	potentially suitable habitat	no suitable habitat
<i>Oceanodroma homochroa</i>	ashy storm petrel	SSC	potentially suitable habitat	no suitable habitat
<i>Pandion haliaetus</i>	osprey		occurs in park	potentially suitable habitat
<i>Pelecanus occidentalis californicus</i>	California brown pelican	FE, SE	potentially suitable habitat	no suitable habitat
<i>Phoebastria albatrus</i>	short-tailed albatross	FE, SSC	potentially suitable habitat	no suitable habitat
<i>Progne subis</i>	purple martin	SSC	potentially suitable habitat	potentially suitable habitat
<i>Strix occidentalis caurina</i>	northern spotted owl	FT, SSC	no suitable habitat	no suitable habitat
<i>Synthliboramphus hypoleucus</i>	Xantus's murrelet	C	no suitable habitat	no suitable habitat
MAMMALS				
<i>Antrozous pallidus</i>	pallid bat	SSC	potentially suitable habitat	potentially suitable habitat
<i>Arborimus pomo</i>	Sonoma tree vole	SSC	no suitable habitat	no suitable habitat
<i>Balaenoptera borealis</i>	sei whale	FE	potentially suitable habitat	no suitable habitat
<i>Balaenoptera musculus</i>	blue whale	FE	potentially suitable habitat	no suitable habitat
<i>Balaenoptera physalus</i>	fin whale	FE	potentially suitable habitat	no suitable habitat
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	SSC	potentially suitable habitat	potentially suitable habitat
<i>Eumetopias jubatus</i>	Steller (=northern) sea-lion	FT	potentially suitable habitat	no suitable habitat
<i>Lasiurus cinereus</i>	hoary bat		no suitable habitat	no suitable habitat
<i>Megaptera novaengliae</i>	humpback whale	FE	potentially suitable habitat	no suitable habitat
<i>Myotis evotis</i>	long-eared myotis		potentially suitable habitat	potentially suitable habitat
<i>Myotis volans</i>	long-legged myotis		potentially suitable habitat	potentially suitable habitat
<i>Myotis yumanensis</i>	Yuma myotis		potentially suitable habitat	potentially suitable habitat
<i>Physeter macrocephalus</i>	sperm whale	FE	potentially suitable habitat	no suitable habitat

SE State Endangered  
ST State Threatened  
SSC CDFG, California Species of Special Concern  
FP CDFG, Fully Protected Species  
FE Federally Endangered  
FT Federally Threatened  
PE Proposed Federally Endangered

C Federal Candidate  
DPS Distinct Population Segment  
ESU Evolutionarily Significant Unit

APPENDIX B

# PROJECT DESIGN GRAPHICS

---

**ABBREVIATIONS**

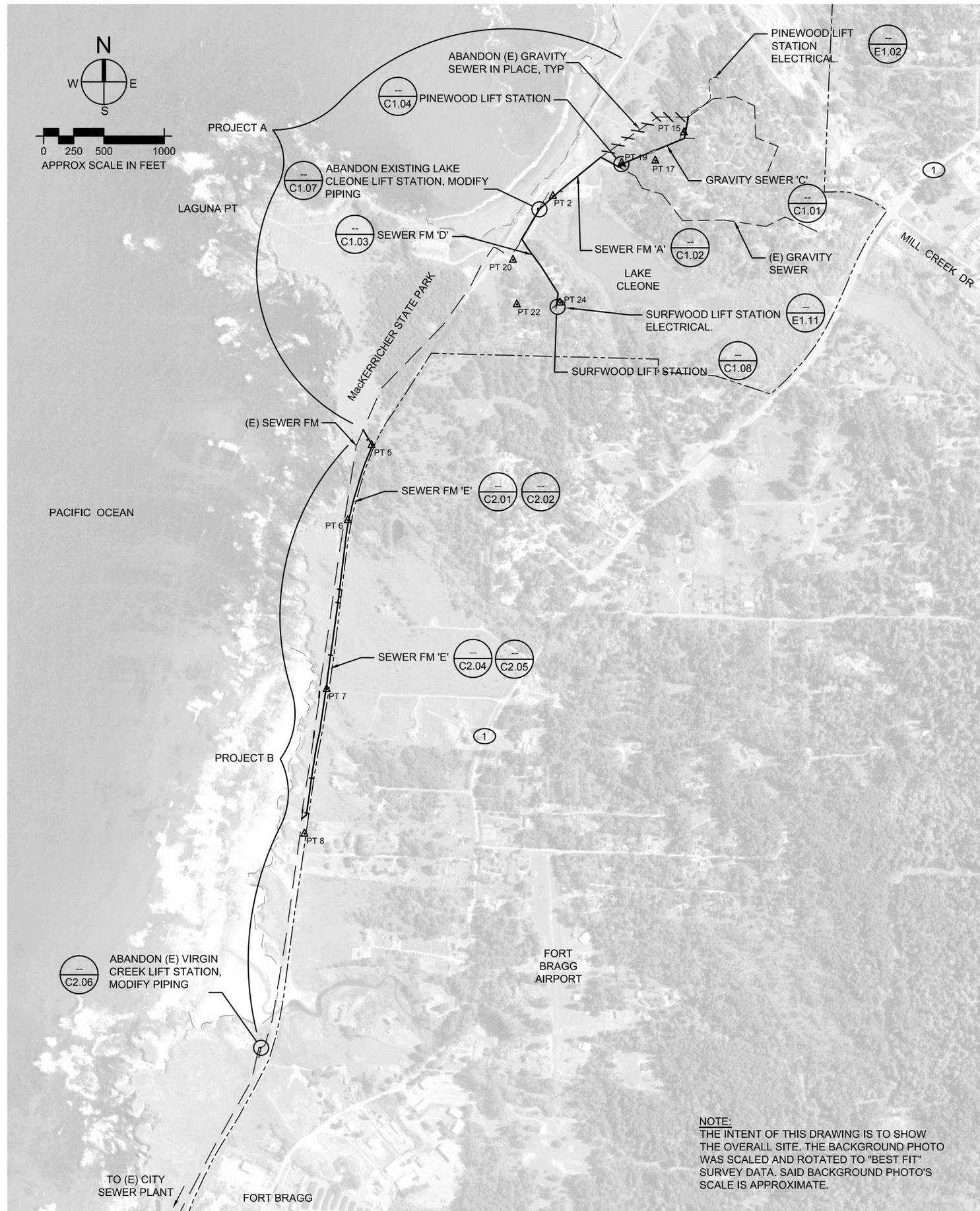
&	AND	HDPE	HIGH DENSITY POLYETHYLENE
AC	ASPHALT CONCRETE	HP	HORSE POWER
AL	ALUMINUM	HWY	HIGH WAY
ANG	ANGLE	ID	INSIDE DIAMETER
APPROX	APPROXIMATE	INV	INVERT
ARV	AIR RELEASE VALVE	LF	LINEAR FEET
ASPH	ASPHALT	MAINT	MAINTENANCE
AVG	AVERAGE	MATL	MATERIAL
BFP	BACK FLOW PREVENTION	MAX	MAXIMUM
BLDG	BUILDING	MCC	MOTOR CONTROL CENTER
CI	CAST IRON	MH	MANHOLE
CIP	CAST IRON PIPE, CLEAN IN PLACE	MIN	MINIMUM
CL	CENTERLINE, CHLORINE	MPT	MALE PIPE THREAD
CLR	CLEAR	(N)	NEW
CMP	CORRUGATED METAL PIPE	NC	NORMALLY CLOSED
CO	CLEANOUT	NITS	NOT INCLUDED THIS SUBMITTAL
CONC	CONCRETE	PE	POLYETHYLENE
CONN	CONNECTION	PL	PLATE
CONST	CONSTRUCTION	PRV	PRESSURE REDUCING VALVE
CP	CONTROL POINT	PSF	POUNDS PER SQUARE FOOT
DEMO	DEMOLITION	PSI	POUNDS PER SQUARE INCH
DI	DUCTILE IRON	PT	POINT
DIA,D,Ø	DIAMETER	PVC	POLYVINYL CHLORIDE
DIM	DIMENSION	Q	RATE OF FLOW IN CUBIC FEET PER SECOND
DIP	DUCTILE IRON PIPE	R	REMOTE READING
DPR	CALIFORNIA DEPARTMENT OF PARKS AND RECREATION	RED	REDUCING, REDUCER
DTL	DETAIL	REQ'D	REQUIRED
(E)	EXISTING	SHT	SHEET
ELEC	ELECTRICAL	SS	SANITARY SEWER
EL,ELEV	ELEVATION	SSMH	SANITARY SEWER MANHOLE
ELL	ELBOW	SS	STAINLESS STEEL
EOP	EDGE OF PAVEMENT	STA	STATION
(F)	FUTURE	STD	STANDARD
FC	FLEXIBLE COUPLING	SWR	SEWER
FCA	FLANGED COUPLING ADAPTER	TDH	TOTAL DYNAMIC HEAD
FF	FINISHED FLOOR	TDS	TOTAL DISSOLVED SOLIDS
FG	FINISHED GRADE	TEMP	TEMPORARY, TEMPERATURE
FL	FLOWLINE	THD	THREADED
FLG	FLANGE	TYP	TYPICAL
FM	FORCE MAIN	UNO	UNLESS NOTED OTHERWISE
FRP	FIBERGLASS REINFORCED PLASTIC	VCP	VITRIFIED CLAY PIPE
FTGS	FITTINGS	W/	WITH
GAL	GALLON	WWM	WELDED WIRE MESH
GALV	GALVANIZE	XING	CROSSING
GE	GROUND ELEVATION		
GPD	GALLONS PER DAY		
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE		
GS	GALVANIZED STEEL PIPE		
GV	GATE VALVE		

**CONTROL TABLE**

POINT	NORTHING	EASTING	ELEV	DESCRIPTION
2	2,309,667.071	6,055,210.005	15.95	MAG. NAIL & PSO WASH
5	2,307,607.467	6,053,707.233	43.01	MAG. NAIL & PSO WASH
6	2,306,986.494	6,053,509.933	40.79	MAG. NAIL & PSO WASH
7	2,305,589.643	6,053,334.900	36.37	MAG. NAIL & PSO WASH
8	2,304,394.712	6,053,150.756	33.14	MAG. NAIL & PSO WASH
15	2,310,193.422	6,056,296.239	45.89	MAG. NAIL & PSO WASH
17	2,309,959.876	6,056,059.329	38.91	60d NAIL & PSO WASH
19	2,309,941.263	6,055,779.762	26.48	60d NAIL & PSO WASH
20	2,309,139.932	6,054,879.466	16.76	MAG. NAIL & PSO WASH
22	2,308,771.365	6,054,911.037	36.81	MAG. NAIL & PSO WASH
24	2,308,785.948	6,055,268.353	38.49	MAG. NAIL & PSO WASH

THE HORIZONTAL DATUM OF THIS MAPPING IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83) (CORS96) (EPOCH:2002.00) PER THE NATIONAL GEODETIC SURVEY (NGS) ONLINE POSITIONING USER SERVICE (OPUS) BEING ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 2.

THE VERTICAL DATUM OF THIS MAPPING IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) (GEOID03) PER THE NATIONAL GEODETIC SURVEY (NGS) ONLINE POSITIONING USER SERVICE (OPUS).



**NOTE:**  
THE INTENT OF THIS DRAWING IS TO SHOW THE OVERALL SITE. THE BACKGROUND PHOTO WAS SCALED AND ROTATED TO "BEST FIT" SURVEY DATA. SAID BACKGROUND PHOTO'S SCALE IS APPROXIMATE.



ACQUISITION & DEVELOPMENT DIVISION  
One Capitol Mall  
Sacramento, CA  
95814-3229



CALIFORNIA STATE FIRE MARSHAL-APPROVED  
Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.  
Reviewed by: *[Signature]* Date: 3/1/12

DPR ACCESS COMPLIANCE REVIEW  
ACCESSIBILITY SECTION  
CERTIFICATION #  
Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

ACCESSIBILITY COMPLIANCE AND STATE FIRE MARSHAL SIGNED ORIGINALS ARE ON FILE AT THE DEPARTMENT OF PARKS AND RECREATION, NORTHERN SERVICE CENTER

DESIGNED: A.S.  
DRAWN: D.L.  
CHECKED: G.P.  
DATE: JUN 27, 2012

REVISIONS	
NO.	DATE

MacKERRICHER STATE PARK  
SEWER LINE AND LIFT STATIONS

**OVERALL SITE MAP**

DRAWING NO.  
**29986.002**

SHEET NO.  
**G0.02**

APPENDIX C  
**ACRONYMS**

---

ARB/CARB	California Air Resources Board
ATV	All-terrain vehicle
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
CalEEMod	California Emissions Estimator Model
CALSTAR	California Shock Trauma Air Rescue
Caltrans	California Department of Transportation
CBOC	California Burrowing Owl Consortium
CCR	California Code of Regulations
CAL FIRE	California Department of Forestry and Fire Protection
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGS	California Geological Survey
CIAP	Coastal Impact Assistance Program
CNDDDB	California Natural Diversity Database (California Department of Fish and Game)
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CRPR	California Rare Plant Rank
CSP	California State Parks
CVI	Coastal Vulnerability Index
CWA	Clean Water Act
dBa	decibel A filter (adapts the measured sound response to the human sense of sound)
DDT	a synthetic pesticide banned in the United States in 1972
DFG	Department of Fish and Game (California)
DPR	Department of Pesticide Regulation
EBG	European beachgrass
EIR	Environmental Impact Report
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Area
ESU	Evolutionarily Significant Unit
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
GHG	Greenhouse Gas
GPS	Global Positioning System
IS/MND	Initial Study / Mitigated Negative Declaration
LOS	Level of Service
MCAQMD	Mendocino County Air Quality Management District
MCGP	Mendocino County General Plan

MLD	Most Likely Descendant
MND	Mitigated Negative Declaration
MSDS	Material Safety Data Sheet
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCRWQCB	North Coast Regional Water Quality Control Board
NH <sub>3</sub>	Ammonia
NMFS	National Marine Fisheries Service
N <sub>2</sub> O	nitrous oxide
No <sub>x</sub>	nitrogen oxides
PI	Project Inspector
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)
ROG	reactive organic gases
RV	Recreational vehicle
SAA	Streambed Alteration Agreement
SLR	Sea Level Rise
SO <sub>2</sub>	Sulphur dioxide
SP	State Park
SPCC	Spill Prevention, Control, and Countermeasure
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOC	volatile organic compounds