

# Humboldt Bay Power Plant Decommissioning Program

## Final Site Restoration Plan Implementation

Submitted by



*Pacific Gas and  
Electric Company®*

Prepared for

**California Coastal  
Commission**

With Technical Assistance by

**ch2m.**<sup>SM</sup>

June 2015

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*Draft*

**Initial Study and  
Mitigated Negative Declaration**

for the

**Humboldt Bay Power Plant  
Final Site Restoration Plan Implementation**

Submitted to  
Humboldt Bay Harbor, Recreation and Conservation District

Prepared for  
Pacific Gas and Electric Company

June 2015



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# Acronyms and Abbreviations

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°C	degrees Celsius
°F	degrees Fahrenheit
AB	Assembly Bill
APE	area of potential effect
ARB	(California) Air Resources Board
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	Center of the California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
CPL	Contractor Parking Lot
CRPR	California Rare Plant Rank
DCGL	Dose Concentration Guideline Level
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionary Significant Unit
FS/RAP	Feasibility Study/Remedial Action Plan
FSR	Final Site Restoration
FSS	Final Site Survey
GHG	greenhouse gas
GWTS	groundwater treatment system
Harbor District	Humboldt Bay Harbor, Recreation, and Conservation District
H <sub>2</sub> S	hydrogen sulfide
HBGS	Humboldt Bay Generating Station

HBHRCD	Humboldt Bay Harbor, Recreation, and Conservation District
HBPP	Humboldt Bay Power Plant
ISFSI	Independent Spent Fuel Storage Installation
LID	Low Impact Design
LFO	Liquid Fuel Oil
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
$\text{mg}/\text{m}^3$	milligrams per cubic meter
MIT	mitigation
MND	Mitigated Negative Declaration
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NCUAQMD	North Coast Unified Air Quality Management District
NCRQCCB	North Coast Regional Water Quality Control Board
NMFS	National Marine Fisheries Service
$\text{NO}_2$	nitrogen dioxide
NRC	Nuclear Regulatory Commission
NRHP	National Register of Historic Places
PG&E	Pacific Gas and Electric Company
$\text{PM}_{10}$	particulate matter with aerodynamic diameter less than or equal to 10 microns
$\text{PM}_{2.5}$	particulate matter with aerodynamic diameter less than or equal to 2.5 microns
ppm	parts per million
proposed project or project	Humboldt Bay Power Plant Final Site Restoration Plan Implementation
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RWQCB	Regional Water Quality Control Board
$\text{SO}_2$	sulfur dioxide
SONCC	southern Oregon/northern California
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminants
US 101	U.S. Highway 101
USACE	U.S. Army Corps of Engineers
USFWS	US Fish and Wildlife Service
USGS	U.S. Geological Survey
$\text{yd}^3$	cubic yard

## SECTION 1

# Project Information

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### 1. Project Title:

Humboldt Bay Power Plant (HBPP) Final Site Restoration (FSR) Plan Implementation Project (proposed project)

### 2. Lead Agency Name and Address:

George Williamson, District Planner  
Humboldt Bay Harbor, Recreation and Conservation District (HBHRCD)

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### Contact Person and Phone Number:

Mark Smith, Engineering Manager, HBPP  
(707) 444-0844

### 3. Project Location:

The proposed project is approximately 4 miles southwest of Eureka, California (see Figure 1-1 [figures appear at the end of the section in which they are first referenced]). The 74.9-acre HBPP property is owned by Pacific Gas and Electric Company (PG&E). The project area is located in Section 8 of Township 4 North, Range 1 West, of the Fields Landing, California, U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle at approximate latitude 40°44'28.77"N and longitude 124°12'35.07"W.

### 4. General Plan Designation:

The General Plan designations for the HBPP site are MC (industrial) and MR/MC (resource dependent industrial).

### 5. Zoning:

The power plant site is on land zoned as coastal dependent industrial (MC) with combining<sup>1</sup> district designations for coastal resource dependent (C), flood hazard (F), and coastal wetland (W).

### 6. Description of Project:

PG&E operated the HBPP between 1956 and 2010 at a 74.9-acre property in Humboldt County, California (see Figures 1-1 and 1-2). The power plant consisted of two steam generating units (Units 1 and 2) and a boiling water nuclear reactor (Unit 3). The two steam generating units began operation in 1956 and 1958, respectively, and were shut down in 2010. The nuclear unit operated between 1963 and 1976. In 2010, the Humboldt Bay Generating Station (HBGS), located on the same property, came on line to replace the former generation capacity of Units 1, 2, and 3.

PG&E is decommissioning the HBPP and will request termination of their Nuclear Regulatory Commission (NRC) license to own and operate a nuclear reactor. PG&E has prepared a plan for restoration of areas on the HBPP site where Units 1, 2, and 3 and associated buildings, storage facilities,

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<sup>1</sup> A Combining Zone is an additional zoning designation applied to some (but not all) properties. A Combining Zone modifies the allowed land use in some way when necessary for sound and orderly planning (Humboldt County, 2009).

and appurtenant structures once stood. These areas will be restored to repurpose the former HBPP area to support the HBGS and future power generation-related activities on the property. Areas already committed for other operational needs, such as the Independent Spent Fuel Storage Installation (ISFSI), will continue. PG&E requests a permit from the HBHRCD to implement the FSR plan described in Section 2, Project Description, as it contains elements that will involve construction in the jurisdiction of the HBHRCD.

For a detailed project description, see Section 2, Project Description and Appendix A, Site Plans.

**7. Surrounding Land Uses and Setting:**

The HBPP property is bounded on the north by Humboldt Bay, on the west by the King Salmon community, on the east by Northwestern Pacific Railroad tracks and tidelands of Buhne Slough, and on the south by Buhne Slough and the community of Humboldt Hill. The proposed project is located entirely on PG&E property; however, a public coastal access trail, established through a deed restriction, traverses a portion of the project site.

**8. Other Public Agencies Whose Approval Is Required (for example, permits, financing approval, or participation agreement):**

Figure 1-3 shows the proposed boundary between the permitting jurisdictions of the California Energy Commission (CEC) and California Coastal Commission (CCC) on the HBGS property that will be in effect as soon as the CEC approves a pending amendment to the CEC license for the HBGS that seeks to extend the HBGS boundary as part of FSR plan implementation.

Nuclear Regulatory Commission (NRC)

U.S. Army Corps of Engineers (USACE)

National Marine Fisheries Service (NMFS)

U.S. Fish and Wildlife Service (USFWS)

CCC

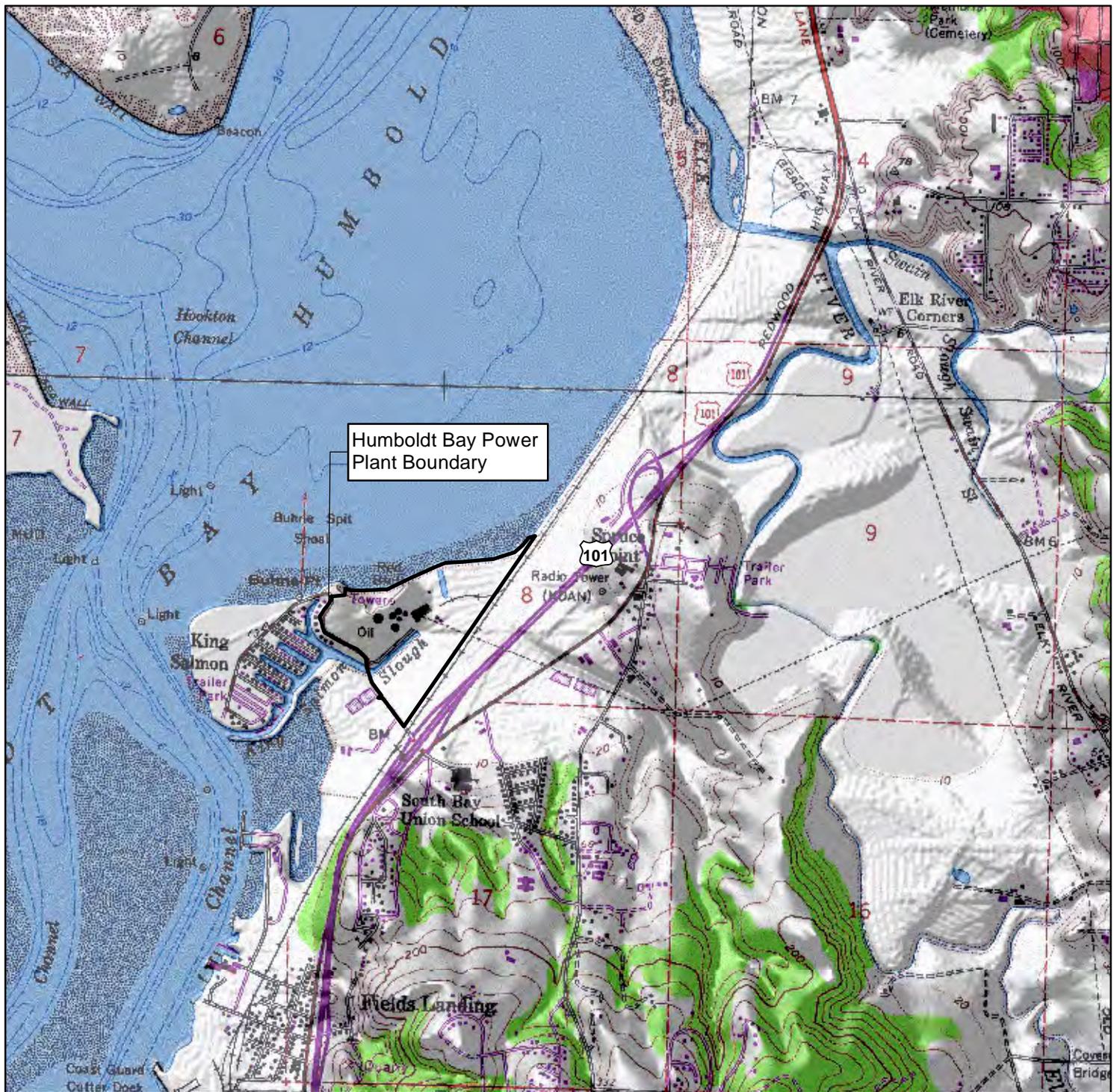
California Department of Toxic Substances Control (DTSC)

California Department of Fish and Wildlife (CDFW)

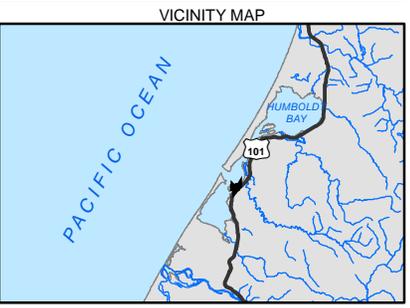
CEC

North Coast Regional Water Quality Control Board (NCRWQCB)

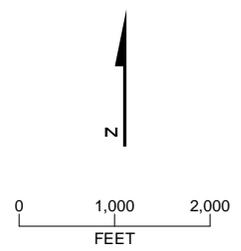
North Coast Unified Air Quality Management District (NCUAQMD)



Humboldt Bay Power Plant Boundary



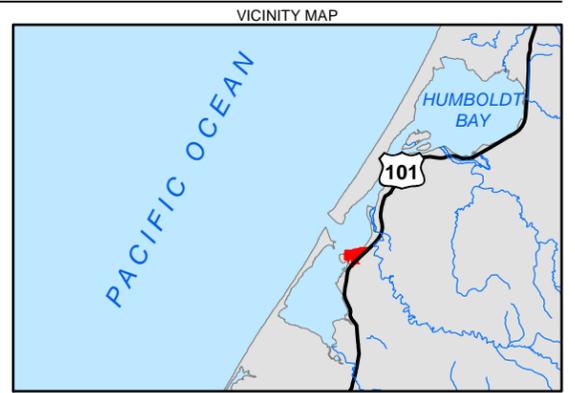
LEGEND  
 [Black Outline] PROPERTY BOUNDARY



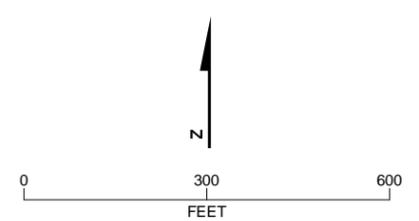
**FIGURE 1-1**  
**Location Map**  
 HBPP Final Site Restoration Plan  
 PG&E Humboldt Bay Power Plant, Eureka, California



**FIGURE 1-2**  
**HBPP Site Features**  
 HBPP Final Site Restoration Plan  
 PG&E Humboldt Bay Power Plant, Eureka, California



LEGEND  
■ California Coastal Commission's Jurisdiction  
■ California Energy Commission's Jurisdiction



**FIGURE 1-3**  
**Proposed Jurisdictional Boundary**  
 HBPP Final Site Restoration Plan  
 PG&E Humboldt Bay Power Plant, Eureka, California

Image Source: PG&E HBPP June 5, 2014

# Project Description

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## 2.1 Project Purpose and Scope

The FSR and reuse planning of the HBPP supports the stated project purpose of PG&E's overall HBPP Decommissioning Program, which is to decommission HBPP Units 1, 2, and 3, (under separate authorization), terminate the license for Unit 3 in accordance with 10 *Code of Federal Regulations* (CFR) 52.110, conduct surface restoration of certain areas, and to restore the land formerly occupied by Units 1, 2, and 3 to conditions that allow for continued utility uses of the former HBPP footprint.

The scope of work that will implement the HBPP FSR plan includes the following features:

- Reconfigure those portions of the site that are needed for on-going and future utility operation uses of the property
- Implement biological resources mitigation prescribed in previous CCC permit proceedings including or that will be required due to the effects of implementing this FSR plan, such as those resulting from the creation of new wetlands
- Restore to pre-existing conditions those portions of the property that are not identified for ongoing utility operations
- Reroute or repair drainage systems, establish new storm water detention basins, and grade the site to maximize implementation of Low Impact Development (LID) measures
- Reroute, repair or remove communications, and other infrastructure on property as needed
- Remediate contaminated soil in areas that involve FSR construction and that were not previously permitted by the CCC and are not in wetlands. (Soil remediation in any wetland areas would be addressed under a separate CCC permitting action.)

## 2.2 Project Approach and Elements

The following summarizes the FSR plan by describing the conceptual approach to restoration in the designated HBPP site areas, the construction activities needed for infrastructure modification and surface restoration, and any post-construction monitoring necessary to ensure successful restoration. In addition, if elements of the FSR plan indicate a change from restoration plans described in previous permitting documents (CDP, CEC Decision, etc.), then the subsection describes the original proposal, the change in plan, and the reasons for the change. This FSR plan does not discuss plans or proposals for decommissioning the HBPP facilities or remedial actions that remain for site cleanup unless they are directly related to implementation of the FSR plan. Decommissioning and remedial actions are discussed in the Feasibility Study/Remedial Action Plan (FS/RAP) (CH2M HILL 2014) and are addressed under a separate California Environmental Quality Act (CEQA) regulatory process with the DTSC as the lead CEQA agency. This FSR plan does address plans for remedial actions that must occur in conjunction with the implementation of the FSR plan. Preliminary design plans (paving, access, drainage) are found in Appendix A.

To facilitate FSR planning, the HBPP property has been divided into 12 functional areas, most of which have subareas. The areas correspond with planned usage zones and specific restoration and reuse plans. The project areas are listed in Table 2-1 and mapped in Figure 2-1. The proposed landscape design areas are shown in Figure 2-2.

TABLE 2-1

**HBPP Final Site Restoration Areas and Subareas**

Area / Subarea	Acres	Reuse Category	Applicable CDP/permit
1 - Buhne Point			
1a Buhne Point Vista	0.48	No change from current	CDP E-09-0631
1b Buhne Point Tsunami Assembly Area	2.67	No change from current	-
1c Shoreline Trail	2.66	No change from current	CDP E-05-001
1d Charlie Road	0.31	Restore to pre-project	CDP E-08-003, E-08-003-A1, CDP E-09-005
	6.12		
2 - ISFSI and ISFSI Support Area			
2a ISFSI	2.89	No change from current	CDP E-05-001, E-09-005
2b ISFSI Support - Count Room	0.29	Remodel as ISFSI Support Offices	CDP E-09-005-A1
2c ISFSI Entrance Road	0.18	New entrance road to ISFSI	-
2d ISFSI Support Parking Lot/Contractor Lot #2	0.65	Maintain a portion for parking	CDP E-08-003-A1
2e ISFSI Support Stormwater Basin	1.09	Create new stormwater basin from portion of Contractor Lot #2 and former Frog Pond	Permitting for parking lot under CDP E-8-003-01
2f HBPP Warehouse/Workshop/Office	0.93	No change	CDP E-09-010
	6.03		
3 - Bayview Heights	6.86	Restore to pre-project, retain roadways, slope stability improvement, add turn-around	CDP E-09-010, E-08-008, E-08-008-A1
4 -Trailer City			
4a Trailer City Main	3.61	Restore to CCC wetlands	CDP E-07-005, E-09-010
4b Trailer City Stormwater Detention Basin	0.57	Create stormwater basin by expanding existing drainage ditch	-
	4.18		
5 - Duck Pond	6.63	Interconnected with the Trailer City wetlands	-
6 - HBPP Core			
6a HBPP Core Area (Former Units 1, 2, 3 area)	2.91	HBGS storage and parking	CDP E-09-010
6b Waste Management Building	1.71	Modify as HBGS warehouse	CDP E-09-010
	4.62		
7 - Humboldt Bay Gen Station/60 kV Substation			
7a HBGS Power Plant	5.21	No change from current	CEC License, 06-AFC-7
7b 60 kV Substation	1.16	No change from current	-
7c REST-1 Wetland Mitigation Area	0.89	No change from current	CEC License BIO-12
	7.26		
8 - Intake Canal			
8a Intake Canal	2.50	Create mitigation wetlands	CDP 9-13-0621
8b Alpha Road Parking Lot	0.75	Create mitigation wetlands	CDP 9-13-0621
8c Alpha Road	0.96	Maintain as site access for HBGS, pave	CDP E-09-010

TABLE 2-1

**HBPP Final Site Restoration Areas and Subareas**

Area / Subarea	Acres	Reuse Category	Applicable CDP/permit
8d, e Alpha Road Overflow Parking	0.11	Restore to pre-project condition	CDP E-09-010
	4.32		
9 - Assembly Building Area			
9a Assembly Building Structures	0.76	Remove buildings and restore surface	-
9b Assembly Building Parking Lot	0.08	Resurface and maintain as open storage and parking	-
9c Bravo Road and Security Parking Spaces	0.71	Maintain Bravo Road as HBGS secondary site access, maintain parking areas as open storage	-
	1.55		
10 - Buhne Point Wetland Preserve			CDP E-07-005, E-08-003, E-09-005, 9-13-0621
10a Buhne Point Wetland Preserve Proper	6.12	Replace tidal flow culvert	-
10b Buhne Point Wetland Preserve Fringe	0.99	Remove storage containers and restore surface	-
10c Contractor Pedestrian Trail	0.48	Remove trail and restore surface	CDP E-09-010
	7.59		
11 - Contractor Parking Lot #1			
11a MIT-1	0.43	Create mitigation wetlands	CEC License BIO-12
11b MIT-6	0.26	Create mitigation wetlands	CDP E-09-0631
11c MIT-7	0.38	Create mitigation wetlands	Mitigation for retention of Portal Road and Alpha Road as permanent roads CDP E-09-005 and CDP E-09-010
11d Contractor Parking Lot #1 Northeast	0.17	Remove gravel entranceway	-
	1.24		
12 – Buhne Slough Salt Marsh	18.51	No change from current	-
Total Acres in Restoration Plan	74.90		

### 2.1.1 Project Objectives

Implementation of the FSR plan supports the HBPP Decommissioning program to terminate the NRC license for Unit 3 in accordance with 10 CFR 52.110, and to restore the land formerly occupied by Units 1, 2, and 3 to conditions that allow for continued utility operation of the property. As stated previously, the FSR plan also meets the requirements of the major decommissioning CDP (CDP E-09-010) to prepare and submit a restoration plan by March 31, 2015 (later changed to April 30, 2015). This plan will be implemented when removal of the HBPP components is complete. An additional objective of the FSR plan is to comply with HBGS 401 Certification Condition 12, which requires PG&E to submit a storm water management plan for the former power plant site. The FSR plan has incorporated grading and drainage measures that maximize implementation of LID measures, as required by Condition 12.

### 2.1.2 Low-Impact Design and Storm Water Management

Excavation and grading plans that are part of the FSR plan (see Appendix A) will reconfigure site drainage consistent with LID principles. As part of decommissioning and restoration, portions of the existing storm water conveyance system will be retained, while other sections will be entirely removed, resulting in

significant alteration to drainage patterns and outfalls. The LID design techniques protect and enhance surrounding habitat resources. This is done by minimizing impervious surfaces and developing a network of bio-swales or vegetated swales, and bio-detention basins located throughout the project area designed to retain and treat storm water flows. The new major storm water detention basins are located in the Trailer City and ISFSI Support areas (see descriptions below). In addition, an existing basin, the Frog Pond, will be re-contoured and connected functionally with the new ISFSI storm water basin. Finally, several smaller basins will be created at strategic places around the property. The locations of these are shown on the grading and drainage plan in Appendix A.

Treatment of runoff will occur in the swales and basins through a combination of sedimentation, adsorption and other natural processes that help to remediate constituents of concern such as petroleum hydrocarbons and metals to less than significant levels. These processes are enhanced with the help of a community of native plants and soil planted and maintained within the swales and basins. The system will be designed so that it will retain 100 percent of the volume of runoff from the 85<sup>th</sup> percentile, 24-hour, storm, for an average of 48 hours.

### **2.1.3 Site Access**

No new access routes are planned into the site. Two of the existing three entry points to the property are sufficient to support the proposed project. Maintaining Alpha and Bravo roads provides the HBGS with two entrances as required for fire safety, emergency response, and daily routing of truck traffic and delivery flows (See Figure 1-2 for road locations). Alpha Road will serve as the main access road to HBGS, with Bravo Road providing secondary access. Alpha Road also provides a route suitable for heavy haul items. These include transport of the ISFSI casks (when a federal repository is established), substation transformers, and HBGS engines. Weight restrictions on the King Salmon Avenue Bridge (located between Alpha and Bravo roads) and a restricted turning radius on Bravo Road precludes PG&E from transporting heavy loads on Bravo Road. In addition, the heavy loads must all travel a route having a structural cross section of the road that has sufficient capacity for the anticipated load. Given this, Alpha Road will be paved. In addition, a minor re-alignment of the Alpha Road intersection with King Salmon Avenue will be necessary to meet Humboldt County safety standards that require a 90-degree intersection angle for permanent roadways. The surfacing plan drawing in Appendix A shows the areas requiring additional paving and the traffic flow pattern drawing shows expected traffic patterns after implementation of the FSR plan.

A new connecting and entrance road will be constructed between Bravo Road and the ISFSI support and office area to provide access for ISFSI support personnel (see 2c below).

Charlie Road is no longer needed for access and will be restored to pre-project conditions.

### **2.1.4 Restoration and Reuse Plans, by Project Area and Subarea**

The following discussion starts at the northwest corner of the property at Buhne Point and proceeds roughly clockwise around the site.

#### **2.1.4.1 Area 1 - Buhne Point**

Buhne Point is the highest point of land on the property, sloping up from the ISFSI area to a peak at an elevation of approximately 64 feet above sea level, from which a narrow ridge descends to the northwest, away from the HBPP. Buhne Point is covered in North Coast Coniferous Forest (predominantly Sitka Spruce) and Coastal Bluff Scrub ecotypes. This area has not required demolition of the HBPP facilities or construction of new facilities, except as noted below. Neither land modifications nor surface restoration are proposed for this area.

**1a–Buhne Point Vista**—Buhne Point Vista is an open and flat spot located part of the way up Buhne Point Ridge and is situated approximately 20 feet above the surrounding lowland area. It is reached by

a trail leading through forest and shrubs from a location adjacent to King Salmon Avenue and Charlie Road.

As mitigation for the temporary loss of coastal access (CDP 9-13-0621 for the Canal Remediation project), PG&E constructed improvements to the Buhne Point Vista in October of 2014. These included removing the deteriorating wooden retaining wall and bench structure and replacing the wood wall with a concrete wall and bench, filling the erosional rills on the slope below the vista with rock, and installing a metal pole/cable rail restraint fencing system around the edges of the vista for safety and to discourage hikers from using the informal trails up and down the slope that caused the erosion.

**1b–Tsunami Assembly Area**—From the Buhne Point Vista, a trail leads through shrubs and trees, reaching an open area at the top of the ridge (elevation 59 feet above mean sea level) that is clear of trees and overlooks the ISFSI. This area is posted by PG&E as a No Trespassing area except in case of a tsunami, in which case this area serves as the Humboldt County designated tsunami assembly/refuge area for residents of King Salmon and Fields Landing.

**1c–Shoreline Trail**—Adjacent to Buhne Point and along the north-northeast boundary of the HBPP property is the Humboldt Bay shoreline, which is fronted by very large rip-rap boulders placed there for shoreline protection. As part of CDP E-05-001 to construct the ISFSI, PG&E constructed a trail along the shoreline, between the rip-rap and the Buhne Point bluffs that will at some point in the future become a segment of the Humboldt Bay Trail. The trail extends past the HBPP property to the east and is incomplete between this point and the Elk River to the northeast (Redwood Community Action Agency 2001). As required by the NRC, PG&E has installed fencing with gates at two points on the trail where the Buhne Point bluffs approach the ISFSI in case the ISFSI Support personnel need to close the trail near the ISFSI for security reasons.

**1d–Charlie Road**—Charlie Road is currently an access road from King Salmon Avenue/Buhne Drive to the Count Room and the ISFSI via Portal Road. Originally a local road named Buhne Avenue provided access to Buhne Point and it was abandoned when King Salmon Avenue was constructed in the 1950s. It had become partially overgrown when it was re-established to provide better access to the site for the HBPP Decommissioning Program. Charlie Road was paved and widened for the Decommissioning Program. CDPs E-08-003 and E-08-003-A1 authorized the installation of an improved Charlie Road and contain provisions for restoring the road to pre-project conditions. Mitigation was provided for the temporary and permanent impacts due to the construction and subsequent improvements to Charlie Road at that time. No longer needed for decommissioning access, the road area will be restored to its pre-project condition as CCC wetlands once decommissioning is complete.

#### **2.1.4.2 Area 2 - ISFSI and ISFSI Support Area**

The ISFSI (dry cask storage facility) is a secure storage vault for the Unit 3 spent fuel and other high-level radiological waste. The material is contained in six storage casks installed in an underground vault located on Buhne Point hill. The ISFSI area is secured, fenced, and guarded by PG&E ISFSI Support personnel. It was constructed in 2007 under mandate of the NRC. The Unit 3 spent fuel was transferred to the ISFSI in 2008. Area 2 (ISFSI and ISFSI Support) includes the fenced area of the ISFSI and adjacent areas used by the ISFSI Support as office space, security buffer, access, and (planned) stormwater detention. Long-term goals for this area are limited to maintaining ISFSI security.

**2a–ISFSI**—The ISFSI has been in operation for several years. The ISFSI is fenced and can be accessed either from the east-northeast from Bayview Drive, RCA Way, and Alpha Road and the west-southwest via Portal Drive and Charlie Road. The FSR plan does not include any proposals to modify the ISFSI, its surrounding security buffer, or access other than adding a patrol path to the adjacent area and electrical infrastructure for security equipment (see Bayview Heights).

CDP E-09-005 authorized the installation of Portal Road (Access Road #2) and contained provisions for restoring the road to pre-project conditions. Although mitigation was provided for the temporary and permanent impacts due to the construction of Portal Road, the road area was to be restored to its pre-project condition as grasslands once decommissioning was complete. Portal Road will be maintained for secure access to the ISFSI from the ISFSI Support Office. The creation of new wetlands at a location called MIT-7, which is a portion of the current Contractor Parking Lot #1, subarea 11c in Area 11 (see discussion below) will help mitigate for the conversion of temporary to permanent impacts.

**2b–ISFSI Support Office**—The ISFSI Support Staff currently occupies temporary office trailers and the Security building in the HBPP Core area. After decommissioning is completed, ISFSI Support personnel will move to the building currently called the Count Room. The Count Room is located much closer to the ISFSI and this will allow for the ISFSI Support personnel to carry out their security mission more efficiently. The Count Room will be remodeled to accommodate the ISFSI Support personnel’s administrative needs.

**2c–ISFSI Entrance Road**—With the closure of Charlie Road, the ISFSI area will require a secure entrance road for access to the ISFSI Support Office and the ISFSI. A new road will be created connecting Bravo Road and the Count Room. Construction of the entrance road will take place in conjunction with the remediation of a small area of contamination associated with the former Liquid Fuel Tank #2 (formerly at the site of the Count Room) in the Frog Pond area and the reconfiguration of the area called the Frog Pond (see Figure 1-2) as a part of the ISFSI Support Stormwater Detention Basin.

**2d–ISFSI Support Office Parking Lot (Contractor Parking Lot #2)**—The area known as Contractor Parking Lot #2 was constructed following removal of LFO Tank 2 to provide decommissioning parking and later to serve the Count Room area during decommissioning. As with Charlie Road and the Count Room, CDPs E-08-003 and E-08-003-A1 authorized this parking lot and required the restoration of the area to pre-project conditions after decommissioning. The eastern portion of this parking lot will be retained to serve as parking for the ISFSI Support administrative office. The remainder of the lot will be converted into a stormwater detention basin (Area 2e).

**2e–ISFSI Support Stormwater Detention Basin**—The western portion of the Contractor Parking Lot #2 will be excavated to create a stormwater detention basin that will collect and detain stormwater from Buhne Point hill and the ISFSI area and release it slowly to the Buhne Point Wetland Preserve. The stormwater detention basin will be located between the road providing access to the ISFSI Support office and the existing perimeter fence. It will also incorporate the Frog Pond, a catchment basin currently located between the Assembly Building and the Waste Management Building (see Figure 1-2).

The design will provide two outfalls from the basin to match the existing locations of current site outfalls; this will minimize hydrologic impacts to the wetland. Flows from this basin will be released through adjustable weirs into the adjacent Buhne Point Wetland Preserve. Planting within the basin may include species such as bulrush (*Scirpus spp.*) and other wetland obligates. Side slopes and uplands will be planted with a mix of native grass seed and low lying herbaceous plants.

The installation of this stormwater detention basin will require the removal of a number of obsolete utilities. Removed commodities will include the obsolete portion of the:

- Storm drainage system: piping, catch basins, and oily water separator, which are superseded by the installation of the stormwater basin or located beneath the proposed stormwater basin
- Truck scale and associated portal monitor, as the need to monitor the site for radioactive contamination and track precise vehicle weights will no longer be required
- Communication and electrical conduits serving the truck scale and portal monitor

Critical utilities that will be retained and therefore constrain the location and design of the proposed stormwater detention basin, include:

- Domestic and fire suppression water line serving the ISFSI and associated ISFSI Support area, running parallel to the eastern edge of the stormwater detention basin
- Sanitary sewer line serving the ISFSI Support Office, which constrains the eastern edge of the proposed stormwater detention basin

The surface cover will be removed and reconfigured and the associated storm drainage system will be graded to route the surface run-off from the ISFSI Support Office parking lot to the basin.

Because it will be part of the stormwater management system on site, this area will be added to the HBGS fenced area and incorporated in the HBGS's CEC license through a petition to amend the license. However, since the reconfiguration of the stormwater system is part of CCC-required HBPP site restoration, the HBGS boundary changes (see Figure 1-3) will not be actuated until after site restoration, including the development of the stormwater management system, is complete.

**2f–Warehouse/Workshop, Office, and Security Buildings**—Although located within the boundaries of the HBPP Core Area (Area 6), the HBPP warehouse and workshop (Building 5), office (Building 6), and security (Building 7) buildings will remain and will come under the control of ISFSI Support for offices and conference space, training exercises, and other security program activities. Minor remodeling of these facilities will be made after decommissioning of the surrounding areas. At some future time, these buildings may be demolished and the area restored for reuse.

#### **2.1.4.3 Area 3 - Bayview Heights**

Bayview Heights is the area on Buhne Point hill adjacent to and east and south of the ISFSI. A portion of this area to the south and downslope of the ISFSI is currently open space. To the east of the ISFSI, this area contains buildings that were formerly associated with Unit 3 decommissioning and open storage areas used for decommissioning laydown. There is also an area that contains construction trailers that provide office space for the decommissioning staff. A pedestrian path connects the ISFSI area with the HBPP Core Area (formerly Units 1, 2, and 3, see description of Area 6, below).

The HBPP decommissioning program calls for the demolition of the existing buildings and removal of construction trailers and laydown materials infrastructure and building foundations in this area. Existing roadways (RCA Way and Bayview Drive) will remain. Bayview Drive will be expanded to include a new turnaround for delivery trucks at the ISFSI gate (refer to the paving plan in Appendix A for a conceptual paving design). At some point in the future when a public repository for the spent fuel casks becomes available, a larger turnaround will be needed for the vehicle that will haul away the spent fuel casks to the repository. A level area will be created next to Bayview Drive for this purpose, and the area restored to grassland. When the repository becomes available, this area will be paved for cask transport access.

Soil excavated from other areas of the HBPP was placed in the northeastern corner of Bayview Heights as fill material in 2009. The soil potentially contains low levels of radioactivity. Limited chemical sampling of the fill did not identify any non-radiological chemical contamination. This fill will be removed as part of FSR and will be sampled for radiological and non-radiological chemical contamination. It is expected that the fill will meet criteria to be able to be reused onsite; however, the excavated fill will be properly disposed of if sampling indicates impacted soil does not meet reuse criteria, per the FS/RAP, or if it is above the limits authorized by the NRC.

In addition, a location with elevated concentrations of lead in soil that currently lies beneath the fill, is included as a potential soil removal area in the FS/RAP. The area is also identified as an area requiring additional characterization in the License Termination Plan. A planned pre-excavation soil investigation will be conducted to confirm the presence of lead and other potential contamination and to further define the

volume of soil to be removed. It is expected that remediation of this area will likely be performed in conjunction with the FSR implementation in this area.

After the structures and infrastructure and any contamination are removed, the area will be graded to remove compacted fill. Some grading will be done for more efficient access for vegetation establishment and management. Clean soil from the Reactor Vessel Caisson/Spent Fuel Pool Removal Project may also be beneficially re-used in this area. Soils from excavations elsewhere on site, such as the Trailer City area will be used in this area to fill any large voids and smooth steep contours left by building and foundation removal.

The Discharge Canal is located at the eastern end of Bayview Heights and formerly conveyed the once-through cooling water from Units 1, 2, and 3, that was discharged to Humboldt Bay through outfall pipes leading from the canal under the rock revetment and Shoreline Trail. The Canal Remediation Project is currently underway to remove contaminated sediments in the bottom of the canal as well as bay sands and silts that were washed into the canal through the outfall pipes after Units 1 and 2 ceased operation in 2010 and were no longer discharging cooling water. The Canal Remediation Project also involves removing the outfall pipes that currently connect the canal with the Bay and using the canal as a basin for interim storage of soils excavated during the Reactor Vessel Caisson/Spent Fuel Pool removal decommissioning project.

After decommissioning is complete and the stored soils are removed, the Discharge Canal will be filled with clean soil from other locations on the site, up to 45,000 cubic yards. The fill will be used to build up the area and the surface will be re-contoured as a bluff slope to Bayview Heights and will be replanted to coastal bluff scrub vegetation.

Two small wetland features (0.017 ac and 0.003 ac) under the jurisdiction of both the USACE and the CCC will be impacted by the proposed grading. An additional 0.095 acre of wetlands solely under CCC jurisdiction will also be permanently impacted. These wetlands are maintained in their current state through the input of stormwater from the ISFSI and discharge into the existing stormwater system. Removal of the stormwater system and grading in this area will permanently remove the wetlands. The loss of these wetlands will be mitigated for at a 1:1 ratio by creating 0.12 ac of additional wetland habitat in the Trailer City wetland area (see description of Area 4a below).

In accordance with pending geotechnical recommendations, bank stabilization technologies may be used, as needed, to stabilize slopes steeper than 4:1 (horizontal: vertical). The base of the slope bordering the HBPP Core Area may require special protection. This feature is approximately 364 feet long, ranging in height from 10 to 25 feet and a part of this area has experienced recent failures. To protect the HBPP Core Area from potential impacts, slope limitations or structural improvements, such as a gabion wall structure, may be constructed in this area. Drainage infrastructure and erosion control will also provide required slope protection. The specific stabilization improvement to be used will be determined during detailed design.

To meet PG&E's preference for native plantings that require low maintenance and provide erosion control and a secure line of sight (less than 1 meter tall) for the ISFSI, planting zones will consist of coastal prairie and coastal bluff scrub ecotypes. Coastal prairie areas could include species such as red fescue (*Festuca rubra*), California brome (*Bromus carinatus*), and California oatgrass (*Danthonia californica*). Coastal bluff scrub areas could include low-growing species such as salal (*Gaultheria shallon*) and swordfern (*Polystichum minutum*). Management of the vegetation in these areas will be done in a way that reduces the re-establishment of non-native species and minimizes vegetation management (i.e., watering, mowing).

For five years following implementation of the FSR Plan, restoration plantings will be monitored and maintained until they achieve the performance requirements established in a planting plan. As part of ongoing operations and maintenance procedures for the ISFSI and HBGS, maintenance activities will be carried out. These may include watering (either by hand or with an irrigation system), installation and

maintenance of plant protectors as needed, mulching, and weeding in the immediate vicinity of the planted vegetation to reduce competition with non-native plants.

#### 2.1.4.4 Area 4 - Trailer City

Trailer City is a roughly rectangular area located in the east-northeast portion of the property east of the Discharge Canal. It has been used as an area to stage construction trailers during the HBGS construction and subsequently for decommissioning. Currently, the area has been re-paved and is being used for the ground water treatment system, decommissioning laydown, and the tents used for soil management and drying in support of decommissioning.

**4a–Trailer City Main**—When PG&E proposed to use the Trailer City area for the HBGS construction laydown and construction trailers, the CEC required as part of its licensing process<sup>2</sup> that, after HBGS construction, Trailer City be returned to pre-project conditions, including the replacement of CCC wetlands totaling 1.83 acres and federal jurisdictional wetlands totaling 0.06 acre, (total of 1.89 acres). An additional 0.15 acre of federal jurisdictional wetlands will be created in this area as mitigation for the loss of the wetlands in Bay View Heights (Area 3 above) and for the Alpha Road intersection re-alignment (Area 8c below). Pursuant to CDPs E-07-005 and E-09-010 and the HBGS Surface Restoration Plan approved by the CEC, the CCC assumed jurisdiction of the area allowing PG&E to continue use of the Trailer City for construction laydown and support activities during decommissioning. Restoration of the area is required by the CCC as a requirement of the CDPs.

Additional wetlands will be created in Trailer City, transforming it into the Shoreline Wetland Mitigation Area: a total of 3.61 acres of high quality newly created and engineered wetlands, which will also connect with the Duck Pond wetland area. Wetland acreages beyond those specifically required under previous CDPs serve to mitigate for indirect impacts of site restoration, to compensate for the small widths of the buffers to on-site wetlands that are necessitated by the constrained and industrial nature of the site, and provide benefits to the public.

After the structures and infrastructure are removed, Final Site Survey (FSS) procedures for the termination of the NRC license require excavation to pre-development (Pre-HBPP) grades. This grading activity will involve moving approximately 30,000 cubic yards of earth. Soil characterization of the area will occur, as described in the License Termination Plan. If the NRC’s radiological Dose Concentration Guideline Level (DCGL) is exceeded (the level considered safe for the prospective land use), the soil will be excavated and removed from the site. After the area is tested and cleared, it will be backfilled and the wetland construction and final grading will be done. The remaining soil will be used to fill the existing Discharge Canal and bluffs to Bayview Heights (Area 3). The Discharge Canal will become part of Bayview Heights.

The Trailer City area will be recontoured as necessary to connect the Duck Pond on the east in a way that will allow for the growth of CCC wetland plants. The shoreline restoration area will be planted with native plant species typically found in CCC wetlands.

The CEC license process (Condition VIS-5) required that PG&E prepare a plan for landscape screening along the northern boundary of the Trailer City area to screen views of the HBGS from the Shoreline Trail and Humboldt Bay. The HBGS VIS-5 plan was approved by the CEC on August 27, 2010. The

<sup>2</sup> As stated earlier, under the Warren-Alquist Act, the CEC has the sole authority in California to regulate power plants greater than 50 MW nominal generating capacity and using a thermal process to generate electricity. CEC site certification of the HBGS for this reason superseded other state and local permitting processes, including the CCC CDP. The CEC, however, depends on the CCC and other state and local agencies to help in determining whether or not a particular power plant under licensing review would comply with applicable laws, ordinances, regulations and standards (LORS) and what conditions a state or local agency would impose on a project but for the CEC’s jurisdiction. Once the HBGS was constructed and went into operation, the CCC assumed jurisdiction over the Trailer City area CDP E-07-005 and the HBPP Major Decommissioning CDP (E-09-010).

northern edge of the restoration area along the coastal trail will be planted with trees and shrubs to form screening vegetation per the landscape plan submitted to the CEC and CCC as required by the VIS-5 permit condition. These plant species may include coastal bush lupine, coast silk tassel, shore pine, and Sitka spruce. Some adjustments to the recommended species list (CEC VIS-5) may include red flowering currant, dune willow, twinberry, and wax myrtle. Any changes to the landscape plan would be submitted to the CEC for approval and CCC for review prior to planting.

Restoration plantings will be monitored and maintained until they have met CCC single-parameter wetland performance requirements. Maintenance may include watering (either by hand or with an irrigation system), installation and maintenance of plant protectors as needed, mulching, weeding in the immediate vicinity of planted vegetation to reduce competition, and removal of non-native plants throughout the area.

**4b–Trailer City Stormwater Detention Basin**—A portion of the small drainage canal on the southern edge of Trailer City and areas immediately adjacent to it in Trailer City will be maintained or regraded/excavated to create a stormwater detention basin that will accept stormwater runoff from the Bayview Heights and HBPP Core Area. A maintenance and access road will also be installed around the basin, per RWQCB requirements.

Water flowing from this basin will be released through an adjustable weir into the adjacent newly created Shoreline Wetland Mitigation Area (see Trailer City Area 4a, above). Native species such as bulrush, spikerush, tule, and sedge will be planted in the basin. The side slopes and uplands will be planted with a seed mix of native grass seed and low lying herbaceous plants and managed to reduce the reestablishment of non-native plant species.

Two concrete surface impoundments with synthetic rubber liners were located within this area and stored hazardous wastes under a DTSC permit from 1977 until 1996. In 1997, the remaining liquid waste and sludge was removed, the liner surface decontaminated, and soil samples were collected from borings located around the perimeter. No residual contamination requiring remediation was identified and DTSC approved the clean closure of the impoundments. The impoundments were subsequently used for accumulation of storm water until the liner and upper portion of sidewalls were removed and the area backfilled to enable the installation of trailers for decommissioning staff pursuant to CDP E-07-005. The area was later used as a laydown area for HBGS construction. The remaining concrete structure and adjacent soils will be removed as part of the FSR plan implementation. Based on the results of the 1997 DTSC clean closure of the impoundments, the concrete rubble/soil removed is not expected to contain hazardous materials; soil sampling will be conducted during the removal to confirm the excavated soil does not contain hazardous materials.

To the west of the location of the former surface impoundments, there is a location with an elevated concentration of lead in soil that is included as a potential soil removal area in the draft FS/RAP. A pre-excavation soil investigation is planned to confirm its presence and to further define the volume of soil to be removed. It is expected that remediation of this area will be performed in conjunction with the FSR implementation of final grading of this area.

As stated above, Trailer City has been identified in the License Termination Plan as an area requiring further soil characterization to determine whether there is any radiological contamination. The radiological soil characterization will also include the Trailer City Open Storage Area. Any soil remediation for chemical and/or radiological contamination would occur prior to the implementation of restoration activities. The FSS will likely occur prior to restoration. However, if it cannot be assured that the area won't potentially be re-contaminated by on-going restoration activities, the FSS may be conducted post-restoration.

Utilities to be removed as part of the installation of the detention basin include the sanitary sewer piping, sewer lift station, water lines (fire and domestic), and communication lines. A 12 kV overhead distribution power line exists along the southern perimeter of the Trailer City area before entering the HBGS. Final configuration of the 12 kV line will be determined as part of final design of the site. The listed utilities to be removed from the Trailer City and Discharge Canal area will be fully excavated and appropriately terminated within the current extent of the HBPP footprint during the restoration effort.

#### **2.1.4.5 Area 5 – Duck Pond**

The area to the east of the Trailer City area at the extreme east end of the property is called the Duck Pond and consists of a semi-freshwater or brackish marsh with native vegetation a few feet in elevation above the surrounding tidally influenced salt marsh. Although not tidal, it shows some evidence of saltwater intrusion, including halophytic plants. No changes are planned for this area, other than fence removal, as part of the FSR plan and it will remain a natural area. The new Shoreline Wetland Mitigation Area in Trailer City will be hydraulically connected with this area (see Biological Resources section for further discussion).

The western/southwestern edge of the Duck Pond will be minimally impacted when the upland boundary is recontoured to connect to the Trailer City restoration area. BMPs including silt fencing and construction at times of low water will minimize impact to the Duck Pond.

#### **2.1.4.6 Area 6 - HBPP Core Area**

The HBPP Core Area consists of areas formerly occupied and actively used for HBPP activities, such as the Unit 1, 2, and 3 power island areas, a portion of Trailer City used during HBGS construction and HBPP decommissioning, and the area that was formerly a fuel oil storage tank and is now occupied by the Waste Management Building, which was recently constructed as part of the Decommissioning Program. This area is planned for HBGS utility operations use.

**6a—HBPP Core Area (Former Units 1, 2, and 3)**—The power island area for HBPP Units 1, 2, and 3 was leveled at the time of construction during the 1950s by cutting into the Buhne Point hill and using the resulting fill to raise ground level in the adjacent property to the south (now the location of the HBGS). The area will be flat, open and graveled at the conclusion of the HBPP decommissioning program and will be used for open storage, parking, and other utility uses for the HBGS. The final elevation of this area after decommissioning will partly depend on the extent of soil available from onsite excavations so that overall project site cut and fill are in balance and the project will meet the goal of avoiding soil import or export. This area will be surfaced with a mix of pavement and gravel surfaces and will drain to the Trailer City Stormwater detention basin.

Portions of the circulating water pipeline that serviced Units 1, 2 and 3 may be removed. This includes portions of the pipeline in the area adjacent to HBGS, and a remaining piece of the Unit 1 Circulating Water Pipeline under Building 5. (Building 5, in subarea 2f, may be demolished in the future). The pipeline debris is not expected to be radiologically or chemically contaminated. However, a FSS of the area will be conducted as required by the NRC. Stagnant water remaining in the pipeline will likely have putrefied due to decomposed organic matter (e.g., shellfish, etc.). Pipeline debris and any accumulated water will be removed and disposed of properly.

A paved roadway through the graveled area will be added east of the existing HBPP warehouse/workshop building to provide paved access for large trucks and deliveries to the Waste Management Building (Area 6c). This paved route will provide adequate turning radii and avoid hazards to pedestrian traffic between the HBPP office and warehouse/workshop buildings. This avenue will be a conventional asphalt concrete roadway a maximum of 20 feet wide. Adjacent to this roadway and directly east of the existing warehouse/workshop will be a personnel overflow parking lot and general staging turn-around area for deliveries and rental equipment. This area, excluding the roadway, will cover a maximum of 20,000 square feet and will be covered in aggregate. The proposed improvements of the paved road

and general use area encompass approximately a third of the total available HBPP Core Area. The remaining two thirds of the area will be covered in aggregate. Adjacent roadways and regions of pavement will be sloped to allow stormwater to either flow into the aggregate and allowed to infiltrate or flow into the Trailer City storm water detention basin.

The entire HBPP Core Area will be added to the HBGS fenced area and incorporated in the HBGS's CEC license through a petition to amend the license. However, since the area is required by the CCC to be restored and a FSS conducted for the NRC license termination, the HBGS boundary changes will not be actuated until after the FSS and site restoration are complete. Through this amendment process, this area will become part of the newly defined HBGS site area and will come under the jurisdiction of the CEC.

**6b—Waste Management Building**—The area formerly occupied by HBPP LFO Tank #1 covers nearly one acre, is paved, and an open-sided (three-sided) utility building called the Waste Management Building was constructed there to support the Decommissioning Program. The building measures 125 feet by 100 feet (12,500 square feet) and is 27 feet high. The building is used for sorting, sampling, monitoring, loading, weighing, and other processing of waste materials prior to shipping them to an appropriate disposal site. It will continue to be used during site restoration for soil remediation activities tied to the Remedial Action Plan (RAP) and FSS. Following site restoration and completion of the soil remediation activities, HBGS plans to enclose the Waste Management Building for use as a warehouse by constructing the fourth wall and retrofitting the interior to meet their specific needs. In addition, the building will be plumbed for a fire suppression system and a restroom facility. The paving will be retained for open storage. Given the current HBGS site constraints, its warehouse materials are currently being stored off-site. The Waste Management Building was authorized for the HBPP Decommissioning Program under CDP E-9-010. The conversion to warehouse for future use by the HBGS will be permitted under a petition to amend the HBGS CEC license. However, the HBGS boundary change and modifications to the building will not be actuated until after the FSSs and site restoration are complete.

#### **2.1.4.7 Area 7 - Humboldt Bay Generating Station and 60 kV Substation**

The HBGS is located at an important nexus of the Humboldt regional electrical grid. Area 7 consists of the current site boundaries of the HBGS, which is the power plant installed to replace the HBPP; the existing 60 kV switchyard (not part of the HBGS), from which power from the HBGS is distributed to the region; and a vegetated swale area to accommodate stormwater run-off from the HBGS site. The HBGS and its transmission equipment are under the jurisdiction of the CEC. The 60 kV substation is not. As discussed throughout this document and as shown on Figure 1-3, the final site boundary for the HBGS will be modified through a petition to amend the HBGS CEC License. The modified boundary will be actuated once restoration is complete.

**7a—HBGS Power Plant**—The HBGS (licensed as the Humboldt Bay Repowering Project) is a load-following power plant consisting of ten natural gas-fired Wärtsilä 18V50DF reciprocating engine-generator sets and associated equipment with a combined nominal generating capacity of 163 megawatts (MW). The HBGS replaced the HBPP 105 MW gas-fired generating Units 1 and 2 as well as two 15 MW Mobile Emergency Power Plants formerly located at the HBPP site. The HBGS received a CEC license (06-AFC-07C) in 2008 and began operation in 2010. The area within the HBGS fence line comprises 5.4 acres of the overall HBPP site and this area (within HBGS's fence line) is under CEC jurisdiction. Significant changes to the property within this area require a modification or amendment to the facility's CEC license. Such a modification would be required, for example, for PG&E to modify the Waste Management Building (Area 6c) for use as the HBGS's warehouse. As part of this Amendment process, CEC will consult the CCC to determine compliance with the laws ordinances, regulation, and standards (LORS) normally under jurisdiction of the CCC.

**7b–Humboldt Bay 60 kV Substation**—The Humboldt Bay 60 kV substation adjacent to the HBGS distributes HBGS power to the Humboldt region via five 60kV circuits. In addition, a 12kV distribution circuit from the substation feeds the local distribution grid. The 60 kV substation, however, is outside of the HBGS fence line and is not within the CEC’s jurisdiction, which extends from the HBGS switchyard within the HBGS fence line, to the first point of HBGS interconnection in the substation. The HBGS also provides a 115 kV circuit to a 115 kV transmission line from HBGS that bypasses the Humboldt Bay substation and serves the local grid.

**7c–REST-1**—On the west-southwest side of HBGS, to the south of Alpha Road and to the west of the HBGS diesel tank is an area designated as REST-1 that contains a vegetated swale which receives stormwater runoff from HBGS. This subarea also contains a landscape screen that was planted in compliance with a Condition of Certification for the HBGS CEC License. This area is long and narrow and provides a buffer between the HBGS/Alpha Road and the Buhne Slough tidal marsh.

#### **2.1.4.8 Area 8 - Intake Canal Area**

The Intake Canal area includes the HBPP Intake Canal, an adjacent access road to HBGS, Alpha Road, and a parking lot located between Alpha Road and the Intake Canal, called the Alpha Road Parking Lot. The Canal Remediation Project will remove contaminated sediment in the eastern end of the Intake Canal. Mitigation of wetland impacts for the Canal Remediation project will take place in the canal and the current location of the Alpha Road Parking Lot.

**8a–Intake Canal**—The Intake Canal was created as part the construction of HBPP Units 1 and 2 in the early 1950s to convey once-through cooling water to these units (and, later also to Unit 3). Stormwater run-off from the power plant site into the canal resulted in a small quantity of sediments at the upper (east) end of the canal having chemical and radiological contamination. This sediment will be removed as part of the Canal Remediation project (CDP 9-13-0621), which is an element of the HBPP Decommissioning and NRC License Termination Program. After decommissioning, the east end of the Intake Canal will be modified, per the Canal Remediation Project wetland mitigation plan, to create a more productive aquatic ecosystem of saltmarsh, mudflat, reef and eelgrass habitats to compensate for the removal of the Discharge Canal, federal jurisdictional wetlands adjacent to the Discharge Canal, and the temporary dewatering and disturbance of the Intake Canal during the remediation project.

The 105-foot-long by 10-foot-wide steel pedestrian bridge over the Intake Canal connects the Assembly Building area with the western end of the Alpha Road Parking lot. This bridge was installed for HBGS construction as a walkway for workers who parked at the remote parking lot (Contractor Lot #1) traveling on foot to the HBGS. Its use was transferred to HBPP for use during decommissioning once construction of HBGS was complete. Once this bridge is no longer needed for decommissioning program workers crossing the property, the bridge will be removed from its foundations on the top of the Intake Canal banks and made available for beneficial uses elsewhere in the region. The concrete foundations will also be removed.

**8b–Alpha Road Parking Lot**—The Alpha Road Parking Lot was conceived as a temporary lot for use during construction of the HBGS and was to be returned to pre-construction conditions after HBGS construction was complete. The HBPP Decommissioning Program requested continued use of the parking lot from the CCC due to the congestion on the overall site and the need for parking and the CCC assumed jurisdiction of this area under the master decommissioning CDP (E-09-010). CEC approval of the Condition VIS-2 Surface Restoration Plan allowed for the area to be transferred to the jurisdiction of the CCC. HBGS operations employees also use this parking lot, as it is adjacent to the HBGS. Once the HBPP Decommissioning Program is complete, however, the parking lot will no longer be needed for that purpose and the HBGS operations employees will have the HBPP Core Area available for parking in addition to the parking spaces available at the HBGS itself. The Alpha Road Parking Lot surfacing will be removed and the area will be excavated and conjoined with the Intake Canal to create 1.45 acres of

Northern coastal salt marsh, Coastal bluff scrub/Coastal grassland, eelgrass, mudflat, open water, and reef aquatic habitat and 1.9 acres of habitat enhancement as a mitigation measure for the Canal Remediation project as discussed above. The Alpha Road Parking Lot mitigation area extends from the pedestrian bridge to the head of the Intake Canal. Construction of the mitigation area will take place concurrently with the Intake Canal remediation sediment removal (likely in 2018) so that both can be accomplished in a single episode of canal dewatering.

**8c–Alpha Road**—Alpha Road is a gravel road that connects King Salmon Avenue with the HBGS along the south bank of the Intake Canal and runs on top of the Intake Canal levee. It was installed to provide construction access to the HBGS and was initially proposed as a temporary road. It has been determined, however, that Alpha Road is needed permanently as a heavy haul road because it enters King Salmon Avenue on the US 101 side of the King Salmon Avenue Bridge over the Intake Canal, and this bridge is not rated to accept heavy loads. Heavy haul access from the HBGS will be needed for the 350-ton internal-combustion power plant engines, which could require replacement at some point, and for the transport of a back-up transformer. Heavy haul access from the ISFSI will also be needed for the 80-ton spent fuel/high-level radioactive waste casks. When a high-level waste repository is permitted and operating, the NRC will likely require that the casks be moved to the repository. Alpha Road will serve as primary access road for ingress and egress to HBGS. Bravo Road, originally proposed as the primary access road for HBGS, will serve as a secondary access road, which is important for fire control safety and security.

Minor re-alignment of the Alpha Road intersection with King Salmon Avenue will be necessary to meet Humboldt County safety standards that require a 90-degree intersection angle for permanent roadways. This re-alignment involves a small jog near the intersection and installation of a mechanically-stabilized earth wire wall on the Buhne Slough side so that impacts to adjacent wetland are minimized. There will be permanent impacts to approximately 5 m<sup>2</sup> and temporary impacts to 140 m<sup>2</sup> of wetlands under the jurisdiction of both the CCC and USACE. Permanent impacts to wetlands will be mitigated for at a 1:1 ratio by creating 5 m<sup>2</sup> of additional wetland habitat in the MIT-7 Mitigation area (Area 11c below). Temporary impacts will be mitigated by enhancing the existing vegetation in the Buhne Point Preserve Fringe (Area 10b below).

Alpha Road will be paved at the existing width, except at the entrance at King Salmon, and the existing HBGS guard shack will be maintained. Alpha Road was installed for the HBGS, and initially came under the CEC's jurisdiction. In their Application for Certification to the CEC, PG&E proposed to restore the road to pre-project conditions when no longer needed for construction. An area next to the HBGS and Alpha Road will be paved for future HBGS parking.

The HBGS VIS-2 Surface Restoration Plan transferred jurisdiction for the road to the CCC for use during decommissioning. The road was then included and approved for use for decommissioning in CDP E-09-010. The paving and continued use of Alpha Road will serve all three of the remaining utility uses, including the substation, HBGS and the ISFSI, when the casks are removed. However, since the predominant user will be HBGS, approval from the CEC for the permanent use of the road is required.

This area will be added to the HBGS fenced area and incorporated in the HBGS's CEC license through a petition to amend the license. However, the HBGS boundary change and the permanent use of Alpha Road, will not be actuated until site restoration is complete. Through this amendment process, Alpha Road will become part of the newly defined HBGS site area and will come under the jurisdiction of the CEC.

**8d, e–Alpha Road Overflow Parking**—There are two small, leveled and open parking areas along the south side of Alpha Road that will be restored to Coastal bluff scrub vegetation. One of these is part way between King Salmon Avenue and the Alpha Road Parking lot, and one is opposite the parking lot.

### 2.1.4.9 Area 9 - Assembly Building Area

The Assembly Building Area includes a parking lot, two temporary buildings, several storage containers, a former security kiosk, and Bravo Road from the King Salmon entrance to the current security building near the HBPP core, including the current security parking spaces off of Bravo Road.

**9a–Assembly Building Structures**—The Assembly Building is a large (80 feet by 28 feet) modular building that is used for training sessions and meetings. It comprises a single meeting room with a small stage at one end and tables and chairs that can be set up in various configurations, depending on the number of people present and the desired meeting format.

The Assembly Building is currently outside of the HBPP/HBGS’s high security area so that it can be used for on-site public and agency meetings and not require the higher levels of personal protective equipment (PPE) that are required in the HBPP Core Area. A smaller (42 feet by 12 feet) temporary modular building is located adjacent to the Assembly Building. The former security kiosk (10 feet by 8 feet) is located in a corner of the Assembly Building parking lot and on Bravo Road. This kiosk was formerly the primary entrance security check-in point for the facility.

The Assembly Building, storage containers, and former security kiosk will not be needed by HBGS or ISFSI Support in the future and will be removed, along with associated utilities. The former building footprint will be replaced with gravel and reserved for future uses.

**9b–Assembly Building Parking Lot**—The Assembly Building Parking lot will be maintained as a paved and fenced area. Storage containers on its margins will be removed. The ISFSI entrance road (subarea 2c) will be routed along the eastern edge of the parking lot.

**9c–Bravo Road and Security Parking Spaces**—Bravo Road extends between King Salmon Avenue just north of the Intake Canal Bridge, along the north bank of the Intake Canal to the HBPP Core Area. It was also originally intended to be the primary access road for HBGS. It formerly served as the sole access road to the HBPP. Bravo Road will continue to provide access to the HBPP Core Area and will remain in place as a secondary access road for HBGS. The parking spaces on Bravo Road adjacent to the existing Security Building will also remain, but the Security Building (Building 8) will be demolished. Maintaining Bravo Road as a secondary access point to the property will provide safety and security access redundancy for fire safety, for example. Bravo road will be improved and repaved.

This area will be added to the HBGS to be included within its site boundary and incorporated in the HBGS’s CEC License through a petition to amend the License. However, the HBGS boundary change will not be actuated until after site restoration is complete. Through this amendment process, this area will become part of the newly defined HBGS site area and will come under the jurisdiction of the CEC (see Figure 1-3).

### 2.1.4.10 Area 10 - Buhne Point Wetland Preserve

The Buhne Point Wetland Preserve is an area between the HBPP Core Area/ISFSI and King Salmon Avenue at the west end of the property, consisting of coastal salt marsh and freshwater wetlands. It was established in 2008 to mitigate for impacts to the USACE and CCC wetlands resulting from the construction of HBGS and HBPP decommissioning. A natural area before construction of the HBPP, the wetlands were enhanced by improving tidal flow, removing non-native plants, planting native plants, and other measures. The area was placed under a Deed Restriction and named the Buhne Point Wetland Preserve. The success of this ecosystem restoration project is monitored annually until the success criteria are met.

**10a–Buhne Point Wetland Preserve Main**—The wetland preserve currently consists of 6.1 acres of wetland and upland habitat. Most of the area has been established for a number of years and is composed of a mosaic of coastal grassland, riparian scrub/forest, saltwater and freshwater marsh. Tidal flow is maintained to the salt water portion of the wetland preserve via an inflow-outflow pipe to the

Intake Canal. Restoration plans in other areas will enhance the preserve. For example, three mitigation areas will be created in the Contractor Parking Lot #1 (Area 11) that will become part of the preserve. In addition, the creation of the ISFSI stormwater basin, which will release water into the Preserve at two locations through adjustable weir structures, will enhance ecological function by supplying a metered source of treated freshwater to the Preserve. This is a project benefit and will ensure more consistent flows of clean water to the preserve. Refer to the discussion of these areas for the details.

The inflow-outflow pipe from the intake canal that provides tidal exchange into the Preserve is in poor condition. The up-gradient side of the culvert is partially obstructed with woody debris and there is significant bank erosion at the broken culvert outlet. Without replacement, the culvert would fail and tidal flow to the Preserve would be lost.

This culvert will be replaced and an adjustable weir (and/or tide) control structure will be installed to protect against excessive flooding, manage the balance of fresh and saltwater, and protect and improve the connectivity and ecological function of the Preserve. The culvert will be replaced at low tide with no need for in-water work in the Intake Canal.

**10b–Buhne Point Wetland Preserve Fringe**—The Buhne Point Preserve Fringe is an area along the southeast margins of the preserve that is not legally or ecologically located within the boundaries of the preserve. It contains upland plant species including grasses and non-native trees and is currently mowed and maintained as a landscaped area. Several of the storage containers that open to the Assembly Building Parking Lot extend into this area. It is not tidally influenced and not a CCC wetland. The wetland preserve boundary also does not extend all the way to King Salmon Avenue because of the existing road easement.

This area will be restored with native plant species to provide continuity of native landscape between the developed area and the adjacent habitats in the Buhne Point Preserve (Subarea 10a) and the Contractor Pedestrian Trail (subarea 10c). The non-native trees in this area (which include Monterey cypress and eucalyptus) will be assessed for habitat suitability. Two to three trees may be limbed and girdled to maintain as wildlife snags. The remainder of the non-native trees will be removed; some with exposed stumps to provide for additional habitat diversity for wildlife as well as insects, and fungi/lichens. All trees removed will be replaced at a 2:1 ratio with native tree species such as dune willow, red alder, shore pine, and Sitka spruce. The area will not be graded, but surface vegetation (non-native grass sod) will be removed and the soil will be tilled and amended as needed to remove as much of the seed bank as possible and create suitable conditions for vegetation installation. The area will be planted with a mix of native trees (see above), shrubs (e.g., coastal bush lupine, coast silk tassel, red flowering currant, twinberry, wax myrtle), and herbaceous species (e.g., soft rush, Pacific aster, clustered field sedge, tufted hair grass, and beach strawberry). The restoration of this area to native plant species will mitigate for temporary and temporal impacts to wetlands that will occur as part of the implementation of the FSR plan.

Restoration plantings will be monitored and maintained until they have achieved performance standards designated in a planting plan to be prepared as part of final design. Maintenance may include watering (either by hand or with an irrigation system), installation and maintenance of plant protectors as needed, mulching, weeding in the immediate vicinity of planted vegetation to reduce competition, and removal of non-native plants throughout the area.

**10c–Contractor Pedestrian Trail**—A gravel-surfaced pedestrian trail was created as a walkway for construction workers going from Contractor Parking Lot #1 to the Assembly Building area and from there across the pedestrian bridge to HBGS or down Bravo Road to HBPP. The trail was a temporary construction appurtenance initially under the CEC's jurisdiction that came under CCC jurisdiction with

CDP E-09-010. A requirement of this CDP is to remove the trail and restore the area to natural conditions.

The gravel and underlying geotextile will be removed and graded to remove compacted fill. The area will be recontoured as needed to connect the ISFSI storm water detention basin and the Buhne Point Wetland Preserve. Following grading, surface soils will be ripped as needed to create suitable conditions for the vegetation installation.

The area will be re-planted to become an extension of areas of adjacent ecotypes including coastal prairie, riparian forest, and freshwater wetlands (ISFSI stormwater basin). Coastal prairie plantings could include species such as red fescue, California brome, and California oatgrass. Riparian forest plantings could include species such as twinberry, dune willow, red alder, wax myrtle, and Sitka spruce. Plantings adjacent to freshwater wetlands could include species such as soft rush, Pacific aster, clustered field sedge, and tufted hair grass. Management of the vegetation in these areas will be conducted in a way that reduces re-establishment of non-native species.

Restoration plantings will be monitored and maintained until they have achieved performance standards designated in a planting plan to be prepared as part of final design. Maintenance may include watering (either by hand or with an irrigation system), installation and maintenance of plant protectors as needed, mulching, weeding in the immediate vicinity of planted vegetation to reduce competition, and removal of non-native plants throughout the area.

#### **2.1.4.11 - Area 11 - Contractor Parking Lot #1**

Contractor Parking Lot #1 has historically been a partially graveled parking area. It was improved to provide for construction worker parking, initially, for constructing HBGS and later, for the HBPP Decommissioning Program under CDP E-09-010. The lot measures approximately 200 feet square. Two sections of the Parking Lot known as MIT-1 and Mit-6 are specified as mitigation areas for impacts associated with HBGS construction and the Canal Remediation Project, respectively, and are slated to be converted to freshwater wetlands when no longer needed for the HBPP decommissioning.

MIT-7, constituting the remainder of the contractor parking lot not covered by MIT-1 and MIT-6, is intended to be used to mitigate for the CCC and USACE jurisdictional wetlands removed as part of the regrading of Bayview Heights and the realignment of Alpha Road.

**11a–MIT-1**—The southeastern portion of the Contractor Parking Lot #1, measuring 0.43 acres, will be allocated for creation of 0.108 acres of federal jurisdictional wetlands and 0.325 acres of CCC wetlands as mitigation for HBGS construction impacts (CDP E-08-003, CEC Condition BIO-12).

**11b–MIT-6**—A central portion of the Contractor Parking Lot #1 measuring 0.24 acres will be allocated to create 0.14 acres of federal jurisdictional wetlands and 0.1 acres of CCC wetlands as partial mitigation for intake canal remediation impacts (CDP 9-13-0621).

**11c–MIT-7**— The northern portion of Contractor Parking Lot #1 will be removed and graded to remove compacted fill as mitigation for permanent impacts to wetlands on Bayview Heights and at the intersection of Alpha Road and King Salmon Avenue. The area will be recontoured to connect with the adjacent mitigation areas (MIT-6 and MIT-2 in the established Preserve). Following site grading, surface soils will be ripped as needed to create suitable conditions for the vegetation installation.

MIT-7 will be developed at the same time as, and designed to become extensions of, MIT-1 and MIT-6, with a mix of coastal prairie and riparian forest ecotypes. Coastal prairie plantings could include species such as red fescue, California brome, and California oatgrass. Riparian forest plantings could include species such as twinberry, dune willow, red alder, wax myrtle, and Sitka spruce. Management of the vegetation in these areas will be conducted in a way that reduces the re-establishment of non-native plant species.

Restoration plantings will be monitored and maintained until they have achieved performance requirements. Maintenance may include watering (either by hand or with an irrigation system), installation and maintenance of plant protectors as needed, mulching, weeding in the immediate vicinity of planted vegetation to reduce competition, and removal of non-native plants throughout the area.

**11d–CPL1 Northeast**—On the north/west side of the Charlie Road entrance to Contractor Parking Lot 1 is a depressed area leading to a drainage ditch with a mix of native and non-native vegetation. To the south/east of the entrance is a stand of mature Monterey cypress with mowed grass underneath. These areas will be retained as they are, except that the vehicle entrance to the parking lot will be removed and restored as part of the creation of MIT-7.

#### 2.1.4.12 - Area 12 – Buhne Slough Salt Marsh

The large area mostly between Alpha Road/HBGS and the abandoned railroad track that marks the southeastern boundary of PG&E’s property is an undeveloped native salt marsh. A tide gate from the Fisherman’s Channel west of the King Salmon Avenue Bridge passes tidal water to this area. A small area of landscaping consisting of shrubs and trees planted for the HBPP forms a strip along Alpha Road and the remainder is native salt marsh. No change to this area is planned as part of the FSR plan.

## 2.2 Project Construction

### 2.2.1 Construction Schedule

Following site preparation activities, construction is currently planned to begin in 1<sup>st</sup> quarter and conclude in the 4<sup>th</sup> quarter of 2018 (Table 2-2). Actual construction schedules will be determined by the construction contractor at the time of construction planning and could be different than what is shown in this table.

TABLE 2-2  
Construction Schedule, 2018

Construction Activity	Area/Subarea	Start	Finish
Excavate HBPP former settling ponds	4b - Trailer City storm water detention basin	Jan	Mar
Construct Alpha Road wetland	8b - Alpha Road Parking Lot Mitigation Area	Mar	June
Construct Trailer City detention area, Shoreline Wetland Mitigation area	4b - Trailer City detention basin, 4a – Trailer City	Mar	June
Construct parking lot wetland areas	11a-d – Contractor Parking Lot #1	June	July
Construct ISFSI detention basin and ISFSI entrance road	2c – ISFSI entrance road, 2e – ISFSI Support Stormwater Basin	June	July
Recontour ISFSI and Bayview Heights areas	2a – ISFSI, 3 – Bayview Heights	Mar	June
Fill and recontour Discharge Canal	3 – Discharge Canal	Mar	June
Remove Charlie Road	1d– Charlie Road	July	July
Relocate 12kV line along bluff	3 - Bayview Heights	May	Aug
Install underground telecomm lines	Various – see Appendix A	May	Aug
Remove two culverts on Bravo Road and replace one	9c - Bravo Road	Aug	Aug
Resurface gravel parking area	8c – Alpha Road	June	July
Resurface HBPP Core Area	6b – HBPP Core Area	Sept	Sept
Grade, realign, and pave Alpha Road	8c – Alpha Road	July	Aug

TABLE 2-2  
**Construction Schedule, 2018**

Construction Activity	Area/Subarea	Start	Finish
Grade and pave and install concrete gutters along Bravo Road	9c – Bravo Road	Sept	Nov
Grade and pave ISFSI parking area	2d – ISFSI Parking Area	Nov	Nov
Install Fencing and gates	Various – see fencing plan	Dec	Dec
Construct ISFSI truck turnaround area	3 – Bayview Heights	TBD	TBD <sup>3</sup>

## 2.2.2 Staging, Laydown, and Storage Areas

Staging and laydown areas will be required for implementation of the FSR plan. The most construction intensive areas requiring equipment storage and probable laydown areas are listed in Table 2-3. Actual sequencing of construction will be determined by the construction contractor and the laydown area chosen will be determined at the time of construction planning and could be different than what is shown in this table. For example, Trailer City would not be used as a laydown yard for Bayview Heights construction if construction were to take place at Trailer City first.

Surface improvements to the staging areas, including placement of paving and any necessary BMPs, may be performed to accommodate all-weather use during construction and facilitate surface water management.

TABLE 2-3

**HBPP Final Site Restoration Areas Requiring Intensive Construction and Equipment Laydown**

Area / Subarea	Construction Activity	Possible Laydown Area
1d – Charlie Road	Removing pavement and gravel, planting	Assembly Room Building Parking Lot, Contractor Lot #1, Contractor Lot #2
2 - ISFSI and ISFSI Support Area		
2b ISFSI Support	Interior remodeling	Contractor Parking Lot #2
2c ISFSI Entrance Road	Fill, Recontour, surface	Assembly Building Parking Lot, HBPP Core
2e ISFSI Stormwater Detention Basin	Excavation, grading, planting	Contractor Parking Lot #1
3 - Bayview Heights	Remove utilities, filling, recontouring, planting	Trailer City, HBPP Core
4 -Trailer City		
4a Trailer City Main	Grading/contouring, planting	HBPP Core
4b TC Stormwater Basin	Excavation, grading, planting	Trailer City, HBPP Core
6 - HBPP Core		
6a HBPP Core Area (Former Units 1, 2, 3 area)	Grading, filling, Paving/surfacing	Trailer City, Bayview
6b Waste Management Building	Modify to HBGS warehouse	Waste Management Building lot, HBPP Core Area
8 - Intake Canal		
8a Intake Canal	Dewatering, excavation, grading, planting	HBPP Core, Assembly Building Lot
8b Alpha Road Parking Lot	Excavation, grading, planting	HBPP Core, Assembly Building Lot
8c Alpha Road Realignment and paving	Excavation, grading, planting	HBPP Core, Assembly Building Lot

<sup>3</sup> Will occur when a public repository for spent fuel has been established.

TABLE 2-3

**HBPP Final Site Restoration Areas Requiring Intensive Construction and Equipment Laydown**

Area / Subarea	Construction Activity	Possible Laydown Area
9 - Assembly Building Area		
9a Assembly Building Area Buildings	Removing buildings and resurfacing	Alpha Road Parking Lot, HBPP Core
9b Assembly Building Parking Lot	Surface repair	HBPP Core
10 - Buhne Point Wetland Preserve		
10a Buhne Point Wetland Preserve Main	Replacing culvert and installing tidegate	Assembly Building Parking Lot
10b Buhne Point Wetland Preserve Fringe	Removing storage containers, planting	Assembly Building Parking Lot
10c Contractor Pedestrian Trail	Removing gravel, resurfacing, planting	Assembly Room Building Parking Lot, Contractor Lot #1, Contractor Lot #2
11 - Contractor Parking Lot #1		
11a MIT-1	Grading, contouring, planting	Contractor Parking Lot #2
11b MIT-6	Grading, contouring, planting	Contractor Parking Lot #2
11c MIT-7	Grading, contouring, planting	Contractor Parking Lot #2
11d CPL1 Northeast	Grading, contouring, planting	Contractor Parking Lot #2

### 2.2.3 Culvert Replacement

One of the culverts passing beneath Bravo Road that connect the Intake Canal with adjacent areas will require replacement and some work below the mean high tide line in the HBHRCD jurisdiction and a second culvert will be removed, but not replaced. The existing culverts were installed upon plant construction, are in disrepair, and need to be replaced and resized. They are:

- Culvert connecting the Frog Pond and Intake Canal will be removed and not replaced. This culvert does not allow tidal water to enter the Frog Pond and is a drainage culvert only
- Culvert connecting the Buhne Point Wetland Preserve and the Intake Canal will be replaced. This culvert allows tidal flow to the preserve and stormwater drainage from it and is therefore a key aspect of managing the ecological function of the preserve

Both culverts are exposed during low tide and so extraction (both culverts) and replacement (culvert to Buhne Point Wetland Preserve) will be executed within a single tidal cycle. This means that construction will avoid any work within Intake Canal waters. It will also avoid use of sheet piling or other water control structures in the Intake Canal, minimizing potential adverse effects on aquatic biota and eelgrass habitats there.

Construction will take place entirely during the lowest tidal events during the dry summer months. Prior to disturbance to the bank of the Intake Canal, a bladder plug (inflatable water containment barrier) will be installed on the Intake Canal end of the culverts to prevent saltwater intrusion. Approximately 75 percent of the length of the culvert will then be excavated and exposed, preserving an undisturbed wedge of original material as a dam separating the Intake Canal from the excavation. Once the low tidal phase begins and the end of a culvert is exposed by the receding Intake Canal waters, a temporary silt fence skirt will be installed along the bank immediately surrounding the exposed culvert to contain soils movement caused by excavation.

The final wedge of material separating the Intake Canal from the trench will be removed at low tide along with the remaining portion of culvert. The bottom of the excavation will then be prepared for installation of the new culvert to Buhne Point Wetland Preserve. As part of complying with applicable NRC regulations

having to do with NRC license termination, a radiological survey will then be conducted on the culvert trench to ensure that it is free of radiological contamination.

After the radiological survey, for the culvert to the wetland preserve, a portion of the new culvert will be installed at the desired depth and slope with a bladder plug inserted to prevent saltwater intrusion. Native soils excavated from the edge of the Intake Canal will be used to reconstruct the earthen separation wall between the Intake Canal and the excavation trench. Loose disturbed soils will be cleaned from the area within the silt fence and the silt fence will be removed.

Independent of tidal cycles, the remaining trench will be surveyed for radiological contamination and the rest of the culvert will be connected to the previously installed, plugged, portion and back filled with a compactable aggregate type import material for the portion under Bravo Road. Upon completion of installation and compaction the plug will be removed during a subsequent low tide event and the replaced culvert will become fully operational. For the Frog Pond culvert, the former culvert location will be backfilled appropriately with road base materials.

The lowest proposed flow line of either culvert is approximately at the five foot elevation; therefore, the applicable window to execute this work is anytime the tide is below approximately the four foot elevation. National Oceanic and Atmospheric Administration (NOAA) tidal charts for the project area summer months indicate that approximately six hours of construction time will be available with the tidal elevation below four feet. The radiological survey will take approximately two hours. The remaining four hours is sufficient for excavation, replacement, and backfill work of the culvert. Therefore, completing the work within the available low tide window is feasible. Excavation and work executed behind the earthen wedge and plugged culvert could be done independent of tidal cycles with no risk to the waters of the Intake Canal.

#### **2.2.4 Workforce**

The proposed project is expected to require a maximum of 150 people onsite daily during construction. Work shifts will generally follow the current HBPP Decommissioning Program standard 10-hour work day, 4 days per week during site preparation, sediment removal, and demolition. Nighttime construction activities are not planned or anticipated; however, in the event that schedule or operational issues necessitate nighttime construction work, PG&E will consult the HBHRCD in advance and any necessary mitigation and additional information submittals will be addressed to ensure that the project will meet the applicable County nighttime and lighting noise standards.

#### **2.2.5 Traffic and Waste Management**

Contractors and their subcontractors would be required to ensure that their solid waste streams meet the criteria established for acceptable waste disposal at a nonhazardous waste landfill. Additionally, the contractor will be expected to develop and implement a traffic control plan to mitigate traffic-related impacts, similar to what was required for previous and ongoing demolition activities. To minimize the impacts of staff traveling to and from the site, carpooling would be encouraged, which would further reduce the total number of daily commutes to the project site.

### **2.3 Equipment and Machinery**

Construction equipment, vehicles, personnel, and materials will be staged onsite during periods of continuous use. Equipment use will be planned to optimize onsite staging and reduce offsite traffic and travel. Table 2-4 lists some of the types of major construction equipment that may be needed for the proposed project, for illustrative purposes. Actual equipment used may be different than shown depending on selected contractor preferences and inventory. Crew and pickup trucks will access the site daily throughout the construction period.

TABLE 2-4  
**Typical Major Equipment That May be Used for Site Restoration**

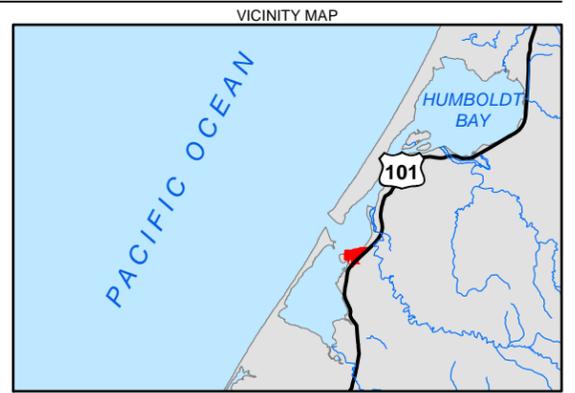
Number	Equipment	Horsepower
2	Excavator (CAT365 or equivalent)	270
12	Dump truck (10 cyd)	370
3	Front end loader	160
2	Dozer	200
3	Compactor	170
2	Backhoe	90
1	Flatbed truck	200

In addition to the major equipment listed, routine equipment will continue to be needed, including waste hauling trucks, forklifts, man lifts, portable generators, air compressors, portable tanks, hand tools, and other supplies and equipment already used to support decommissioning.

## 2.4 References Cited

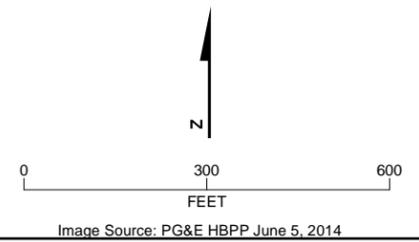
CH2M HILL. 2014. Feasibility Study and Remedial Action Plan, Humboldt Bay Power Plant, Eureka, California. Agency Draft. October.

Redwood Community Action Agency. 2001. Humboldt Bay Trail Feasibility Study. Prepared for the California Coastal Conservancy. Eureka, California.



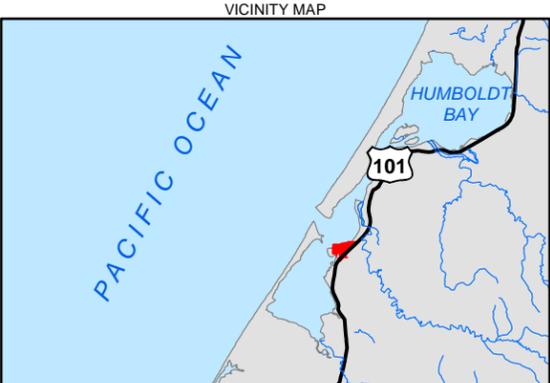
- LEGEND**
- Culverts and Flow Control Structures
  - Area - Aerial**
  - 1 - Buhne Point
  - 2 - ISFSI and ISFSI Support Areas
  - 3 - Bayview Heights
  - 4 - Trailer City
  - 5 - Duck Pond
  - 6 - HBPP Core Area
  - 7 - HBGS/60Kv Substation
  - 8 - Intake Canal
  - 9 - Assembly Building Area
  - 10 - Buhne Point Wetland Preserve
  - 11 - Contractor Parking Lot #1
  - 12 - Buhne Slough Salt Marsh

- Subarea ID, Name**
- 1a - Buhne Point Vista
  - 1b - Tsunami Assembly Area
  - 1c - Shoreline Trail
  - 1d - Charlie Road
  - 2a - ISFSI
  - 2b - ISFSI Support
  - 2c - ISFSI Entrance Road
  - 2d - ISFSI Parking Lot
  - 2e - ISFSI Support Stormwater Basin
  - 2f - Warehouse/Office/Workshop/Security
  - 3 - Bayview Heights
  - 4a - Trailer City Proper
  - 4b - Trailer City Stormwater Detention Basin
  - 5 - Duck Pond
  - 6a - HBPP Core Area
  - 6b - Waste Management Building
  - 6c - Vegetated Swale
  - 7a - HBGS
  - 7b - 60 kV Substation
  - 7c - Rest-1 Mitigation Area
  - 8a - Intake Canal
  - 8b - Alpha Road Mitigation Area
  - 8c - Alpha Road
  - 8d - Overflow Parking
  - 8e - Overflow Parking
  - 9a - Assembly Building
  - 9b - Assembly Building Parking Lot
  - 9c - Bravo Road and Security Parking
  - 10a - Buhne Point Wetland Preserve
  - 10b - Buhne Preserve Fringe
  - 10c - Contractor Pedestrian Trail
  - 11a - MIT-1
  - 11b - MIT-6
  - 11c - MIT-7
  - 11d - CLP1 Northeast
  - 12 - Buhne Slough Salt Marsh



**FIGURE 2-1**  
**HBPP Final Site Restoration Areas and Subareas**  
 HBPP Final Site Restoration Plan  
 PG&E Humboldt Bay Power Plant, Eureka, California

Image Source: PG&E HBPP June 5, 2014



- LEGEND**
- Flow Control Structure
  - Permitted Mitigation Areas
  - Future Cask Removal Turnaround
  - Gravel / Asphalt
  - Roads
  - Coastal Bluff Scrub
  - Coastal Prairie
  - Managed native grasses
  - North Coast Riparian Scrub
  - Stormwater Basin
  - Swale
  - Wetland - alkali bulrush
  - Wetland - rushes

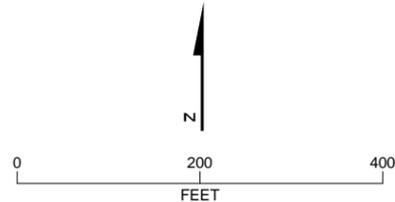


Image Source: PG&E HBPP June 5, 2014

**FIGURE 2-2**  
**HBPP Final Site**  
**Restoration Landscape Design**

*HBPP Final Site Restoration Plan*  
 PG&E Humboldt Bay Power Plant, Eureka, California

SECTION 3

# Statement of Findings and Determination

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The HBHRCD requires this Initial Study to evaluate the potential impacts of implementing the proposed project. Project-specific mitigation measures have been developed to fully mitigate potential impacts to a less than significant level. The proposed project has been designed to avoid or mitigate any potentially significant environmental effects identified; therefore, the preparation of an environmental impact report is not required.

In light of the whole record, there is no substantial evidence that the proposed project would have a significant effect on the environment. If substantial changes alter the character or impacts of the proposed project, an additional environmental impact determination would be necessary. The proposed project will include measures to mitigate impacts on the Biological Resources to a less than significant level.

Pursuant to Section 21082.1 of the California Environmental Quality Act (CEQA), the HBHRCD has independently reviewed and analyzed the Initial Study and Mitigated Negative Declaration (MND) for the proposed project and finds that these documents reflect the independent judgment of the Harbor District. As lead agency, the Harbor District confirms that the recommended mitigation measures detailed in these documents are feasible and would be implemented as stated in the MND.

Date of Draft Report: June 10, 2015

Date of Final Report: \_\_\_\_\_

A handwritten signature in black ink that reads "George Williamson". The signature is written in a cursive style with a long horizontal stroke at the end.

Approved by HBHRCD:

George Williamson, District Planner

# Environmental Impacts Analysis and Checklist

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## 4.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by the proposed 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"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality                        |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology and Soils                  |
| <input type="checkbox"/> Greenhouse Gas Emissions        | <input type="checkbox"/> Hazards and Hazardous Materials    | <input type="checkbox"/> Hydrology and 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 and Traffic      | <input type="checkbox"/> Utilities/Service Systems          | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (To be completed by the lead agency)

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 proposed project could have a significant effect on the environment, there will not be a significant effect in this case, because revisions in the proposed project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MIGHT have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MIGHT have a "Potentially Significant Impact" or "Potentially Significant Unless Mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because potentially significant effects (1) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (2) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed on the proposed project, nothing further is required.



George Williamson, District Planner, June 10, 2015

## 4.2 Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (for example, the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (for example, the project will not expose sensitive receptors to pollutants, according to a project-specific screening analysis).
2. Answers must take into account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. After the lead agency has determined that a particular physical impact might occur, then the checklist answers must indicate whether the impact is “Potentially Significant,” “Less than Significant with Mitigation,” or “Less than Significant.” “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect might be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an environmental impact report is required.
4. “Negative Declaration: Less than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less than Significant Impact.” 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 environmental impact report, or other CEQA process, an effect has been adequately analyzed in an earlier environmental impact report or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Incorporation,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (for example, general plans and zoning ordinances). Reference to a previously

prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify the following:
  - a) The significance criteria or threshold, if any, used to evaluate each question
  - b) The mitigation measure identified, if any, to reduce the impact to less than significant

### 4.3 Initial Study/Environmental Impacts Checklist

<b>I. Aesthetics</b>				
Would the proposed project:	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
(a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>

#### Discussion:

- a. There are no designated scenic vistas at or near the site and the site is not considered a unique scenic vista or scenic resource.
- b. The proposed project site is not located adjacent to a state-designated scenic highway.
- c. The proposed project is consistent with the existing visual character of the property and its surroundings. Project activities would involve the use of heavy equipment to re-contour portions of the site, create wetlands and storm water detention ponds, replace culverts, and repave and re-surface certain areas and roadways. These activities, in addition to typical operations-related activities for the HBGS and ISFSI, would be visible within the immediate site vicinity. The activity, although noticeable, would not result in a significant aesthetic impact given the existing and ongoing nature of the overall decommissioning project.

Existing staging and laydown areas would be used for construction equipment and the staging and laydown areas would be restored after the decommissioning project is complete. The proposed project would be visible within the confines of the existing decommissioning activities HBPP site and power plant facility, but not particularly discernible as viewed from outside the HBPP site.

Re-contouring on Bayview Heights will be visible from some adjacent areas including U.S. Highway 101. Once the Bayview Heights area is re-contoured and re-planted, however, the result will be a more naturalistic and generally more aesthetic appearance, compared with the site during decommissioning. A number of temporary buildings on Bayview Heights will be removed. In addition, the temporary facilities in the Trailer City, such as the high profile tents that are used for waste processing, will be removed during the final stages of decommissioning and the FSR plan implementation will result in re-purposing of this area for storm water detention and wetland restoration. This will reduce visual clutter and create a more naturalistic and more aesthetically pleasing area.

d. Nighttime operations are not planned or anticipated. However, in the event that schedule or operational issues necessitate nighttime operations, construction lighting would be focused inward and downward to the extent allowed by NRC safety requirements and construction safety to minimize aesthetics impacts. The impact would be temporary and less than significant.

**Cumulative:**

No substantial cumulative impacts on aesthetics are anticipated with this project.

**Mitigation:**

No mitigation would be required.

<b>II. Agriculture and Forestry Resources</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(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 nonagricultural 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 Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 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, because of their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion:**

**a, b, c, d, e.** Humboldt County is not included in the California Resources Agency Farmland Mapping and Monitoring Program. However, the area within and surrounding the proposed project does not include agricultural lands of any kind and so does not contain lands considered Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the California Resources Agency's Farmland Mapping and Monitoring Program.

The area within and surrounding the proposed project does not hold any forest land (as defined by Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g)).

**Cumulative:**

No cumulative impacts on agriculture and forestry resources are anticipated with this project.

**Mitigation:**

No mitigation would be required.

<b>III. Air Quality</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone [O <sub>3</sub> ] precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Expose sensitive receptors to substantial pollutant concentrations?	<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"/>

**Discussion:**

**a.** The proposed project would not obstruct the implementation of any applicable air quality plans. In 1995, the North Coast Unified Air Quality Management District (NCUAQMD) provided a study identifying the

major contributors of PM<sub>10</sub>. In this study, it was determined that diesel exhaust and wind-blown dust contributed to less than 1% of the collected air samples in Eureka, CA that exceeded the California Ambient Air Quality Standard (CAAQS). Although construction would result in a minor, short-term increase in air emissions, the resulting impacts would be less than significant and occur only during construction. No impacts are anticipated during project operation.

**b.** The proposed project would not violate any air quality standard or contribute significantly to an existing or projected air quality violation. A discussion of factors leading to this conclusion follows.

**Geography and Topography.** The project site is located in the North Coast Air Basin, which is within the jurisdiction of the NCUAQMD. The terrain near Humboldt Bay Power Plant (HBPP) rises rapidly from Humboldt Bay, on the north side of the HBPP site, to Buhne Point, a low, rocky hill. Terrain immediately surrounding the site is flat and occupied by tidal salt marshes and, to the west, the community of King Salmon. Farther south, the terrain rises rapidly, forming Humboldt Hill, and is the site of several small neighborhoods. Humboldt County is mostly mountainous except for the level plain that surrounds Humboldt Bay. The coastal hills surrounding Humboldt Bay begin with Patrick's Point, 30 miles to the north, extend to the southeast, then to the southwest, ending in Cape Mendocino, 23 miles from the site. The tops of these hills range from 1,500 to 2,500 feet, with the highest point (Kings Peak) reaching 4,087 feet, 40 miles directly south of Eureka. These hills create a rain shadow and shelter the region from heavier rainfall and temperature extremes.

**Climate and Meteorology.** The climate of the greater Humboldt Bay region, including Eureka and the immediate coastal strip where the project site is located, is characterized as Mediterranean. Summers have little or no rainfall, and low overcast and fog are frequently observed. Winters are wet, with frequent passage of Pacific storms, and temperatures are mild. The average annual temperature is 53 degrees Fahrenheit (°F), with the warmest months from July to September and the coldest months from December to February (Western Regional Climate Center, 2015). The rainy season generally falls between November and March, with an average annual rainfall of 39 inches, as measured in Eureka (Western Regional Climate Center, 2015). The wind is predominantly from the north to northwest, with a shift to the south to southeast during the winter months.

**Overview of Air Quality Standards.** The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for the following seven pollutants, termed "criteria pollutants": ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter with aerodynamic diameter less than or equal to 10 microns (PM<sub>10</sub>), particulate matter with aerodynamic diameter less than or equal to 2.5 microns (PM<sub>2.5</sub>), and airborne lead. The federal Clean Air Act requires EPA to designate areas (counties) as attainment or nonattainment with respect to each criteria pollutant, depending on whether the areas meet the NAAQS. An area that is designated nonattainment means the area does not meet the NAAQS and is subject to planning requirements to attain the standard.

In addition to the seven pollutants listed above, the California Air Resources Board (ARB) has established state standards for visibility-reducing particles, sulfates, hydrogen sulfide (H<sub>2</sub>S), and vinyl chloride. Similar to EPA, ARB designates counties in California as attainment or nonattainment with respect to the California CAAQS. The CAAQS were designed to protect the most sensitive members of the population, such as children, the elderly, and people who suffer from lung or heart diseases.

Both CAAQS and NAAQS are based on two variables: maximum concentration and an averaging time over which the concentration would be measured. Maximum concentrations were based on levels that could have an adverse effect on human health. The averaging times were based on whether the damage caused by the pollutant would occur during exposures to a high concentration for a short time (such as, 1 hour), or to a relatively lower average concentration over a longer period (8 hours, 24 hours, or 1 month). For some pollutants, there is more than one air quality standard, reflecting both short-term and long-term effects. Table 4-1 presents the CAAQS and NAAQS.

TABLE 4-1  
Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS <sup>a</sup>	NAAQS <sup>b</sup>	
			Primary <sup>c</sup>	Secondary <sup>d</sup>
Ozone	8 hours	0.070 ppm	0.075 ppm	0.075 ppm
	1 hour	0.09 ppm	—	—
PM <sub>10</sub>	Annual arithmetic mean	20 µg/m <sup>3</sup>	—	—
	24 hours	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
PM <sub>2.5</sub>	Annual arithmetic mean	12 µg/m <sup>3</sup>	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>
	24 hours	—	35 µg/m <sup>3</sup>	35 µg/m <sup>3</sup>
CO	8 hours	9.0 ppm	9 ppm	—
	1 hour	20 ppm	35 ppm	—
NO <sub>2</sub>	Annual arithmetic mean	0.03 ppm	0.053 ppm	0.053 ppm
	1 hour	0.18 ppm	0.100 ppm	—
SO <sub>2</sub>	24 hours	0.04 ppm	—	—
	3 hours	—	—	0.5 ppm
	1 hour	0.25 ppm	0.075 ppm <sup>e</sup>	—
Lead <sup>f</sup>	Calendar quarter	—	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
	Rolling 3-month average	—	0.15 µg/m <sup>3</sup>	—
	30-day average	1.5 µg/m <sup>3</sup>	—	—
Visibility-Reducing Particles	8 hours	g	—	—
Sulfates	24 hours	25 µg/m <sup>3</sup>	—	—
Hydrogen Sulfide	1 hour	0.03 ppm	—	—
Vinyl Chloride <sup>f</sup>	24 hours	0.01 ppm	—	—

<sup>a</sup> CAAQS for ozone, CO (except Lake Tahoe), SO<sub>2</sub> (1-hour and 24-hour), NO<sub>2</sub>, and suspended particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded.

<sup>b</sup> NAAQS other than ozone, particulate matter, and those based on annual averages or annual arithmetic means are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than 1. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, is equal to or less than the standard.

<sup>c</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

<sup>d</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

<sup>e</sup> Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the 1-hour daily maximum concentrations at each monitor within an area must not exceed 75 parts per billion.

<sup>f</sup> ARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. ARB made this determination following the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

<sup>g</sup> In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

Source: ARB, 2013

Notes:

µg/m<sup>3</sup> = micrograms per cubic meter  
ppm = parts per million (by volume)

Table 4-2 lists the attainment status for the NCUAQMD for both the NAAQS and CAAQS.

TABLE 4-2  
State and Federal Air Quality Designations for the Project Area

Pollutant	State Designation	Federal Designation
Ozone	Attainment	Unclassified/Attainment
CO	Attainment	Unclassified/Attainment
NO <sub>2</sub>	Attainment	Unclassified/Attainment
SO <sub>2</sub>	Attainment	Unclassified
PM <sub>10</sub>	Nonattainment	Unclassified
PM <sub>2.5</sub>	Attainment	Unclassified/Attainment
Lead, Hydrogen Sulfide, and Sulfates	Attainment, Attainment, Attainment	Unclassified, No Federal Standard, No Federal Standard

Source: ARB, 2013

**Asbestos.** The FSR plan implementation will involve the removal of transite piping containing asbestos. These materials would be abated prior to demolition activities in accordance with local, state, and federal regulations. In accordance with NCUAQMD Rule 401, the air district would be notified prior to removal of asbestos materials and provided with the asbestos demolition project fee. A discussion of asbestos is included in Section VIII, Hazards and Hazardous Materials.

**Construction Emissions Assessment Method.** Construction of the project is expected to occur for one year, with activity occurring 10 hours per day, four days per week. A maximum of 150 construction workers would be on-site during the construction period. A total of 800, 10 cubic yard (CY) haul trucks would be used to remove material from the site. Additionally, it is expected that approximately 93 concrete truck deliveries will be required for the project. Table 4-3 presents the expected construction equipment and expected run time.

TABLE 4-3  
Site Restoration Construction Equipment List

Equipment / Vehicle List	Quantity	Total Run Time (hours)
Excavator	2	1,280
Dump Truck	12	7,450
Front End Loader	3	3,540
Dozer	2	1,800
Compactor	3	2,370
Backhoe	2	3,070
Asphalt Spreader	1	150
Hydro Mulcher	1	90
Flatbed Truck	1	830

The potential air quality impacts associated with the proposed project would be due to construction air emissions in the form of tailpipe exhaust and fugitive dust from material movement. Emissions of reactive organic gases (ROG), CO, oxides of nitrogen (NO<sub>x</sub>), SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> were estimated for on-site construction equipment and off-site worker commute and haul truck deliveries. Construction equipment emissions were estimated using Appendix D of the CalEEMod User's Guide (ENVIRON, 2013) for the year

2018. Emissions for worker commute and haul truck deliveries were estimated using emission factors from EMFAC2011 for Humboldt County (California Air Resources Board, 2013). It was assumed that all trips would originate from near Eureka, with an average round trip distance of 15 miles. Fugitive dust emissions associated with approximately 8,000 CY of material removal were estimated using methodology found in AP-42 Chapter 13.2.4.3 (EPA, 2006). The estimated maximum daily and project total criteria pollutant emissions are presented in Table 4-4, which shows that the expected construction air emissions from the project are less than significant. Appendix B presents the detailed calculations for the construction emission estimates.

TABLE 4-4  
Maximum Daily and Annual Construction Emissions

Construction Emissions	Emissions					
	NO <sub>x</sub>	CO	ROG	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Maximum Daily Emissions (pounds per day) <sup>a</sup>	204	128	18.6	0.32	8.71	7.44
Maximum Annual Emissions (tons per year)	7.16	5.81	0.68	0.012	0.32	0.27
Significance threshold (tons per year) <sup>b</sup>	40	100	40	40	15	10
Significant impact?	No	No	No	No	No	No

<sup>a</sup> It was conservatively assumed that all construction equipment and vehicles could operate simultaneously on the worst-case day during the construction period.

<sup>b</sup> The NCUAQMD considers its Best Available Control Technology thresholds as significance thresholds for California Environmental Quality Act (CEQA) purposes (NCUAQMD,2010).

Emissions associated with the proposed project would be short term and the air quality impact would be less than significant. Demolition and soil removal equipment would be operated in accordance with manufacturers' specifications, which would prevent increased exhaust emissions caused by engine malfunctions. Furthermore, the proposed project would include the use of water trucks to control fugitive dust. Therefore, project activities would not violate an air quality standard, and the air quality impact would be less than significant. No impacts are anticipated during project operation.

c. The proposed project would not result in a cumulatively significant net increase of PM<sub>10</sub> under an applicable NAAQS or CAAQS. No impacts are anticipated during project operation.

d. The proposed project would not expose sensitive receptors to significant pollutant concentrations. As previously discussed, project construction emissions would be temporary and would not expose nearby receptors to a significant amount of criteria pollutants. Exhaust emissions from construction equipment, such as diesel particulate matter, contain toxic air contaminants (TAC) and have potential cancer and non-cancer chronic health effects. However, given the temporary nature of construction, TAC emissions are expected to be minimal. The closest school is over 2,300 feet from the construction site. Considering the low emissions from the project construction and the further pollutant dispersion and diversion, the proposed project would not expose sensitive receptors to substantial concentrations of TACs causing adverse health impacts. Therefore, the proposed project would have a less-than-significant impact on sensitive receptors during construction. No impacts are anticipated during project operation.

e. The use of diesel construction equipment during project construction may generate minor odors near the equipment. Adequate dispersion of odors from construction-related activities would occur. Project operation would not emit odorous compounds. Therefore, the proposed project is unlikely to be a source of objectionable odors that would affect a substantial number of people.

**Cumulative:**

Given the small amount of emissions anticipated for the proposed project and that the project would only temporarily increase air emissions, the project, combined with other activities of the HBPP decommissioning program, would not create a significant cumulative impact on air quality.

**Mitigation:**

No mitigation would be required.

<b>IV. Biological Resources</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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, regulations or by the CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Interfere substantially with the movement of any native resident, migratory fish, or wildlife species; 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 type="checkbox"/>	<input checked="" 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"/>

**Discussion:****Humboldt Bay Area**

Humboldt Bay is the second-largest estuary system in California and provides a rich diversity of natural habitats including marine, estuarine, fresh water, coastal marsh, sloughs, intertidal flats, eelgrass beds and dune habitat. The Humboldt Bay watershed encompasses approximately 225 square miles with wetlands, rivers and creeks, grassland, and redwood and Douglas-fir forests. Humboldt Bay National Wildlife Refuge and Eel River Wildlife Area are located south of HBPP; Elk River Wildlife Area and Indian Island are located north of HBPP.

**HBPP Site**

The HBPP site (shown on Figure 1-2) is primarily an active industrial site with managed landscaped areas surrounded by natural habitats including North Coast coniferous forest, North Coast riparian scrub, coastal bluff scrub, coastal brackish marsh, Northern Coastal salt marsh, coastal prairie, non-native perennial grassland, mudflat, estuary habitat, and open water habitat present in the Fisherman's Channel, Intake Canal, and Humboldt Bay (Stillwater Sciences 2013 and 2014). The Buhne Point Wetlands Preserve, located on the southwest side of the site, is a restored natural habitat that was created to mitigate for impacts on wetlands from the creation of HBGS and several HBPP decommissioning projects.

Vegetated areas within the industrial areas of the property consist primarily of managed grasses and forbs including Italian ryegrass (*Festuca perennis*), common velvet grass (*Holcus lanatus*), soft brome (*Bromus hordeaceus*), bird's-foot trefoil (*Lotus corniculatus*), field mustard (*Hirschfeldia incana*), bristly oxtongue (*Helminthotheca echioides*), salt rush (*Juncus lescurii*), cultivated radish (*Raphanus sativus*), field horsetail (*Equisetum arvense*), and English plantain (*Plantago lanceolata*). Shrubs are limited to a few areas adjacent to existing wetlands and along the fringe of the industrial area and include coyote brush (*Baccharis pilularis*), Himalayan blackberry (*Rubus armeniacus*), California blackberry (*Rubus ursinus*), cow parsnip (*Heracleum maximum*), sword fern (*Polystichum munitum*), and twinberry honeysuckle (*Lonicera involucrata*). Tree species include Sitka spruce (*Picea sitchensis*), shore pine (*Pinus contorta* ssp. *contorta*), California wax myrtle (*Morella californica*), coastal willow (*Salix hookeriana*), and Monterey cypress (*Hesperocyparis macrocarpa*). Invasive species present on the site include Spanish heather (*Erica lusitanica*), pampas grass (*Cortaderia* spp.), Himalayan blackberry, English ivy, and dense-flowered cordgrass (*Spartina densiflora*).

Several areas that meet the criteria as CCC or U.S. Army Corps of Engineers (USACE) jurisdictional wetlands remain on the main industrial area of the site and in the natural areas on the perimeter of the property (Appendix E). In these locations, fencing has been erected around the wetlands to protect them from encroaching actions. In addition, there are two drainage channels (one between HBGS and Trailer City and one between the Alpha Road Parking Area and HBGS) and a stormwater detention basin (Frog Pond) on the property that meet the criteria of USACE jurisdictional wetland.

Vegetation along the banks of the Intake Canal is largely composed of tufted hairgrass (*Deschampsia caespitosa*), sweet vernal grass (*Anthoxanthum odoratum*), seaside arrowgrass (*Triglochin maritima*), salt grass (*Distichlis spicata*), and dense-flowered cordgrass in the herbaceous layer with coyote brush, riverbank lupine (*Lupinus rivularis*), pampas grass, and shore pine saplings in the shrub layer. Pacific pickleweed (*Salicornia pacifica*) is prevalent along the high tide line, and eelgrass (*Zostera marina*) is present within the Intake Canal.

The banks of the Intake Canal contain a narrow band of Northern Coastal salt marsh at or near the high-high tide line. This area experiences frequent tidal inundation and is dominated by Pacific pickleweed with a mixture of seaside arrowgrass, salt grass, dense-flowered cordgrass, and triangle orache (*Atriplex prostrata*). The upper boundary of the salt marsh is a fringe of sparse coyote brush and mowed annual

grasses. This area is best described by the *Salicornia pacifica* Herbaceous Alliance (pickleweed mats) (Sawyer et al., 2009). This vegetation type is considered a rare natural community.

Natural areas adjacent to and within the industrial areas are currently avoided by the incorporation of BMPs including silt fencing, fiber rolls, and “gutter buddies” along the perimeter of the natural areas and/or construction areas.

#### a. Special-Status Species

A desktop literature review was conducted for known occurrences of sensitive natural communities, critical habitat, and special-status plant and wildlife species within the following 8 USGS quadrangles that surround the project: Fields Landing (main), Cannibal Island, Eureka, Arcata South, McWhinney Creek, Ferndale, Fortuna, and Hydesville (Analysis Area). The following sources were queried:

- The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (CDFW 2015)
- The California Native Plant Society (CNPS) List of Rare and Endangered Plants (CNPS 2015)
- The USFWS online database of USFWS and National Marine Fisheries Service (NMFS) critical habitat designations (USFWS 2015)

The results of special-status plant and wildlife species queries were combined into preliminary lists (Appendix C and Table 4-5) that include those species that have been documented to occur within the Analysis Area and have the following status designations:

- State or federally threatened, endangered, candidate, proposed threatened, or proposed endangered
- State species of concern
- Plant species with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, 2B, or 4 by the CNPS

Based on existing habitat conditions in and around the project area, several special-status plant species have the potential to be found in the region: sea watch (*Angelica lucida*), coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), false gray horsehair lichen (*Bryoria pseudocapillaris*), twisted horsehair lichen (*Bryoria spiralifera*), bristle-stalked sedge (*Carex leptalea*), Lyngbye's sedge (*Carex lyngbyei*), northern meadow sedge (*Carex praticola*), Oregon coast paintbrush (*Castilleja affinis* ssp. *litoralis*), Humboldt Bay owl's-clover (*Castilleja ambigua* ssp. *humboldtiensis*), Point Reyes bird's-beak (*Chloropyron maritimum* ssp. *palustre*), Whitney's farewell-to-spring (*Clarkia amoena* ssp. *whitneyi*), coast fawn lily (*Erythronium revolutum*), minute pocket moss (*Fissidens pauperculus*), Pacific gilia (*Gilia capitata* ssp. *pacifica*), short-leaved evax (*Hesper-evax sparsiflora* var. *brevifolia*), marsh pea (*Lathyrus palustris*), beach layia (*Layia carnosa*), Kellogg's lily (*Lilium kelloggii*), western lily (*Lilium occidentale*), heart-leaved twayblade (*Listera cordata* var. *nephrophylla*), leafy-stemmed miterwort (*Mitellastra caulescens*), ghost-pipe (*Monotropa uniflora*), Howell's montia (*Montia howellii*), Wolf's evening-primrose (*Oenothera wolfii*), California pinefoot (*Pityopus californica*), nodding semaphore grass (*Pleuropogon refractus*), Oregon polemonium (*Polemonium carneum*), dwarf alkali grass (*Puccinellia pumila*), trailing black currant (*Ribes laxiflorum*), maple-leaved checkerbloom (*Sidalcea malachroides*), Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*), coast checkerbloom (*Sidalcea oregana* ssp. *eximia*), western sand-spurrey (*Spergularia canadensis* var. *occidentalis*), Methuselah's beard lichen (*Usnea longissima*), and alpine marsh violet (*Viola palustris*). All special-status plants have a low likelihood of occurrence within the project area except for Point Reyes bird's-beak and Humboldt Bay owl's-clover, which have a moderate likelihood of occurrence due to nearby known populations. A complete list of special-status plant species evaluated for the likelihood to occur in the project area can be found in Appendix C, Table C-1.

Protocol-level special-status plant surveys are recommended during the appropriate blooming times to identify whether any special-status plants are present in the project area as well as to evaluate any potential effects on known occurrences. If special-status plant species are documented in the project area

TABLE 4-5

Summary of project effects determinations on special-status fish and wildlife species potentially occurring in the project area, by FSR plan subarea.

Species name	Status <sup>1</sup> Federal/ State	1 - Buhne Point	2 - ISFSI and ISFSI Support Area	3 - Bayview Heights	4 - Trailer City	5 - Duck Pond	6 - HBPP Core	7 - HBGS/60 kV Substation	8 - Intake Canal	9 - Assembly Building Area	10 - Buhne Point Wetland Preserve	11 - Contractor Parking Lot #1	12 - Buhne Slough Salt Marsh
North American green sturgeon (Northern Distinct Population Segment [DPS]) ( <i>Acipenser medirostris</i> )	SC/SSC critical habitat	N	N	N	N	N	N	N	N	N	N	N	N
North American green sturgeon (Southern Distinct Population Segment [DPS]) ( <i>Acipenser medirostris</i> )	FT/SSC critical habitat	N	N	N	N	N	N	N	N	N	N	N	N
Longfin smelt ( <i>Spirinchus thaleichthys</i> )	FC/ST	N	N	N	N	N	N	N	N	N	N	N	N
Coho salmon (southern Oregon/ northern California Evolutionary Significant Unit ESU) ( <i>Oncorhynchus kisutch</i> )	FT/ST critical habitat	N	N	N	N	N	N	N	N	N	N	N	N
Steelhead (Northern California DPS) ( <i>Oncorhynchus mykiss</i> )	FT/SSC (SSC refers to the summer-run only) critical habitat	N	N	N	N	N	N	N	N	N	N	N	N
Chinook salmon (California coastal ESU) ( <i>Oncorhynchus tshawytscha</i> )	FT/ critical habitat	N	N	N	N	N	N	N	N	N	N	N	N
Northern red-legged frog ( <i>Rana aurora</i> )	-/SSC	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Marbled murrelet ( <i>Brachyramphus marmoratus</i> )	FT/ critical habitat	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	-/SE	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS

Species name	Status <sup>1</sup> Federal/ State	1 - Buhne Point	2 - ISFSI and ISFSI Support Area	3 - Bayview Heights	4 - Trailer City	5 - Duck Pond	6 - HBPP Core	7 - HBGS/60 kV Substation	8 - Intake Canal	9 - Assembly Building Area	10 - Buhne Point Wetland Preserve	11 - Contractor Parking Lot #1	12 - Buhne Slough Salt Marsh
Western snowy plover ( <i>Charadrius alexandrinus nivosus</i> )	FT (Pacific coastal population) / – critical habitat	N	N	N	N	N	N	N	N	N	N	N	N
Tricolored blackbird ( <i>Agelaius tricolor</i> )	–/SE	N	N	LS	N	LS	LS	N	N	N	N	N	N
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	–/SCT, SSC	N	N	N	N	N	LSM	N	N	N	N	N	N
Pallid bat ( <i>Antrozous pallidus</i> )	–/SSC	N	N	N	N	N	LSM	N	N	N	N	N	N

<sup>1</sup> Status: Federal	State
FE Endangered	SE Endangered
FT Threatened	ST Threatened
FC Candidate	SSC Considered a species of special concern by CDFW
SC Special concern	SCT State candidate threatened
FPT Federal proposed threatened	
– No federal status	– No state status

N – No impact; LS – Less than significant impact; LSM – Less than significant impact with mitigation; PS– Potentially significant impact

and cannot be avoided, it is recommended the plants be relocated to comparable habitat in the Buhne Point Wetlands Preserve or another suitable location on-site in coordination with appropriate agencies. **These measures would reduce impacts on special-status plant species to less than significant with mitigation.**

Special-status fish species, all of which have low potential to occur within the project area (Table 4-5), include North American green sturgeon Northern and Southern Distinct Population Segments [DPS] (*Acipenser medirostris*), longfin smelt (*Spirnichus thaleichthys*), coho salmon (southern Oregon/northern California [SONCC] Evolutionary Significant Unit [ESU]) (*Oncorhynchus kisutch*), steelhead (Northern California DPS) (*Oncorhynchus mykiss*), and Chinook salmon (California coastal ESU) (*Oncorhynchus tshawytscha*).

Northern red-legged frog (*Rana aurora*) has been documented to occur in the project area. Bird species with the potential to occur in the project area include marbled murrelet (*Brachyramphus marmoratus*), bald eagle (*Haliaeetus leucocephalus*), western snowy plover (*Charadrius alexandrinus nivosus*), and tricolored blackbird (*Agelaius tricolor*). Townsend' big-eared bat (*Corynorhinus townsendii*) and pallid bat (*Antrozous pallidus*) have low potential to occur in the project area.

A complete list of special-status fish and wildlife species evaluated for the likelihood to occur in the HBPP area can be found in Appendix C, Table C-2. Tidewater goby (*Eucyclogobius newberryi*) does occur in locations near the HBPP; however, the USFWS (2014) concluded suitable habitat was not present and focused surveys also failed to detect presence at and adjacent to the HBPP.

**Northern and Southern DPS green sturgeon.** The northern DPS green sturgeon is a federal species of concern. The southern DPS green sturgeon was federally listed as threatened in 2006. Critical habitat was designated in 2009 and includes all tidally influenced areas of Humboldt Bay (including tributaries) up to the elevation of mean higher high water. The green sturgeon is long-lived and can reach lengths of up to 7 feet. It is a benthic feeder that feeds on small fish, clams, shrimp, and oligochaetes. It is found in estuaries, lower reaches of large rivers, and salt or brackish water off river mouths. Spawning takes place in large rivers where eggs are broadcast-spawned and externally fertilized in relatively fast water flows at depths greater than 9 feet. The eggs are adhesive and cling to bottom substrate; silt is known to prevent adherence. Female green sturgeon can produce 60,000 to 140,000 eggs. Larvae and juveniles inhabit rivers for up to 3 years. Green sturgeon are known to inhabit Arcata Bay (area of the bay north of the harbor entrance). The southern DPS green sturgeon enter Humboldt Bay during the summer and early fall to forage. Northern DPS green sturgeon are year-round residents except when migrating to spawning grounds in the Klamath, Rogue, or other large rivers.

During the permitting process for PG&E's HBPP Canal Remediation Project, NMFS (2014) determined that, based on acoustic tracking data, green sturgeon were expected to utilize the deeper waters of Humboldt Bay and the shipping channel for migration to Arcata Bay. NMFS (2014) further determined that exposure of individual green sturgeon to potential effects of the canal remediation project to be highly unlikely and discountable. The FSR will involve actions that are much more limited in the affected area and scope (culvert replacement only and avoidance of in-water construction) than what occurred during the canal remediation project (dewatering, cofferdam construction, etc.). FSR implementation will thus have no impact on northern and southern DPS green sturgeon or their habitat.

**Tidewater goby.** Although not likely to be found in the project area, a discussion of this species was considered appropriate due to it being present in the Elk River, which is less than a mile from the HBPP. The tidewater goby was federally listed as endangered in 1994. Critical habitat was designated in 2000 and revised in 2008, but is not located in the project area. Tidewater goby is a small, short-lived, estuarine/lagoon-adapted species that may infrequently disperse via marine habitat, but with no dependency on marine habitat for its life cycle. Unlike other California gobies, the tidewater goby is able to

complete its entire life cycle in fresh or brackish water. Tidewater gobies are thought to reproduce year-round, although spawning peaks are known to occur. Reproduction and spawning typically occur during spring and summer in slack, shallow waters of seasonally disconnected or tidally muted lagoons, estuaries, and sloughs. The female deposits eggs into a burrow, which the male guards until larvae emerge in 9 to 10 days.

The preferred juvenile/adult habitat is also slack, shallow water in seasonally disconnected or tidally muted lagoons, estuaries, and sloughs. Tidewater gobies appear to prefer shallow depths (less than 1 meter [3.3 feet]) near emergent vegetation, away from predation by wading birds and piscivorous fish. Substrate preference is sand, mud, gravel, and silt. The diet consists mostly of small crustaceans (such as mysid shrimp, ostracods, and amphipods), aquatic insects (such as chironomid and other dipteran larvae), and molluscs, which are gleaned from bottom substrates.

The distribution of the tidewater goby around Humboldt Bay includes tributaries to Arcata Bay (Arcata Marsh, Mad River Slough, Freshwater Slough, Jacoby Creek, Wood Creek, Liscom Slough, McDaniel Slough, and Gannon Slough), Elk River, and Salmon Creek. Tidewater gobies have also been captured in Martin Slough, a tributary to lower Elk River. Surveys conducted in 2007 within Buhne Slough, adjacent to the HBPP Intake Canal, did not document presence of tidewater goby. In addition, a survey in an adjacent unnamed slough did not capture tidewater gobies (USFWS 2014). The USFWS (2014) concluded that habitat in the HBPP Intake Canal was unsuitable for tidewater gobies because it is fully open to Humboldt Bay and has no significant freshwater inflow. The FSR plan implementation project activities that would occur in the Intake Canal (culvert replacement with no in-water work) will have no impact on tidewater gobies or their habitat.

**Longfin smelt.** The state of California listed the longfin smelt as threatened under the California Endangered Species Act (ESA) in 2009. The longfin smelt is also a candidate for a threatened listing under the federal ESA. Adult and juvenile longfin smelt can be found in the open waters of estuaries, mostly in the middle or at the bottom of the water column. This species can inhabit salinities ranging from nearly pure salt water to completely fresh water, though it prefers salinities of 15 to 30 parts per thousand. Spawning occurs in fresh water during the winter months (February through April) over sandy or gravel substrate. Most smelt die after spawning, but a few (mostly females) may live another year. The eggs are adhesive and hatch in 40 days when water temperatures are 7 degrees Celsius (°C) (44°F). Larvae can be moved downstream to brackish water estuaries by high flows, but may also spend considerable time in fresh water. Metamorphosis into the juvenile form probably begins 30 to 60 days after hatching, depending on temperature. Longfin smelt were historically very common in Humboldt Bay, but have experienced a significant decrease in population since the 1970s. The reasons for the decline in Humboldt Bay are unknown.

FSR plan implementation actions that could affect longfin smelt are limited to the removal of a culvert between the Intake Canal and the Frog Pond and replacement of another culvert that runs between the Intake Canal and Buhne Point wetland (subarea 10a). All work will occur during low tide and will avoid work in the water. Therefore, there will be no impact on longfin smelt or their habitat.

**Coho salmon.** SONCC coho salmon was listed under the federal ESA as threatened in 1997 and under the state ESA in 2005. Critical habitat was designated in 1999 between the Mattole River in California and the Elk River in Oregon, inclusive. Critical habitat includes all accessible waters of estuarine areas, including the Intake Canal on the HBPP property. Coho salmon adults typically begin to migrate upstream from October through late December. Spawning occurs mainly from November through January, with fry emerging from the gravel in the spring, approximately 3 to 4 months after spawning. Juveniles may spend 1 to 2 years rearing in fresh water, or emigrate to an estuary shortly after emerging from spawning gravels. Emigration from streams to the estuary and ocean generally takes place from February through June, with the peak period being the end of April through May. Downstream migration to the ocean starts around March when

the coho are about 1 year old. The migration peaks around mid-May and continues until mid-June. Coho spend 2 years at sea before migrating back to their natal streams to spawn. Coho salmon smolts are known to inhabit the deep water channels in Humboldt Bay prior to entering the ocean (NMFS 2014).

FSR plan implementation actions that could affect coho salmon are limited to the removal of two culverts that run from the Frog Pond area and Buhne Point wetland (subarea 10a) to the Intake Canal. Construction will occur during low tide and not involve in-water work. Therefore, there will be no impact on coho salmon or their habitat. The culvert to Buhne Point wetland will be replaced and the culvert to the Frog Pond will not be replaced.

**Steelhead.** Northern California steelhead was listed under the ESA as threatened in 2000 with critical habitat designated in 2005. Designated critical habitat for northern California steelhead extends from Redwood Creek (Humboldt County) to the Gualala River in Mendocino County. Humboldt Bay has been designated as critical habitat up to the extent of inundation at the highest high tide. Adult winter steelhead generally begin their spawning migration in October with the peak in December through February. Steelhead spawning occurs in mainstems, tributaries, and intermittent streams. The number of days required for steelhead eggs to hatch is inversely proportional to water temperature and varies from about 19 days at 16°C (60°F) to about 80 days at 6°C (42°F). Fry typically emerge from the gravel 2 to 3 weeks after hatching. Upon emerging from the gravel, fry rear in edgewater habitats and move gradually into pools and riffles as they grow larger. In winter, they become inactive and hide in any available cover, including woody debris and the interstitial spaces between cobbles and boulders. Juvenile steelhead rear in fresh water for 2 to 3 years prior to migrating downstream to the estuary and ocean. Steelhead spend between 6 months and 3 years at sea before returning to their natal streams to spawn. Unlike salmon, steelhead are capable of repeat spawning. Steelhead smolts are known to occur in Humboldt Bay prior to entering the ocean.

FSR plan implementation actions that could affect steelhead are limited to the removal of two culverts that run from the Frog Pond and Buhne Point wetland (subarea 10a) to the Intake Canal. Construction will occur during low tide and not involve in-water work. Therefore, there will be no impact on steelhead or their habitat. The culvert to the Buhne Point wetland will be replaced.

**Chinook salmon.** California coastal Chinook salmon was listed under the ESA as threatened in 1999 with critical habitat designated in 2005 south of the Klamath River (exclusive) and north of the Russian River (inclusive). Humboldt Bay has been designated as critical habitat up to the extent of inundation at the highest high tide. Chinook salmon in the California coastal ESU exhibit life history characteristics of the fall-run ecotype. Adult fall-run Chinook generally enter estuaries from July to September, remaining in these areas until they become nearly sexually mature before moving upstream as flows increase in the fall. In California, most adult fall-run Chinook enter streams from August through November, with peak arrival usually occurring in October and November, and spawn from early October through December. Egg incubation generally lasts between 40 to 90 days at water temperatures of 6 to 12°C (42.8 to 53.6°F), and the alevins remain in the gravel for 2 to 3 weeks before emerging from the gravel. Fall Chinook salmon fry usually begin outmigration in February or March and continue into late July. Chinook spend 2 or more years at sea before migrating back to their natal streams to spawn. Chinook salmon smolts are known to use Humboldt Bay prior to entering the ocean.

FSR plan implementation actions that could affect Chinook salmon are limited to the upgrade of two culverts that run from the Frog Pond and Buhne Point wetland (subarea 10a) to the Intake Canal. Construction will occur during low tide and not involve in-water work. Therefore, there will be no impact on chinook salmon or their habitat.

**Northern red-legged frog.** The northern red-legged frogs is a state species of special concern and is known to occur along the California coast from Mendocino County north to southwestern British Columbia, at

elevations from sea level to 1,160 meters (0 to 3,800 feet). Breeding (oviposition) for northern red-legged frogs generally occurs in late winter through early spring, typically when water temperatures exceed 6 to 7°C (43 to 46°F). Females deposit approximately 500 to 800 eggs in a large mass, attached to herbaceous vegetation in low or no-flow areas. Eggs hatch in the spring (March through April), and tadpoles metamorphose in June or July. The majority of northern red-legged frog males begin breeding after 2 years of age, and females begin breeding after 3 years of age. Adults may move large distances (300 meters [greater than 1,000 feet]) from breeding ponds in riparian areas. Northern red-legged frogs use a variety of habitats throughout their various life stages. Aquatic sites such as coastal lagoons, pools, marshes, ponds, or backwater areas are used for breeding, and upland habitats such as open grasslands with seeps and springs may be used for over-summering and foraging. Suitable habitat is present in a number of locations within the HBPP property including the Frog Pond, Buhne Point Wetland Preserve, and Duck Pond. Northern red-legged frogs have been observed throughout the HBPP property.

A variety of construction-related activities associated with the FSR plan implementation have the potential to affect this species. These include routing stormwater from ISFSI Support Stormwater Detention Basin (subarea 2e) into the Buhne Point Wetland Preserve (subarea 10a); filling and contouring the discharge canal (subarea 4b); excavation and grading near the Duck Pond (area 5); and regrading of the Frog Pond to become part of the ISFSI stormwater basin (area 2e). Red-legged frogs have the potential to be in all of these locations. Therefore, a frog rescue and relocation mitigation measure will be implemented during the period when these operations will occur.

Also, the addition of flow from the ISFI Stormwater Detention Basin (subarea 2e) into the Buhne Point Wetland Preserve (subarea 10a) will expand red-legged frog breeding and rearing habitat. The creation of new wetland habitat in Trailer City (subarea 4a) will also expand this species' habitat. The Frog Pond area will also contain higher quality habitat following regrading activities and its incorporation into the ISFSI Stormwater Detention Basin than in the current condition. Therefore, the frog rescue and relocation mitigation measure and wetland enhancement activities will reduce impacts on northern red-legged frogs to a less than significant level with mitigation.

**Marbled murrelet.** The marbled murrelet was listed as threatened under the federal ESA in 1992. Critical habitat was designated in 2006 and revised in 2006 and 2011. The nearest critical habitat is located more than 9 km (6 mi) from the HBPP area. Marbled murrelets in California are mostly concentrated on coastal waters near Del Norte and Humboldt counties, and in lesser numbers near San Mateo and Santa Cruz counties. The species mostly winters throughout nesting range with a small number wintering in southern California. Most time of this species' time is spent on the ocean. It nests inland in old-growth conifers with suitable platforms, especially redwoods near coastal areas.

There is no suitable habitat for marbled murrelets within the HBPP. Marbled murrelets, however, may fly over the HBPP at twilight and just before dawn as they migrate from their nest location to forage in the open ocean and back. The FSR plan implementation does not include night-time work and any lighting that could possibly be installed will be directed downward and away from off-site areas. The HBPP is an industrial site and is already well lit. Any marbled murrelets that fly over the site are already habituated to the existing lighting. Therefore, the project will have a less than significant impact marbled murrelets and no impact on their habitat.

**Bald eagle.** The bald eagle was initially listed as endangered by the state of California in 1970 and reaffirmed in 1980. This species was previously listed as threatened under the federal ESA, but has been since delisted and considered "recovered." The range of this raptor is wholly within North America, including Alaska, Canada, the lower 48 states, and northwest Mexico. Bald eagles in winter may be found throughout most of California at lakes, reservoirs, rivers, and some rangelands and coastal wetlands. Breeding habitats are mainly in mountain and foothill forests and woodlands near reservoirs, lakes, and rivers. Most breeding territories are in northern California, but the eagles also nest in scattered locations in

the central and southern Sierra Nevada range and foothills, in several locations from the central Coast Range to inland southern California, and on Santa Catalina Island. Normally, they build their large stick nests in the upper canopy of the tallest trees in the area. In most of California, the breeding season lasts from about January through July or August. One or two eggs (occasionally three) are laid in late winter or early spring, and incubation lasts about 35 days. Chicks fledge when they are 11 or 12 weeks old. Bald eagles prey on a variety of small animals, usually fish or waterfowl; and they eat carrion, including salmon, deer, and cattle. The closest documented nesting location is about 6 kilometers (4 miles) from the HBPP. Low quality foraging habitat for bald eagles is present in the HBPP Intake Canal but the FSR implementation will not affect this habitat. The FSR plan implementation will have no impact on bald eagles and their habitat.

**Western snowy plover.** The western snowy plover was listed as threatened under the federal ESA in 1993. Critical habitat was designated in 2005 and then redesignated in 2012. The section of critical habitat closest to the HBPP area is located about 1.6 km (1 mi) west of the HBPP area on the South Spit (land south of the harbor entrance). This species nests in locations along the California coast, including the Eel River in Humboldt County as well as the Central Valley, Klamath Basin, and Modoc Plateau. It is also known to nest in the Great Basin, Mojave, and Colorado deserts. It nests on coastal beaches and on gravel bars along rivers with wide floodplains where it needs sandy, gravelly, or friable soils for nesting. It winters primarily along coast. This species prefers barren to sparsely vegetated beaches, barrier beaches, salt-evaporation pond levees, and shores of alkali lakes. There is no nesting or foraging habitat in the HBPP area; however, nesting may occur on nearby sandy beaches across the bay. None of the activities proposed for this project will be conducted near any nesting or foraging habitat. Therefore, the FSR plan implementation will have no impact on western snowy plover or their habitat.

**Tricolored blackbird.** The tricolored blackbird (*Agelaius tricolor*) was granted emergency listing status as endangered by the State of California in 2014. The species is a permanent resident of California, but makes extensive migrations in both the breeding season and winter. The largest population centers are located in central and southern California and extend along the coast to about southern Sonoma County. Humboldt County is the northern extent of their range along the coast. These birds feed in grasslands and agriculture fields. Nesting habitat components include open accessible water, a protected nesting substrate (including flooded or thorny vegetation), and a suitable nearby foraging space with adequate insect prey. They may inhabit coastal scrub, but preferred habitat is in grasslands and agricultural fields. This colonial-nesting species requires a patch size of at least 3-5 acres of suitable nesting habitat. The closest documented location for this species is greater than 8 km (5 mi) south of the HBPP area (CDFW 2015).

Proposed Project activities will not remove any nesting or foraging habitat for this species. Preconstruction nesting surveys will be conducted during the nesting season (February 1 to August 30) prior to the removal of any vegetation and for work adjacent to nesting habitat. The FSR plan implementation will increase the amount of grassland and coastal scrub habitat available for this species. Therefore, the proposed project will have a less than significant impact on the tricolored blackbird and their habitat.

**Townsend's big-eared bat.** The Townsend's big-eared bat (*Corynorhinus townsendii townsendii*) is currently a candidate for listing as threatened under the California ESA. This species has been documented from sea level to 10,800 ft (3,300 m) although in California, maternity roosts appear to be confined to elevations below 5,900 ft. This species occurs throughout California and is associated with caves and structures in a variety of habitats from deserts to coastal scrub to montane forests. This cavity-dwelling species roosts and hibernates in caves (commonly limestone or basaltic lava), mines, buildings, bridges (with a cave-like understructure), rock crevices, tunnels, basal hollows in large trees, and cave-like attics. In coastal California, radio-tracking studies documented foraging along vegetated creek drainages and in forested areas. They are sensitive to human activity (i.e., recreational caving, closing or reopening of mines); once

disturbed, colonies may abandon the roost. The closest documented location of Townsend's big-eared bats is greater than 8 km (5 mi) from the HBPP (CDFW 2015).

The structures that are currently slated for removal as part of the FSR plan implementation are subject to an ongoing high level of human activity ranging from pedestrian traffic to heavy equipment operations. Consequently, it is highly unlikely that this species roosts in any of the structures planned for removal. However, it is possible that individuals of this species may roost in tree cavities on the HBPP property. Therefore, a survey for cavities suitable for bat roosting will be conducted of any tree slated for removal as part of the proposed project. If such a cavity is identified, an assessment of bat use will be initiated by a qualified wildlife biologist. If the cavity shows bat habitation, then the tree and a screen of trees immediately surrounding it, if present, will be retained. Project-related impacts on Townsend's big-eared bat will be reduced to a less than significant level with implementation of the cavity survey, bat habitation assessment, and tree retention measures.

**Pallid bat.** Pallid bat (*Antrozous pallidus*), a CDFW Species of Special Concern, is fairly widespread in California. Pallid bats occupy a variety of habitats, from arid deserts to grasslands, to conifer forests and riparian areas. Roosts (including day, night, and maternity roosts) are typically located in rock crevices and cliffs; day roosts can also be found in tree hollows and caves. In more urban settings, roosts are frequently associated with human structures, such as abandoned buildings, abandoned mines, and bridges. Overwintering roosts require relatively cool and stable temperatures out of direct sunlight. Pallid bats typically glean prey from the ground, and may forage 2–5 km (1–3 mi) from their day roosts. The pallid bat is a colonial species, with a typical maternity colony size of 50 to 300 individuals. The most recent record is from 1924 and is greater than 16 km (10 mi) from the HBPP (CDFW 2015); however, individuals have been documented in the redwood/coastal fog belt (W. Rainey, pers. comm., 2013). The pallid bat is highly sensitive to human activity. Any disturbance to roosting sites, especially large maternity colonies, can make them vulnerable to mass displacement.

The structures that are currently slated for removal as part of the FSR plan implementation are subject to an ongoing high level of human activity ranging from pedestrian traffic to heavy equipment operations. Consequently, it is highly unlikely that this species roosts in any of the structures planned for removal. However, it is possible that individuals of this species may roost in tree cavities in the project area. Therefore, a survey for cavities suitable for bat roosting will be conducted of any tree slated for removal as part of the FSR plan implementation. If such a cavity is identified, an assessment of bat use will be initiated by a qualified wildlife biologist. If the cavity shows bat habitation, then the tree and a screen of trees immediately surrounding it, if present, will be retained. Project-related impacts on the pallid bat will be reduced to a less than significant level with implementation of the cavity survey, bat habitation assessment, and tree retention measures.

#### **b. Riparian Habitat or Sensitive Community**

The proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. Two sensitive natural communities were identified in the project area, eelgrass habitat and Northern Coastal salt marsh. Eelgrass habitat has been identified as a "Habitat Area of Particular Concern" as a subset of Essential Fish Habitat pursuant to the Magnuson-Stevens Fishery Conservation and Management Act. This designation is due to eelgrass' importance as a nursery area for groundfish species. Eelgrass has also been identified by CCC as a "species of special biological significance," and therefore requires special protection pursuant to the California Coastal Act. Eelgrass provides a variety of essential ecosystem functions, including primary production, predation refuge, nursery functions, physical structure, and nutrient cycling. Northern Coastal salt marsh is reported in the CNDDDB database as a rare natural community. This sensitive habitat type is best defined by the pickleweed mats (*Salicornia virginica*) alliance and salt grass flats (*Distichlis spicata*) alliance (Sawyer et al. 2009). Both alliances are considered within wetland habitat of regular or irregular flooding and permanently saturated with shallow water table

conditions. Typically associated with mud flats, banks, berms, and margins of bays, deltas, sandbars; valley bottoms, and lower portions of alluvial slopes.

Eelgrass is present in the project area in the Intake Canal (Stillwater Sciences 2013). Northern Coastal salt marsh is present in a narrow band along the banks of the Intake Canal at or near the high-high tide line and in the Buhne Slough Salt Marsh (Area 12).

Northern Coastal salt marsh and eelgrass habitat in the Intake Canal and in the Buhne Slough Salt marsh have the potential to be impacted by the replacement of two culverts under Bravo Road, by the removal of the pedestrian bridge over the Intake Canal, and the realignment of the Alpha Road intersection. However, these actions would be done in a manner that would avoid impacts on the waters of the Intake Canal and Buhne Slough and would not require sheet piling or other water control structures or in-water work. Removal and replacement of the portions of the culverts connected to the Intake Canal would be executed during a single period of low tide when the water is below the level of the culvert and with controls to ensure sediment does not enter the canal waters. Excavation of the fill adjacent to the culverts has the potential to temporarily impact Northern Coastal salt marsh. However, this impact will be minimized to the extent possible and will be temporary in nature. Any permanent impacts to Northern Coastal salt marsh will be mitigated for by creating additional wetlands in the brackish marsh in the Trailer City wetlands. For all activities, mitigation measures will be employed to minimize impact to Northern Coastal salt marsh vegetation. For example, if feasible, native salt marsh plants that will be impacted will be salvaged prior to excavation and replanted following replacement of the culvert. If large areas of bare soil are left after culvert replacement or road re-alignment, erosion control measures and/or native salt marsh plants will be planted in accordance with the Biological Resources Mitigation Plan (Appendix D).

**There would be no impact on eelgrass habitat as a result of the culvert replacement. Impacts on Northern Coastal salt marsh would be less than significant with mitigation.**

### c. Wetlands

During the implementation of the FSR plan, temporary and permanent impacts on wetlands may occur in the Intake Canal (subarea 8a), Buhne Slough salt marsh (Area 12), Duck Pond (Area 5), Frog Pond (to be incorporated into subarea 2e, ISFSI Stormwater Basin), Buhne Point Wetland Preserve (subarea 10a), Bayview Heights (Area 3), MIT-7 (subarea 11c), and the Trailer City storm water detention Pond (Area 4b). Temporary and permanent impacts will be minimized to the extent possible by implementing avoidance and minimization measures; permanent impacts will be mitigated for by creating new wetlands on site as described below. There will be no net loss of wetlands as a result of the FSR plan implementation. **The project's impacts on wetlands would be less than significant with mitigation.** A wetland delineation report is found in Appendix E.

Potential effects to wetlands include those associated with the following FSR plan Implementation actions:

**Creation of the Alpha Road Parking Lot Mitigation Area (subarea 8b).** A portion of the Intake Canal will be impacted when the Alpha Road Parking Lot Mitigation Area (subarea 8b) is created. Although this is an element of the FSR plan, the creation of this wetland area is a mitigation measure for the Canal Remediation Project (HBHRCD Permit 13-04 and Coastal Development Permit 9-13-0621) and was previously permitted under a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers as a part of that project (USACE Individual Permit 2013-00329N).

**Culvert Replacement and Pedestrian Bridge Removal.** There is a potential for temporary impacts on wetlands in the Buhne Slough Salt Marsh (Area 12), the Frog Pond area (which will become part of subarea 2e), and the Intake Canal (subarea 8a) from construction activities associated with the removal of two culverts under Bravo Road (and replacement of one of these) and the removal of the pedestrian bridge over the Intake Canal. These activities would be done in a manner that would avoid impacts on the waters of the Intake Canal and would not require sheet piling or other water control structures. Work will be done during

periods of low tide and during the dry season to minimize impacts and mitigation measures will be employed to minimize impact on wetlands in accordance with BMPs described in the Biological Mitigation Plan (Appendix D) and SWPPP. In-water work will be avoided.

**Frog Pond Stormwater Basin Creation.** The re-grading and vegetation removal in the Frog Pond area (to become part of the ISFSI Stormwater Basin, subarea 2e), the creation of the new ISFSI Entrance Road, the filling of the area around the sewer lift station, and the replacement of the basin drain culvert will cause temporary impacts on wetlands. Since the existing vegetation within the Frog Pond area is primarily nonnative invasive vegetation, the proposed restoration to native hydrophytic plants will be conducive to the stormwater basin function and wetland habitat suitability. In addition, the area will be expanded and will result in a larger wetland complex, helping to manage stormwater. To the extent possible, work will be done during periods of low tide and during the dry season to minimize impacts, and mitigation measures will be employed to minimize impacts on wetlands in accordance with BMPs described in the Biological Mitigation and Monitoring Plan (Appendix D) and SWPPP.

**Duck Pond.** The creation of a new wetlands/swale complex in Trailer City (subarea 4a) will connect to the existing Duck Pond (Area 5), potentially causing temporary effects from construction activities on the existing wetlands. Upon completion, the overall integrity and health of the combined wetland complex will be improved. To the extent possible, work will be done during the dry season to minimize impacts, and mitigation measures will be employed to minimize impacts on wetlands in accordance with BMPs described in the Biological Resources Mitigation Plan (Appendix D) and SWPPP.

**Trailer City Storm Water Detention Pond.** The creation of a new wetlands/swale complex in Trailer City (subarea 4a) and new Trailer City stormwater detention basin (subarea 4b) will cause temporary and permanent impacts on the drainage ditch that forms a boundary between Trailer City and HBGS. The existing vegetation within this drainage ditch is primarily nonnative invasive vegetation and the ditch is narrow with no control to slow the flow of stormwater entering the adjacent Duck Pond. The proposed modifications to create the storm water detention pond will restore the area to native hydrophytic plants, create a controlled stormwater detention to more effectively treat stormwater, and be expanded to become part of a larger wetland complex. To the extent possible, work will be done during the dry season to minimize impacts, and mitigation measures will be implemented to minimize impacts on wetlands in accordance with BMPs described in the Biological Mitigation and Monitoring Plan (Appendix D) and SWPPP.

**Bayview Heights.** The southern-facing sloped area of Bayview Heights (Area 3) will be graded, stabilized, and revegetated, permanently removing two small USACE-jurisdictional wetlands (0.020 ac) and one small CCC-jurisdictional wetland (0.095 ac). The restored native vegetation will provide slope stability, native vegetation, and enhanced quality habitat. The loss of these wetlands will be mitigated for at a 1:1 ratio in the MIT-7 wetland restoration area (subarea 11c). An additional wetland located adjacent to the ISFSI will be avoided during construction, but will be restored by removing invasive plants and will be incorporated into the adjacent restored areas by removing protective fencing.

**Buhne Point Wetland Preserve.** During the creation of the proposed wetlands in the Contraction Parking Lot #1 (subareas 11a, b, c) adjacent to the Buhne Point Wetland Preserve (subarea 10a), temporary impacts on the existing wetland/drainage ditch along King Salmon Avenue may occur. These impacts will be minimized to the extent practicable in accordance with BMPs described in the Biological Mitigation and Monitoring Plan (Appendix D) and SWPPP. Upon completion, the small wetland will become part of a larger wetland complex and the overall integrity and health of the wetland will be improved. In addition, removing the gravel contractor parking lot and restoring the area to wetlands will reduce the amount of fine sediment delivery to the wetland. There is also a potential for temporary impacts on wetlands in the Buhne Point Wetlands Preserve from construction activities associated with the replacement of the culvert connecting to the Intake Canal. However, this work will be done during periods of low tide and during the dry season to minimize impacts and ensure that the waters of the Buhne Point Wetlands Preserve are not

impacted. In addition, mitigation measures will be employed to minimize impact to wetlands in accordance with BMPs described in the Biological Mitigation and Monitoring Plan (Appendix D) and SWPPP.

**Intake Canal.** There is a potential for temporary impacts on wetlands in the Intake Canal by construction activities associated with the replacement of two culverts and the removal of the pedestrian bridge. However, this work will be done during periods of low tide and during the dry season to minimize impacts and ensure that the waters of the Intake Canal are not impacted. In addition, mitigation measures will be employed to minimize impact to wetlands in accordance with BMPs described in the Biological Mitigation and Monitoring Plan (Appendix D) and SWPPP.

**Alpha Road.** Alpha Road is currently a gravel road that will be paved as part of the FSR plan implementation. Paving this road will reduce fine sediment delivery to the adjacent wetlands of Alpha Road including the Intake Canal (subarea 8a), the Buhne Slough Salt Marsh (Area 12), and the Alpha Road Parking Mitigation Area (subarea 8b). Upon completion, the overall integrity and health of the adjacent wetland areas will benefit. Minor re-alignment of the Alpha Road intersection with King Salmon Avenue will be necessary to meet Humboldt County safety standards that require a 90-degree intersection angle for permanent roadways. This re-alignment involves a small jog near the intersection and installation of a mechanically-stabilized earth wire wall on the Buhne Slough side so that impacts to adjacent wetland are minimized. There will be permanent impacts to approximately 5 m<sup>2</sup> and temporary impacts to 140 m<sup>2</sup> of wetlands under the jurisdiction of both the CCC and USACE. Permanent impacts to wetlands will be mitigated for at a 1:1 ratio by creating 5 m<sup>2</sup> of additional wetland habitat in the MIT-7 wetland area (Area 11c above). Temporary impacts will be mitigated for by enhancing the existing vegetation in Buhne Point Preserve Fringe (Area 10b below). In addition, mitigation measures will be employed to minimize impact to wetlands in accordance with BMPs described in the Biological Mitigation and Monitoring Plan (Appendix D) and SWPPP.

**Charlie Road.** Charlie Road is a paved road that will be removed and restored to CCC-jurisdictional wetlands as part of the FSR plan implementation. This will connect the adjacent natural areas of Buhne Point (Area 1) and the Buhne Point Wetlands Preserve (subarea 10a) and improve habitat connectivity for wildlife. Removing this road has the potential for temporary impacts to adjacent habitats, but they will be minor and upon completion, the overall integrity and health of the adjacent wetland and natural areas will benefit. Temporary impacts will be mitigated for by enhancing the existing vegetation in Buhne Point Preserve Fringe (Area 10b). In addition, mitigation measures will be employed to minimize impact to wetlands in accordance with BMPs described in the Biological Mitigation and Monitoring Plan (Appendix D) and SWPPP.

#### **d. Interfere with Fish or Wildlife Movement**

Actions that have any potential to affect special-status fish species are limited to the removal of two culverts that run from the Frog Pond area and Buhne Point wetland (subarea 10a) to the Intake Canal, and replacement of the latter. All work will occur during low tide and not encroach upon the canal. In addition, there is a very low potential for special-status fish species to be in the project area. Therefore, the FSR plan implementation does not include actions that could interfere substantially with the movement of any native resident or migratory fish species.

Northern red-legged frogs and Pacific tree frogs are frequently observed throughout the HBPP site under current conditions. It is likely that movement of adult or juvenile frogs through the project area will continue to occur during proposed construction activities, especially during rainy periods. The HBPP currently has on-call staff available to capture and relocate frogs on an as-needed basis. It is expected that this on-call staffing will continue to operate in the same fashion as in the pre-project condition. The FSR plan implementation will convert some industrial areas to natural and open areas, which will improve migratory corridors for native amphibians and reptiles. The creation of mitigation wetlands by the

conversion of the existing Contractor Parking Lot #1 (Area 11) to wetlands, restoration in the Buhne Point Wetland Preserve area (Area 10), and wetland creation in the Trailer City area (Area 4) will improve migration and/or nursery habitat in those locations. Therefore, the impact of the project on movement, migration corridors, or use of nursery sites of amphibians and reptiles will be less than significant.

The FSR plan implementation will improve available habitat for migration and breeding of birds, small mammals such as mice and voles, and larger mammals such as deer and raccoons. The HBPP project area is not within any known wildlife movement corridor. Unless otherwise constrained by facility security requirements, the FSR plan involves removal of unnecessary fencing in a way that will facilitate wildlife movement. **Therefore, the project will have no impact on bird and mammal movement, established migratory corridors, or use of native wildlife nursery sites.**

#### e. Interfere with Policies or Ordinances

The CCC strives to maintain large-diameter trees within the coastal zone. There are no other local policies or ordinances protecting biological resources that apply to this site.

One Monterey pine (*Pinus radiata*; >12 in [30 cm] dbh) in the middle of the Alpha Road Mitigation Area parking lot (subarea 8b) will be removed during implementation of the separately permitted wetland creation as mitigation for the Canal Remediation Project. .

Two Monterey cypress >12 in dbh will be removed during construction of the Trailer City wetland creation area (subarea 4a). This impact will be mitigated by revegetating with hydrophytic vegetation and riparian trees and shrubs in the restoration area. The non-native Monterey cypress trees will be replaced by native tree species.

Several large-diameter non-native trees (Monterey cypress and Monterey pine) will be removed in the Buhne Point Preserve Fringe (subarea 10b) when the area is restored to native vegetation. Trees will be replaced at a 2:1 ratio with native trees as described in the Biological Mitigation and Monitoring Plan (Appendix D). **Therefore, the project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.**

#### f. Conflict with an Approved Plan

The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plans.

#### Cumulative:

No significant cumulative impacts on biological resources are anticipated with this project because impacts associated with this resource area will be mitigated to a less than significant level.

#### Mitigation:

See Table 5-1 in Section 5 and Appendix D, Biological Mitigation and Monitoring Plan

<b>V. Cultural Resources</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<b>V. Cultural Resources</b>				
Would the proposed project:	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) 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"/>
(d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**a, b, c.** Several cultural resources surveys have been conducted for the HBPP property. The 2003 cultural resources study for the ISFSI Licensing Project (PAR Environmental Services, 2003) found no previously recorded cultural resources within the ISFSI area of potential effect (APE). The study included a pedestrian survey of the two liquid fuel-oil tank areas (Tanks #1 and #2), and the open and previously unused area at the top of the Buhne Point hill where the ISFSI was to be sited, and did not identify any new cultural resources within the APE. A National Register evaluation of Unit 3, including a detailed context statement, was also conducted at this time. This evaluation found Unit 3 to meet the criteria for exceptional significance under National Register of Historic Places (NRHP) Criterion Consideration G, for its place in the history of the nuclear power industry, and under Criteria A and C at the national level. It found that Unit 3 would be considered exceptionally important and NRHP-eligible because of its unique and pioneering place in the history of commercial nuclear power and its highly innovative design and construction techniques. The ISFSI report also concluded that, although Unit 3 was clearly a significant historic property, the ISFSI project would have no adverse impact on it. The State Historic Preservation Officer concurred that the ISFSI project would not have an adverse impact on historic properties.

A comprehensive cultural and archaeological resources investigation of the HBPP site was conducted for the 2006 Application for Certification for the proposed HBGS (initially called Humboldt Bay Repowering Project) (CH2M HILL, 2006; Pacific Legacy, 2007). This investigation surveyed the portions of the HBPP site that had not been surveyed for the ISFSI. The investigation provided a brief cultural background of the project area (that is, prehistory, ethnography, and history); discussed the results of a records search from the North Coastal Information Center of the California Historical Resources Information System (CHRIS); summarized the contacts made with the California Native American Heritage Commission regarding traditional cultural properties and correspondence with local tribes, individuals, and the local historical society; discussed the methods and results of the archaeological field survey of the project area; reported on the cultural resources identified within the project area, their potential significance, and the potential effects of the proposed project on the resources; and presented applicable laws, ordinances, regulations, and standards along with agency contacts, permit requirements, and schedules. The records search of the project area was conducted for the Application for Certification by the North Coastal Information Center of the CHRIS at the Yurok Tribal Office in Klamath, California, on May 4, 2006. The record search indicated that five previously recorded native cultural sites are within a mile of the project area.

The HBPP site was judged on the basis of the 2006 cultural resources investigation to be potentially sensitive for prehistoric cultural resources due to its location and proximity to known Native American cultural sites. The HBPP site is shown on aerial photographs that pre-date HBPP to have been a marshy lowland adjacent to Buhne Slough and the uplands of Buhne Point.

Construction of the HBGS and decommissioning of the HBPP involved onsite cultural resources monitoring of excavation and other ground-disturbing activities. Artifact finds during construction included one human tooth, one prehistoric lithic scatter, two historic refuse scatters, two historic road remnants, three combination sites consisting of both a sparse lithic scatter and a historic refuse scatter, a small burnt historic trash scatter, and an unimproved road feature. None were determined eligible for either the NRHP or the California Register of Historical Resources. In addition, the Humboldt County Coroner determined the tooth was not prehistoric.

In summary, as a result of the numerous studies completed for the various decommissioning projects at HBPP, only one NRHP-eligible resource was identified within the HBPP campus: HBPP nuclear generating Unit 3, which was determined eligible for listing on NRHP through survey evaluation in 2003 (PAR Environmental Services, 2003). The fossil fuel-generating Units 1 and 2 and appurtenant structures were determined ineligible for the NRHP in 2006 (Pacific Legacy, 2007; CH2M HILL, 2006). No significant archaeological resources have been identified within the APE. Nevertheless, during the licensing of the HBGS the CEC identified the HBPP as a historic district eligible for listing in the California Register of Historical Resources. Documentation of the site to the standards of the Historic American Engineering Record was required. The documentation has been completed and submitted to the appropriate agencies and entities as required by the CEC.

Given the extensive cultural resources monitoring and testing conducted for the HBGS construction and HBPP decommissioning, it is unlikely that buried sites would be encountered during implementation of the FSR plan. In the event that cultural or paleontological resources are discovered during ground-disturbing activities, construction activities near the discovery would cease and the area be protected until the find can be evaluated by the designated cultural resources specialist.

**d.** No human remains are anticipated to be present onsite; therefore, the proposed project would not disturb any human remains. However, if human remains or Native American archaeological sites were inadvertently encountered during construction, PG&E would comply with California Health and Safety Code 7050.5, and contact the county coroner. If the coroner determines that the find is Native American, the coroner is required to contact the Native American Heritage Commission in Sacramento. Additionally, as part of CDP E-09-010, the Coastal Commission required that PG&E prepare and follow an Archaeological Resources Protection Plan during decommissioning of the HBPP. That plan would continue to be followed during FSR plan implementation.

**Cumulative:**

No cumulative impacts on cultural resources are anticipated with this project because impacts associated with this resource area would be less than significant.

**Mitigation:**

No mitigation would be required.

<b>VI. Geology and Soils</b>				
Would the proposed project:	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 proposed project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), 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 water disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**a, b, c.** The HBPP is located in the Coast Ranges Physiographic/Tectonic Province and is within a highly active seismic region that has had numerous earthquakes. The geology of the region around the site is very complex, reflecting geologically rapid processes driven by recent (that is, within the last 10,000 years) tectonics and rapid erosion. The site lies within the Eel River sedimentary basin. The sediments in the basin are young and generally not well cemented, and have been dramatically deformed by tectonics driven by the Cascadia Subduction Zone as it extends from offshore to onshore in the Eureka area. The resulting

geologic structures of this zone in the Humboldt Bay region are dominated by north-northwest trending compressional structures, some of which are reactivated faults that formed during earlier phases of plate convergence that have affected the region since the Late Jurassic. The Mad River Fault Zone and the Little Salmon Fault Zone are major reverse faults that pass near the site. They are active with multiple movements documented during the past 10,000 years.

HBPP lies within the Little Salmon Fault Zone. The zone has a total length of 59 miles, including offshore traces. The Little Salmon Fault Zone is part of the Little Salmon Fault system of active folds and reverse faults that extends from its intersection with the freshwater fault/Coastal Belt thrust near Bridgeville, northwest to its intersection with the Thompson Ridge Fault off the coast of southern Oregon. The fault system trends parallel to the deformation front associated with the leading edge of the Cascadia Subduction Zone. Four traces of the Little Salmon Fault Zone are mapped near the HBPP site. These include two primary fault traces, the Little Salmon and Bay Entrance Faults, and two subsidiary faults that are in the hanging wall of the Bay Entrance Fault. The subsidiary faults are the Buhne Point Fault and the Discharge Canal Fault.

The project site includes Buhne Point, a small headland on the eastern shore of Humboldt Bay, and part of the small isolated Buhne Hill that rises to elevation 64 feet above mean lower low water. The property also includes the adjoining sand flats in the bay to the northwest and adjacent marsh and filled marsh to the northeast, east, and south. The Hookton Formation forms Buhne Hill. Surrounding Buhne Hill and overlying the Hookton rocks are Holocene estuarine deposits from Humboldt Bay and alluvial deposits from Elk River. These sedimentary units are complicated with rapid facies changes and layers of organic silt, soft sand and silt, sand, and lenses of gravel. The hill has been uplifted and tilted slightly to the northeast by displacements on the Buhne Point Fault, which is to the southwest, and the Discharge Canal Fault, which is to the northwest. Although the proposed project is not “new development,” project activities would include ground disturbance.

Several geologic hazards and soil conditions have the potential to affect the site, including seismic shaking, liquefaction, tsunami inundation, possible surface faulting, and erosion. A strong seismic event could place project personnel at risk, but ground shaking, by itself, would not strongly increase the risk of hazardous materials exposed during construction being transported offsite. PG&E will continue to implement its safety training for onsite personnel on what to do in a seismic event. The potential for on- or off-site landslide due to a large seismic event is low because such an event would be occur with very low probability and, therefore, the exposure of people and property to this type of geological hazard would not be significant.

The factors that have the greatest effect on soil erosion include steep slopes, lack of vegetation, and erodible soils having a large proportion of fine sands. The project site includes slopes to Buhne Hill but these are rocky, not sandy. The predominant surface soil condition is silty clay loam, with a water erosion potential of slight to moderate. The potential for soil erosion in the project area comes mainly from water (including precipitation and tsunami) and wind. Impacts associated with the potential for ground-disturbing activities to result in the movement of soil or erosion into water bodies within or adjacent to the project site are addressed in Section IX, Hydrology and Water Quality.

However, given that PG&E would amend their existing SWPPP to address information provided by the contractor regarding design, implementation, operation, monitoring, and reporting of activities under the General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, NPDES Permit No. CAS000002, Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ (Construction General Permit), impacts resulting from soil erosion would be less than significant.

The primary impacts resulting from the proposed project are the potential for precipitation, tsunami, or earthquake to cause soil erosion, transport of hazardous materials by water or wind in the event of erosion, and the related impact of such transport to onsite and offsite water quality. Potential impacts could also

occur with respect to fugitive dust, which are addressed in Section III, Air Quality. Given that construction would be accomplished so as to avoid potential storm-related runoff (see Section IX, Hydrology and Water Quality), and the potential for tsunami or earthquake during demolition is considered low, no significant impacts on geology and soils resources are expected.

**d.** Soils on the project site and surrounding area do not contain excessive amounts of expansive clays (McLaughlin and Harradine, 1965). Seventy-two percent of the Hookton soil is sand and silt with the remaining 28 percent clay. Therefore, the proposed project would not be subject to hazards posed by expansive soils.

**e.** The proposed project would not include the installation of septic systems or sewers.

**Cumulative:**

No substantial cumulative impacts on geology and soils are anticipated with this project because impacts associated with this resource area would be less than significant.

**Mitigation:**

No mitigation would be required.

<b>VII. Greenhouse Gas Emissions</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment?	<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 GHGs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

**a, b.** The framework for regulating greenhouse gas (GHG) emissions in California is described under Assembly Bill (AB) 32. In 2006, the California State Legislature signed the Global Warming Solutions Act of 2006, or AB 32. This law requires the California Air Resources Board (CARB) to design and implement emission limits, regulations, and other measures such that statewide GHG emissions are reduced in a technologically feasible and cost-effective manner to 1990 levels by 2020. The statewide 2020 emissions limit is 427 million metric tons carbon dioxide equivalent (CO<sub>2</sub>e) (ARB, 2007). Additionally, CARB published an interim guidance for assessing the significance of GHGs under CEQA in 2008, which indicates that GHG emissions for non-transportation-related sources of less than 7,000 metric tons of CO<sub>2</sub>e per year should be presumed to have a less-than-significant-impact (CARB, 2008a). Carbon dioxide (CO<sub>2</sub>) emissions account for approximately 90 percent of the statewide GHG emissions (CARB, 2007). Methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>) emissions account for the remainder of the statewide GHG emissions (CARB, 2007).

Global climate change describes a collection of phenomena, such as increasing temperatures and rising sea levels, across the globe as a result of increasing anthropogenic emissions of GHGs. GHGs contribute to climate change by allowing ultraviolet radiation to enter the atmosphere and warm the earth's surface, but also prevent some infrared radiation from the earth from escaping back into space. The largest anthropogenic source of GHGs is the combustion of fossil fuels, which emits primarily CO<sub>2</sub>. GHG impacts are

evaluated for project construction and operations by estimating the emissions from off-road construction equipment and on-road vehicles, as well as direct and indirect emissions from project operations.

Project impacts from GHG emissions were assessed by estimating the emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O from the project. Emissions of HFCs, PFCs, and SF<sub>6</sub> are not expected as a result of project activities, during either construction or operation. Emissions of CO<sub>2</sub> and CH<sub>4</sub> from construction equipment were estimated using Appendix D of the CalEEMod User's Guide (ENVIRON, 2013). Emissions of N<sub>2</sub>O from construction equipment were estimated using fuel consumption estimates from the OFFROAD2011 model for the North Coast Air Basin and emission factors from Table 13.7 of The Climate Registry's (TCR) Default Emissions Factors (TCR, 2014). Emissions of CO<sub>2</sub> from worker commute, concrete truck deliveries, and haul truck deliveries were estimated using emission factors from EMFAC2011 for Humboldt County, California, while emissions of CH<sub>4</sub> and N<sub>2</sub>O were estimated using emission factors from Table 13.5 of TCR's Default Emissions Factors (TCR, 2014). The estimated maximum daily and project total GHG emissions are presented in Table 4-5. Appendix B presents the detailed calculations for the construction emission estimates.

TABLE 4-5

**Humboldt Bay Generating Station Construction Greenhouse Gas Air Emissions**

<b>Construction Year 2014</b>	<b>CO<sub>2</sub></b>	<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub>e</b>
Project Emissions (metric tons/project)	1,118	0.30	0.028	1,134
CARB Significance Threshold (metric tons)	-	-	-	7,000

Although GHG emissions would be emitted during the restoration project, the projected short-term increase in GHG emissions would be less than CARB's proposed threshold of 7,000 metric tons of CO<sub>2</sub>e per year. Therefore, the addition of GHG emissions generated as a result of the proposed project would neither result in a significant impact on the environment nor conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Project operations will not change significantly as a result of implementing the FSR plan and, therefore, there will be not significant impacts resulting from project construction or operation.

**Cumulative:**

No substantial cumulative impacts on GHG emissions are anticipated with this project because impacts associated with this resource area would be less than significant.

**Mitigation:**

No mitigation is required.

<b>VIII. Hazards and Hazardous Materials</b>				
Would the proposed project:	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
(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 accident conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<b>VIII. Hazards and Hazardous Materials</b>				
Would the proposed project:	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
involving the release of hazardous materials into the environment?				
(c) Emit hazardous emissions, handle hazardous or acutely hazardous materials, substances, or waste within 0.25 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 that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) If located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f) For a project located within the vicinity of a private airstrip, 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 involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**a, b, c, d.** At typical construction sites, onsite materials that could be considered hazardous include fuels, motor oil, grease, various lubricants, solvents, soldering equipment, and glues. Fuel replenishment would be required daily for most of the heavy equipment.

**Radiologically Contaminated Waste.** Radiologically contaminated waste (radcon or radwaste) is a term used for any product (liquid, gas, pipes, valves, or other materials) that has been exposed to radiation and may have the potential to release potentially damaging radiation or otherwise expose the environment to radioactivity. As stated previously, the objective of the decommissioning process is the removal of all radiologically contaminated material from the site that would restrict its future use, and the termination of the NRC license. This currently requires the remediation of all radioactive material at the site in excess of applicable legal limits.

The characterization of radiologically contaminated materials and the procedures for safe handling, storage, and transport of these materials at the site has been the subject of a large amount of data collection, analysis, and planning that is documented or referenced in PG&E's correspondence with the NRC. Before the FSR plan is implemented, the FSS will take place, verifying the absence of significant radiological contamination.

**Non-Radiological Contamination.** The FS/RAP currently being reviewed by the DTSC includes a remediation plan for several locations on the project site. The DTSC approval and CEQA process for the FS/RAP will be conducted separately from and prior to the FSR plan implementation. However, there will be minor soil remediation identified in the FS/RAP that will be conducted in conjunction with site restoration.

**Hazardous Materials Handling.** Hazardous materials handling and transportation for the proposed project is regulated and controlled by numerous state, federal, and local agencies. The regulations for handling asbestos and other hazardous materials are sufficiently stringent to render the potential for release to the environment from spill or accidental breach of containment as less than significant. Modern engineering designs for containment and proven BMPs and standards of care would minimize any potential release of hazardous waste to within the project boundary. Characterization and disposal planning for radiological hazardous waste removal and transportation has been under way for nearly a decade at HBPP. PG&E would continue to comply with existing control methods currently in practice onsite; therefore, this impact would be less than significant. All hazardous materials would be handled and stored in accordance with applicable codes and regulations.

A hazardous materials business plan is required by *California Code of Regulations* Title 19 and the Health and Safety Code (Section 25504), and has been developed for the site. The hazardous materials business plan includes an inventory and location map of hazardous materials onsite and an emergency response plan for hazardous materials incidents. Specific topics in the plan include the following:

- Facility identification
- Emergency contacts
- Chemical inventory information (for every hazardous material above threshold limits)
- Site map
- Emergency notification data
- Procedures to control actual or threatened releases
- Emergency response procedures
- Training procedures
- Certification

The hazardous materials business plan is on file with the Humboldt County Department of Environmental Health and updated annually in accordance with applicable regulations. The Humboldt County Department of Environmental Health would ensure review by and distribution to other potentially affected agencies including the Humboldt Fire District.

In accordance with emergency response procedures specified in the hazardous materials business plan, designated personnel would be trained as members of a plant hazardous material response team, and team members would receive first responder and hazardous material technical training to be developed in the hazardous materials business plan, including training in appropriate methods to mitigate and control accidental spills. In the event of a chemical emergency, plant personnel would defer to the City of Eureka Regional Hazardous Materials Response Team, which is an on-call team from the Eureka Fire Department. The nearest fire station to the project site, Fire Station #12, located at 755 Herrick Way, would be the first responder to the site; but additional support would be provided by the City of Eureka Regional Hazardous Materials Response Team.

Overall impacts from hazardous materials would not be significant given the level of preparation, control, and regulation that exists at the site for these types of materials.

- c. There are no known or proposed schools within 0.25 mile of the project site.
- d. The proposed project is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.
- e. The proposed project is more than 6 miles from the nearest public airport (Murray Field) and would not result in a hazard to construction workers onsite.
- f. There are no known private airstrips within a 10-mile radius of proposed project.
- g. The access route for the proposed project would not involve a use or activity that could interfere with emergency response or emergency evacuation plans for the area.
- h. The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

**Cumulative:**

Because of the extensive measures listed above for handling hazardous materials on this active demolition site, no substantial cumulative hazards and hazardous materials impacts are anticipated.

**Mitigation:**

No mitigation would be required.

<b>IX. Hydrology and Water Quality</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(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, causing 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 the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite?	<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 the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<b>IX. Hydrology and Water Quality</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Otherwise 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 within a 100-year flood hazard area structures that would impede or redirect flood flows?	<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 involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

**a, f.** PG&E previously discharged once-through cooling water to Humboldt Bay during routine operations at HBPP. During previous HBPP operations, intake cooling water was drawn from the Intake Canal on the south side of the plant and discharged through a nearshore outfall on the east side of the plant.

The Intake Canal is hydraulically connected to Humboldt Bay through Fisherman's Channel (also known as King Salmon Slough), which is part of the canal complex in the King Salmon community. The slough serves as boating access to the King Salmon residential area, which includes several residences with private boat docks.

Potential impacts on adjacent surface water bodies, such as Humboldt Bay, would be limited to the potential discharge of pollutant-laden stormwater runoff from the proposed project's excavation and re-contouring activities, and the potential for erosion- and/or grading-related runoff. In addition, construction materials could contaminate stormwater runoff and groundwater if not properly stored and used, and could potentially impact on water quality. However, given that PG&E would amend their existing SWPPP to address information provided by the contractor regarding design, implementation, operation, monitoring, and reporting of activities under the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, NPDES Permit No. CAS000002, Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ, the proposed project would not violate water quality standards or waste discharge requirements, therefore this impact would be less than significant.

**b.** Groundwater flow at the site is complex because of a combination of factors, including the heterogeneous soil structure, tidal changes in Humboldt Bay, and short- and long-term variability in precipitation and recharge rates. Groundwater at the site ultimately discharges to onsite surface water bodies or directly to Humboldt Bay, to the north. The proposed project would not require the use of groundwater wells or require any groundwater pumping; therefore, no impacts on groundwater would occur as a result of the proposed project.

**c, d, e.** The FSR plan includes a grading and drainage plan (Appendix A) that implements LID principles for the restored HBPP site. This plan includes the construction of a stormwater detention basin in the ISFSI support and Frog Pond area (ISFSI Storm Water Detention Basin) and at the current location of the south end of the Discharge Canal (Trailer City Storm Water Detention Basin). The basins will improve the existing drainage system by collecting stormwater and releasing it slowly into adjacent waterways. The ISFSI basin will release water to the Buhne Point Wetland Preserve, which drains to the Intake Canal, and the Trailer City basin will release water to the adjacent Trailer City constructed wetland and from there to the Duck Pond. The basins will improve water quality, by catching silt and other debris in stormwater runoff and will also reduce the risk of flooding. In general, the FSR grading and drainage plan should result in flood control and a reduction of runoff volume, as well as water quality improvements on the site.

**g, h.** No housing or other buildings would be constructed as part of the proposed project.

**i.** The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, nor would the proposed project result in the failure of a levee or dam.

**j.** See Section VI, Geology and Soils, for a discussion on the potential for impacts due to tsunamis.

**Cumulative:**

No substantial cumulative impacts on hydrology and water quality are anticipated with this project because impacts associated with this resource area would be less than significant.

**Mitigation:**

No mitigation would be required.

<b>X. Land Use and Planning</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed project (including, but not limited to, the 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"/>

**Discussion:**

- a.** The proposed project would not have the potential to physically divide the surrounding community.
- b.** The power plant site is on land zoned as coastal dependent industrial (MC) with combining district designations for coastal resource dependent (C), flood hazard (F), and coastal wetland (W). The project site is currently used for industrial/utility purposes (electricity generation). The majority of the proposed project is in an unincorporated area within Humboldt County's jurisdiction. However, the City of Eureka's sphere of influence extends west and south of the project site. The City of Eureka considers land within this designated area as land that may be annexed to the city in the future.

Although Humboldt County has a certified Local Coastal Program, the HBPP site is within the retained jurisdiction of the CCC. The HBPP property includes natural and constructed features including wetlands, Buhne Slough, and the power plant cooling water intake and discharge canals. The property is bounded on the north by Humboldt Bay, on the west by the King Salmon community, on the east by Northwestern Pacific Railroad tracks, and on the south by King Salmon Avenue. East of the railroad property are U.S. Highway 101 (US 101), rural parcels, and commercial development. South of King Salmon Avenue are wetland areas and the Humboldt Hill residential development. Southwest of Humboldt Hill is the community of Fields Landing. West of the King Salmon community are Humboldt Bay, a sand spit known as South Spit, and beyond the spit, the Pacific Ocean.

FSR plan implementation activities associated with the proposed project would not physically divide the local unincorporated area within Humboldt County. The proposed project would be within the boundary of HBPP in an area used for power generation and would not conflict with existing uses onsite.

- c.** No habitat conservation or natural community conservation plans apply to the proposed project site.

**Cumulative:**

No cumulative impacts on land use and planning are anticipated with this project.

**Mitigation:**

No mitigation would be required.

<b>XI. Mineral Resources</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Result in the loss of availability of a known mineral resource that 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"/>

**Discussion:**

- a, b.** There are neither known mineral resources of value to the region nor known locally important mineral resources located on the HBPP project site.

**Cumulative:**

No cumulative impacts on mineral resources are anticipated with this project.

**Mitigation:**

No mitigation would be required.

<b>XII. Noise</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) If within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project site to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f) If within the vicinity of a private airstrip, expose people residing or working in the project site to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**a, b, d.** The property is bounded on the north by Humboldt Bay, on the west by the King Salmon community, on the east by Northwestern Pacific Railroad tracks, and on the south by King Salmon Avenue. East of the railroad property are US 101, rural parcels, and commercial development. South of King Salmon Avenue are wetland areas, the Humboldt Hill residential development, and timber-related port facilities.

Construction activities have been ongoing at the site for several years and have included demolition of Units 1 and 2 and construction of the HBGS. Demolition and decontamination of Unit 3 is ongoing. The majority of noise generated during the day is due to ongoing demolition activities. This noise is not discernible from traffic on US 101 at locations east of US 101. Noise generated from the project site is audible, absent local vehicular traffic during both day (for demolition and HBGS operations) and night (for HBGS operations only) from the King Salmon community.

Project activities would be performed Monday through Friday from 7:00 a.m. to 5:30 p.m. Although construction activities associated with the proposed project would likely be audible from adjacent

recreational trails, the noise would not be discernible from the existing demolition activities (which would have ceased by the time the FSR plan is implemented); therefore, the proposed project would not significantly increase ambient noise levels.

Nighttime operations are not planned or anticipated; however, in the event that schedule or operational issues necessitate nighttime work, PG&E will consult the HBHRCD in advance and submit any additional documentation required or proposed measures will be proposed to the HBHRCD to document compliance with the County noise standard.

c. The proposed project includes the restoration of former power plant areas (that ceased operation in 2010) and would not change the current use of the site, as some of these areas would be taken for use by the HBGS and would not be converted to other uses. Therefore, there would not be a permanent increase in noise on the project site due to project operations. HBGS operations would not significantly change due to the incorporation of the former HBPP power plant areas into the HBGS operating area.

e, f. The proposed project is more than 6 miles from the nearest public airport (Murray Field), and there are no known private airstrips within a 10-mile radius of the project site. Airport operations would not expose people residing or working in the project site to excessive noise levels.

**Cumulative:**

No substantial cumulative impacts on noise are anticipated with this project because impacts associated with this resource area would be less than significant.

**Mitigation:**

No mitigation would be required.

<b>XIII. Population and Housing</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<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"/>

**Discussion:**

a. The proposed project would not induce population growth.

b, c. The proposed project would not displace housing or people. No replacement housing would be required.

**Cumulative:**

No cumulative impacts on population and housing are anticipated with this project.

**Mitigation:**

No mitigation would be required.

<b>XIV. Public Services</b>				
Would the proposed project:	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
(a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
(i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

**a (i, ii, iii, iv, v).** The proposed project would not require new fire or police protection, schools, parks, or other public facilities; nor would the proposed project alter existing fire or police protection, schools, parks, or other public facilities. No impacts on these public services would result from the proposed project.

**a (v).** A public shoreline trail runs along the shoreline on of the Humboldt Bay Power Plant property to the northwest (see Figure 2-1). The shoreline trailhead lies just off King Salmon Avenue at Buhne Point, where the avenue bends, becoming Buhne Drive. This portion of the trail extends from the King Salmon community south to the wetlands along the bay. To the north of the power plant property, the trail parallels the railroad right-of-way along the shoreline.

On its north end, the shoreline trail connects to the Hikshari trail via an undeveloped path that parallels the railroad right-of-way. The Hikshari Trail is a newly developed, multiple-use, 1.5-mile-long trail segment that winds along the Elk River and through the Elk River Wildlife Sanctuary and terminates at a trailhead in south Eureka near the Bayshore Mall. The Hikshari Trail features interpretive signs highlighting aspects of the area's natural resources. Primary access to the Hikshari Trail is via the Herrick Avenue exit off Highway 101, approximately 2 miles north of the King Salmon Avenue exit used to access the shoreline trail at Buhne Point.

It is expected that the Hikshari trail would eventually connect to an improved trail routed along the railroad right-of-way to the south and east of HBPP, then accessing a larger trail network referred to as the California Coastal Trail. The shoreline trail along the west of HBPP could remain a connector to the California Coastal Trail, but is not envisioned as a primary route. Currently, there is no direct connection.

Construction activity to implement the FSR plan on Bayview heights may necessitate short-term and temporary flag-person control of a small portion of the coastal access trail for a brief time. This would not require closure of the trail and the impact on this public service is less than significant.

**Cumulative:**

As described above, the proposed project is part of existing ongoing demolition activities. PG&E has been working closely with other permitting agencies to reduce local impacts. These efforts would reduce impacts on trail users near the project site to a less than significant level and would, thus, not create a cumulatively considerable impact.

**Mitigation:**

No mitigation would be required.

<b>XV. Recreation</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(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 type="checkbox"/>	<input checked="" 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"/>

**Discussion:**

**a, b.** The proposed project would not result in the accelerated deterioration of nearby park facilities, nor would the proposed project require new facilities to be constructed.

**Cumulative:**

No cumulative impacts on recreation are anticipated with this project.

**Mitigation:**

No mitigation would be required.

<b>XVI. Transportation and Traffic</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
(a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<b>XVI. Transportation and Traffic</b>				
Would the proposed project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transits?				
(b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other 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) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location those results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Substantially increase hazards due to a design feature (such as sharp curves or dangerous intersections) or incompatible uses (such as farm equipment)?	<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 type="checkbox"/>	<input checked="" type="checkbox"/>
(f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

**a, b.** HBPP is located in unincorporated Humboldt County, approximately 4 miles south of Eureka. The project site is accessible via King Salmon Avenue, which intersects with US 101. Construction traffic for the proposed project would use the same entry and exit routes that site workers currently use, and no new access routes would be required.

According to the Humboldt County Public Works Department, King Salmon Avenue currently carries approximately 2,400 vehicles per day. Only total daily traffic counts were measured during county surveys; therefore, truck traffic and peak-hour volume data are not available for King Salmon Avenue (CH2M HILL, 2006).

Traffic volumes are expected to remain dominated by worker commute traffic to and from the site each day. For the HBPP decommissioning program, worker commute traffic peaked in 2010, with decommissioning activities and construction of the new HBGS taking place simultaneously. As noted in Section 2, the workforce for the FSR plan implementation would consist of 150 workers, compared with peak workforce for the combined HBGS construction and decommissioning program of more than 500.

Potentially significant impacts on traffic would occur if vehicle congestion from the project site or cumulative impacts from multiple project sites within the vicinity cause traffic to back up onto King Salmon Avenue. King Salmon Avenue is not a heavily used road, but it is the only access route to the King Salmon community, southwest of HBPP. Potential traffic impacts would primarily result from staff traveling to and from the site. However, the maximum number of onsite staff during implementation of the proposed project, including construction personnel and personnel operating the ISFSI and HBGS, would be significantly lower than 500 persons per day for the duration of the project. During the period of HBPP decommissioning and HBGS construction when staffing levels reached as high as 500 persons, there were no reported issues with traffic backing up onto King Salmon Avenue. Because daily traffic estimates resulting from the FSR plan implementation would be much lower than those previously experienced at the project site and the baseline traffic conditions have not significantly changed, potential impacts would not significantly alter the current level of service to existing roads within the project area.

Additionally, the contractor will be required to develop and implement a traffic control plan to mitigate traffic-related impacts, similar to what was required for previous and ongoing demolition activities. To minimize the impacts of staff traveling to and from the site, carpooling would be encouraged, which would further reduce the total number of daily commutes to the project site.

Parking for construction staff will be within existing parking lots at the HBPP. Once the FSR plan is implemented, parking for ISFSI support staff will be provided at the ISFSI parking lot, a new HBGS parking lot, the HBPP Core Area, and along Bravo Road. This parking will help to replace the existing Alpha Road Parking Lot, which will be decommissioned as a wetland mitigation area under a separate permit for the HBPP Canal Remediation Project (HBHCRD Permit #13-14). At the completion of the FSR plan implementation, project off-street parking will be as follows:

ISFSI Support Parking Lot – 17 spaces  
HBGS Parking Lot – 17 spaces  
HBPP Core Area Lot – 38 spaces  
Bravo Road – 11 spaces

- c. The proposed project would not result in any changes to air traffic patterns.
- d. The proposed project would not alter existing public roadways.
- e. The proposed project would have no impact on existing emergency access routes
- f. As described above in Section XIV(v), public utilities, construction activity required to recontour the Bayview Heights area would necessitate flag-person control of coastal access trail for a very short period of time. This impact would be temporary and less than significant and would not require full closure of the trail.

**Cumulative:**

As described above, the proposed project is part of existing ongoing demolition activities. PG&E has been implementing traffic control planning to reduce impacts from construction-related traffic on the project site. Traffic control plans would be updated to include the FSR plan implementation effort so there would not be a cumulatively considerable increase to traffic as a result of the proposed project.

**Mitigation:**

No mitigation would be required.

<b>XVII. Utilities and Service Systems</b>				
Would the proposed project:	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
(a) Exceed wastewater treatment requirements of the applicable State Water 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, the construction of which could 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 stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Have sufficient water supplies available to serve the proposed 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 proposed project that it has adequate capacity to serve the project's projected demand in addition to the providers 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 related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

**a, b, d, e.** No impact on wastewater treatment, water usage, or other utilities and service systems are anticipated with this project.

**c.** The FSR plan includes a grading and drainage plan (Appendix A) that implements LID principles for the restored HBPP site. This plan includes the construction of stormwater detention basins in the ISFSI support area (ISFSI Storm Water Detention Basin, incorporating the Frog Pond) and at the current location of the southern end of the Discharge Canal (Trailer City Storm Water Detention Basin). The basins will alter the

existing drainage by collecting stormwater and releasing it slowly into adjacent waterways. The ISFSI basin will release water to the Buhne Point Wetland Preserve, which drains to the Intake Canal and the Trailer City basin will release water to the Trailer City wetland and from there to the Duck Pond. The basins will improve water quality, by catching silt and other debris in stormwater runoff and will also reduce the risk of flooding. In general, the FSR grading and drainage plan should result in flood control and a reduction of runoff volume, as well as water quality improvements on the site.

**f, g.** Although most demolition at the HBPP is being conducted under the auspices of the larger Decommissioning Program, FSR plan implementation involves demolition of several small buildings in the ISFSI Support and Assembly Building areas and it will be necessary to dispose of the resulting solid waste. In addition, there may be concrete and pipeline that would be removed from the Bayview Heights area.

Currently, no active, permitted landfills exist in Humboldt County. The Humboldt Waste Management Authority is responsible for solid waste collection, transfer, and disposal in Humboldt County, and operates transfer stations as the only active solid waste management sites in the county. Solid waste collected by the Humboldt Waste Management Authority is first taken to the Hawthorne Street Transfer Station where it is directed to either the Anderson Landfill in Anderson, California (approximately 160 miles from the HBPP site) or the Dry Creek Landfill in Medford, Oregon (approximately 193 miles from the HBPP site). Both the Anderson Landfill and the Dry Creek Landfill have adequate capacity to handle and dispose of solid waste generated by project activities. The above landfills do not accept hazardous wastes. Alternate landfill facilities may be used depending on the characteristics of the waste generated and the costs for transport and disposal.

All solid and liquid wastes generated by the proposed project must be classified as either hazardous or nonhazardous. The construction contractor or PG&E's environmental coordinator would oversee the classification of the waste generated at the project site and would provide information needed to identify the appropriate disposal facility.

PG&E's contractor would update the existing project waste management plan to include the proposed project. The waste management plan would include jobsite waste guidelines, waste characterization procedures, waste profiles, storage and disposal procedures, waste recycling specifications, and a directory of local construction waste recyclers and landfills.

All excavated materials are assumed to be potentially radioactively contaminated and are included in listed volume estimates for regulated wastes. Waste generated would fall into one of the following categories:

- Nonhazardous construction debris
- Universal waste
- Non-RCRA hazardous
- RCRA hazardous
- Toxic Substances Control Act-regulated material

**Nonhazardous Waste.** Nonhazardous waste would likely result from the proposed project. As discussed below, waste management efforts would focus on reducing the quantity of waste generated and on beneficially reusing or recycling wastes. Offsite disposal would only be used to dispose of residual wastes that cannot be reused, recycled, or treated. All demolition and excavation wastes would be direct-loaded to trucks if characterization is complete or temporarily stockpiled for characterization. Listed below are nonhazardous waste streams that could be generated.

**Paper, Wood, Glass, and Plastics.** Paper, wood, glass, and plastics waste would be recycled where practicable. Waste that cannot be recycled would be disposed of in a Class III landfill.

**Concrete.** Clean concrete waste would be disposed of at a Class III landfill or at clean fill sites, if available, or would be recycled and disposed of at a construction and demolition site.

**Metal.** Metal waste would be recycled where practicable, and nonrecyclable waste would be deposited in a Class III landfill.

**Regulated Waste.** Some hazardous waste, including asbestos and chemically affected wastes, would likely be generated as a result of the proposed project. All wastes would require intensive screening and characterization prior to transfer to a licensed facility.

**Disposal.** Prior to offsite disposal of any waste, a waste approval package for each waste stream would be prepared. This package would include a waste profile including the generator of the waste, an analytical summary table(s) applicable to the waste if needed, a land disposal restrictions notification if applicable for hazardous wastes, a completed waste manifest, and other applicable information necessary for signature of the waste generator. Each load of hazardous waste material would be manifested prior to leaving the site. Nonhazardous waste manifests are a useful tool for tracking waste materials and should be prepared for clean waste materials.

A certified hauler would be used to transport the waste to an approved disposal site. Contractors and their subcontractors would be required to ensure that their solid waste streams meet the criteria established for acceptable waste disposal at a nonhazardous waste landfill.

Some export material would be salvage equipment and components, recycled material, or waste for disposal. Wastes would be hauled by truck from the site to the appropriate disposal facility. The trucks would be loaded at the site either from temporary stockpiles or directly from the demolition activities. Water spraying might be implemented to suppress potential dust while loading. Trucks would be covered with tarps prior to leaving the site if there is a potential for airborne debris in the waste load.

Currently, PG&E is implementing “good housekeeping” practices for existing waste generated from ongoing demolition activities. By continuing to implement these practices, all impacts from solid waste generated from the project site would be less than significant. These practices are as follows:

The handling and management of waste generated by project activities follows the hierarchical approach of source reduction, recycling, treatment, and disposal. The first priority would be to reduce the quantity of waste generated through pollution prevention methods (such as high-efficiency cleaning methods). The next level of waste management would involve reusing or recycling wastes (such as concrete). For wastes that cannot be recycled, treatment is used, if possible, to make the waste nonhazardous (such as neutralization). Finally, offsite disposal is used to dispose of residual wastes that cannot be reused, recycled, or treated.

Contractors and their subcontractors are required to implement and maintain these “good housekeeping” practices at their work locations and waste storage areas, including providing appropriate type, size, storage location, and number of containers used to store waste generated. Proper storage procedures are implemented to protect the environment and minimize the exposure of waste to project personnel and the public. The project’s environmental coordinator audits solid waste collection and management areas to make sure that only acceptable wastes are stored for disposal and that sufficient containers are available and maintained in accordance with good housekeeping practices. Contractors are required to follow all plant procedures for the removal, handling, storage, and disposal of hazardous and nonhazardous wastes generated throughout the life of the project.

Contractors and their subcontractors implement and actively practice waste minimization and recycling efforts to reduce the volume and toxicity of wastes generated during demolition and construction activities. All contractors incorporate the following waste minimization approaches into daily operational and maintenance routines:

- Segregating useable products from the waste stream for reuse, recycling, or reclamation (for example, plastic, glass, and scrap metal from trash)
- Selecting nonhazardous alternatives to hazardous substances
- Procuring and storing onsite only the required amount of materials to perform the task

When possible, waste streams are be recycled, including metals, asphalt, and concrete. The following facilities have sufficient capacity to recycle the expected waste streams generated during demolition:

- Simms Metals (Richmond, California) – metal recycling facility
- Clean Harbors (San Jose, California) – asphalt and concrete recycling facility

**Cumulative:**

No cumulative impacts on utilities and service systems are anticipated with this project.

**Mitigation:**

No mitigation would be required.

<b>XVIII. Mandatory Findings of Significance</b>				
	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
(a) Does the proposed 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, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Does the proposed project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Does the proposed project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

**a, b, c.** As identified in Sections I through XVI, potential impacts would be less than significant given implementation of proposed mitigation (see Table 5-1 in Section 5).

SECTION 5

# Summary of Project Impacts and Mitigation Measures

Table 5-1 lists impacts, identified in Section 4 of this Initial Study as requiring mitigation, and lists the associated mitigation measures required to assure identified impacts are reduced to a less than significant level. Measures presented in Table 5-1 would be implemented during the proposed project.

TABLE 5-1  
**Summary of Project Impacts and Mitigation Measures**

Impact	CEQA Checklist Item Requiring Mitigation	Mitigation	Level of Significance after Mitigation
<b>Biological Resources</b>			
Excavation of sediment and grading could result in injury or mortality to Northern red-legged frogs.	IV (a)	To minimize impacts on northern red-legged frogs, the Permittee shall conduct rescue and relocation efforts whenever project activities occur in or around the edges of the Buhne Point Wetland Preserve, Frog Pond, Duck Pond, and other wetland areas.	Less than significant
Removal of trees with cavities could result in impacts on Townsend’s big-eared bats and Pallid bats.	IV (a)	Impacts on bats would be mitigated by conducting a cavity survey on any tree slated for removal. If a cavity is found, then a bat habitation assessment will be conducted. If bat habitation is confirmed, then tree retention measures will be implemented.	Less than significant
Project activities could result in temporary impacts on sensitive natural communities.	IV (b)	Temporary impacts on Northern Coastal salt marsh vegetation will be minimized by incorporation of best management practices in accordance with the Biological Mitigation and Monitoring Plan (Appendix D).	Less than significant
Project activities would result in permanent impacts on wetlands and waters under the jurisdiction of both the USACE and CCC.	IV (c)	<p>Permanent impacts on wetlands and waters in Bayview Heights and at the Alpha Road-King Salmon Avenue intersection would be mitigated for creating wetlands in a ratio of 1:1 for federal and California Coastal Commission wetlands in the MIT-7 Area in accordance with the Biological Mitigation and Monitoring Plan (Appendix D).</p> <p>Permanent impacts on wetland and waters in the Frog Pond would be mitigated for by creating additional wetlands as part of the new ISFSI stormwater detention basin incorporating the Frog Pond, in accordance with the Biological Mitigation and Monitoring Plan (Appendix D).</p> <p>Permanent impacts on wetland and waters in the Trailer City drainage ditch would be mitigated for by creating additional wetlands in the Trailer City wetland mitigation area in accordance with the Biological Mitigation and Monitoring Plan (Appendix D).</p>	Less than significant

TABLE 5-1  
**Summary of Project Impacts and Mitigation Measures**

Impact	CEQA Checklist Item Requiring Mitigation	Mitigation	Level of Significance after Mitigation
Project activities could result in <i>temporary</i> impacts on wetlands and waters under the jurisdiction of both the USACE and CCC.	IV (c)	Temporary impacts on wetlands and waters will be avoided and minimized by incorporation of best management practices in accordance with the Biological Mitigation and Monitoring Plan (Appendix D) and SWPPP.	Less than significant
Several large-diameter Monterey cypress and Monterey pine trees will be removed as part of the Proposed Project.	IV (e)	This impact will be mitigated for by revegetating the areas where the trees were removed with hydrophytic herbaceous vegetation and riparian trees and shrubs in the restoration areas. The non-native trees will be replaced by native tree species.	Less than significant

## SECTION 6

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**Appendix A**  
**FSR Plan Drawings**

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This appendix is posted as a separate electronic file for more convenient access.

**Appendix B**  
**Construction Emissions Calculations**

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This appendix is posted as a separate electronic file for more convenient access.

**Appendix C**  
**Special-Status Species**

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This appendix is posted as a separate electronic file for more convenient access.

**Appendix D**  
**Biological Mitigation and Monitoring Plan**

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This appendix is posted as a separate electronic file for more convenient access.

**Appendix E**  
**Wetland Delineation Report**

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This appendix is posted as a separate electronic file for more convenient access.