8.15 Water Resources

This section discusses the existing water resources in the vicinity of the Humboldt Bay Repowering Project (HBRP) site and assesses the potential effects of project construction and operations on water resources. Specifically, this chapter discusses the HBRP and its potential effects in the following areas:

- Water supply and quality
- Disposal of wastewater
- Compliance with state water policies
- Stormwater discharge
- Flooding

Section 8.15.1 discusses the existing hydrologic environment. Potential environmental effects of the HBRP construction and operation on water resources are assessed in Section 8.15.2. Section 8.15.3 discusses proposed mitigation measures that will prevent significant impacts. A discussion of cumulative project impacts is presented in Section 8.15.4. Section 8.15.5 presents applicable laws, ordinances, regulations, and standards (LORS) related to water resources. Section 8.15.6 describes permits that relate to water resources, lists contacts with relevant regulatory agencies, and presents a schedule for obtaining permits. References are listed in Section 8.15.7.

8.15.1 Affected Environment

8.15.1.1 Water Features, Rainfall, and Drainage

The HBRP site is located on Buhne Point, approximately 3 miles south of the City of Eureka, in unincorporated Humboldt County. Annual precipitation in Humboldt County averages about 39 inches, and can vary significantly depending upon local conditions. Under the modified Köppen classification system, Eureka climate is categorized as a Marine West Coast Climate with moderate temperatures and relatively small seasonal fluctuations in temperatures due to its proximity to the Pacific Ocean. Temperatures are quite moderate, and the annual range is one of the smallest in the lower 48 states. Summers have little or no rainfall and low fog is common. The marine layer is typically 800 to 1,500 feet thick. There are periods of time when the entire day and night is shrouded in fog for consecutive days. Winters are wet, with storms coming off the Pacific Ocean. The region experiences high levels of humidity throughout the year. Humidity averages 87 percent at night and early mornings and 78 percent in the late morning and early evenings (Pacific Gas and Electric Company [PG&E], 2003).

The project is located within the hydrologic unit defined as the Redwood Creek-Mad River-Humboldt Bay Unit. This unit can supply water to an area with a projected population of 80,000. The four major creeks that drain into Humboldt Bay are Freshwater Creek, Elk River, Salmon Creek, and Jacoby Creek. Several smaller tributaries also drain into the bay. Salmon Creek and Elk River are the nearest streams to the site. They are a mile south and north of the project site, respectively, and are primarily used for watering livestock but are not used as a potable water supply.

Freshwater Creek is the largest drainage basin in the drainage system, draining an area of approximately 62 square miles. It is 13 miles long. Elk River drains an area of 51 square miles and is 12 miles long, flowing northwest and discharging into Humboldt Bay near the town of Elk River. Salmon Creek drains a total area of approximately 28 square miles, flowing west then northwest into the south end of Humboldt Bay, for 132 miles. Jacoby Creek drains an area of 16.40 square miles. It flows northwest for 8 miles into the north end of Humboldt Bay. Figure 8.15-1 shows the surface water features in the project area.

Humboldt Bay is a large, shallow body of water with deep channels that is separated from the ocean by two long, narrow spits. It is a tidal bay that receives and discharges ocean water through its inlet. The bay is approximately 14 miles long, and ranges in its width from 0.5 miles in the middle to more than 2 miles at the south end and 4 miles at the north end. The average depth is 12 feet mean lower low water (MLLW).

Tidal influences in the bay are moderate, ranging between 4.3 and 7.0 feet throughout. Due to its shallow depth, water quality conditions in the ocean have large influence in water quality in the bay itself.

Precipitation in Eureka is representative of the rainfall amounts at the HBRP site. The rainy season generally occurs from October through April, which is when Eureka receives about 90 percent of its rainfall, with the heaviest rainfall occurring in December and January. Average annual rainfall is 38.87 inches. (PG&E, 2003)

The site is located on a relatively flat area at an elevation of 12 feet MLLW. Surface drainage around the site flows naturally into the existing plant drainage system. The surface water is then discharged into the Humboldt Bay Power Plant's cooling water intake canal, flows through existing power plant's once-through condensers, and is discharged into Humboldt Bay via the cooling water discharge canal. Outside the area served by the plant drainage system, most of the surface runoff drains to the east and into the discharge canal. The remainder drains into Buhne Slough, a natural drainage area which then drains into Humboldt Bay (PG&E, 2003).

Beneficial uses, as defined by the North Coast Regional Water Quality Control Board's (NCRWQCB) Water Quality Control Plan for the North Coast Region (Basin Plan), for waterways in the project area are listed in Table 8.15-1.

8.15.1.2 Groundwater

Groundwater underlying the project area is part of the 37,400-acre Eureka Plain Groundwater Basin (Figure 8.15-2). The basin is bounded on the south by the Little Salmon Fault, to the west and northwest by Humboldt Bay and Arcata Bay, and to the east by Wildcat series deposits (a group of five formations ranging in age from Miocene to Pleistocene consisting of sandstone, marine siltstone, and claystone [California Department of Water Resources (DWR), 2004, Evenson 1959]. Humboldt Bay separates the primary basin deposits from dune sand deposits to the west and the northeast basins.

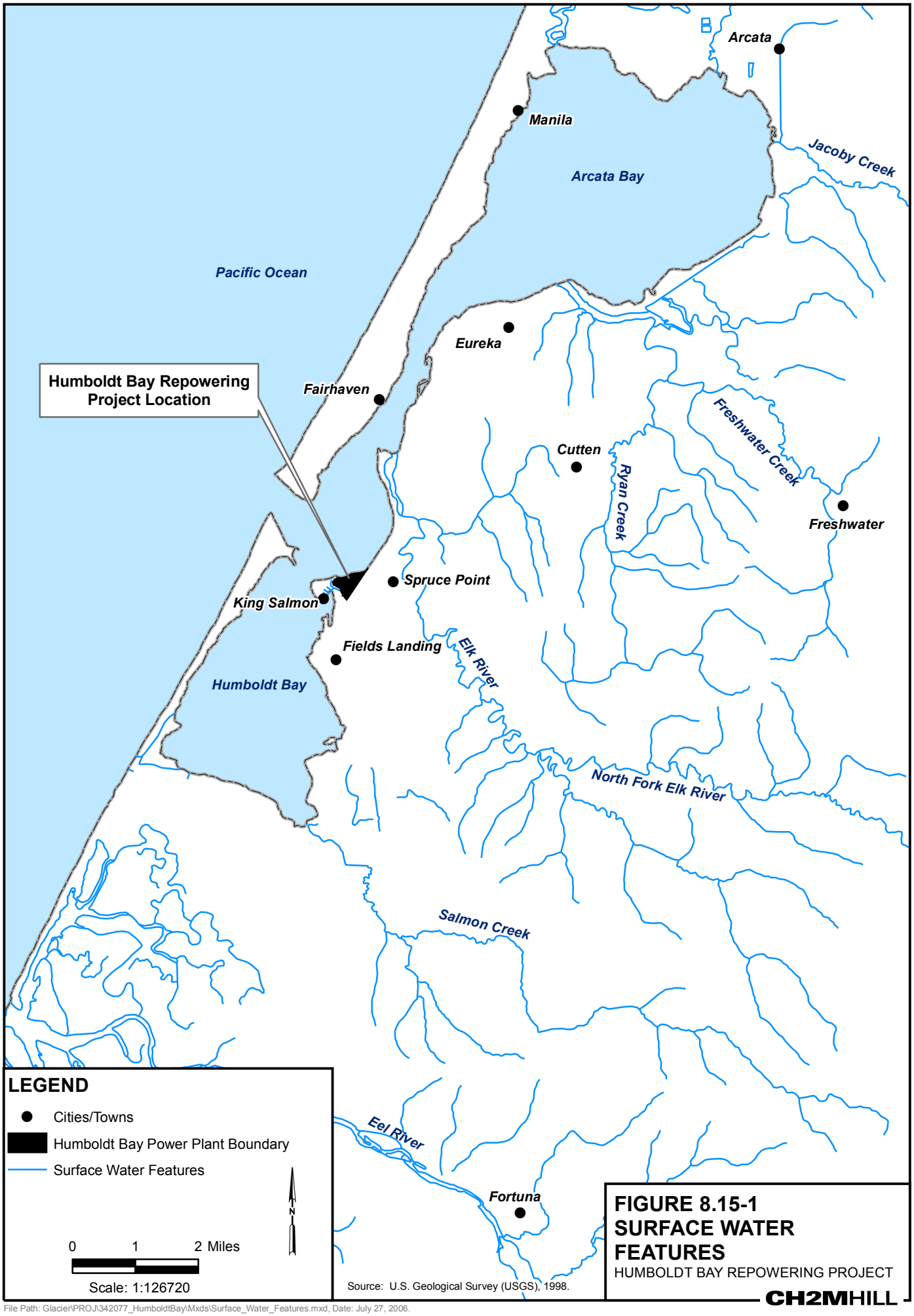

FIGURE 8.15-1
SURFACE WATER FEATURES
HUMBOLDT BAY REPOWERING PROJECT

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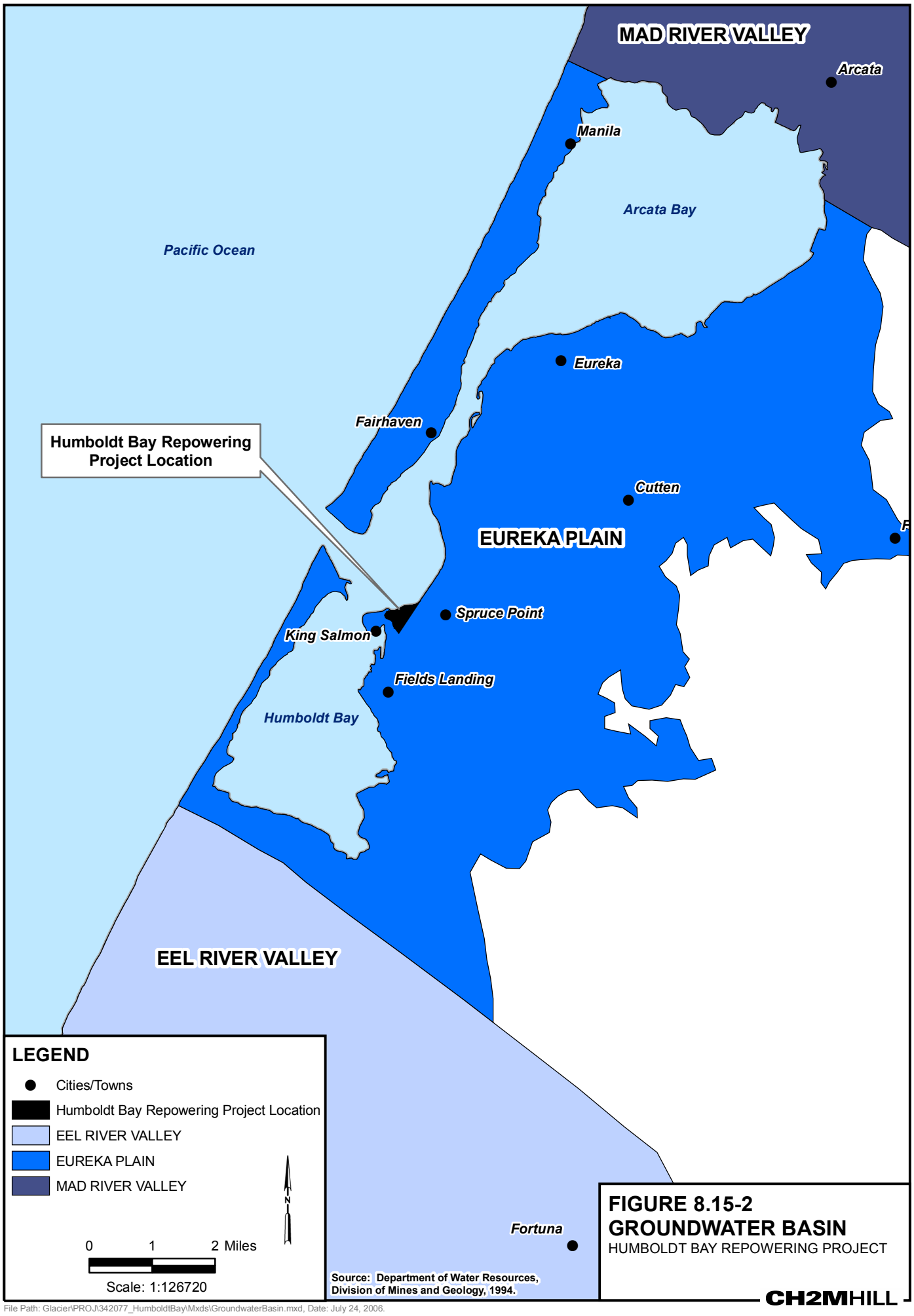

FIGURE 8.15-2
GROUNDWATER BASIN
HUMBOLDT BAY REPOWERING PROJECT

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TABLE 8.15-1
Beneficial Uses of Project Area Waterways

Waterways	MUN	IND	PROC	AGR	GWR	REC1	REC2	WARM	COLD	WILD	RARE
Freshwater Creek	E	E	P	E	E	E	E	-	E	E	E
Elk River	E	E	P	E	E	E	E	-	E	E	E
Salmon Creek	E	E	P	E	E	E	E	-	E	E	E
Jacoby Creek	E	E	P	E	E	E	E	-	E	E	E
Humboldt Bay	E	E	P	E	-	E	E	-	E	E	E

Definitions:

MUN Uses of water for community, military, or individual water supply systems, including, but not limited to, drinking water supply.

IND Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.

PROC Uses of water for industrial activities that depend primarily on water quality.

AGR Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

GWR Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance or water quality, or halting of saltwater intrusion into freshwater aquifers.

REC1 Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

REC2 Uses of water for recreational activities involving proximity to water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

WARM Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

COLD Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

WILD Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

RARE Uses of water that support habitats necessary, at the least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

E = Existing beneficial use
P = Potential beneficial use
Source: NCRWQCB, 2005.

boundary, adjacent to the Mad River Basin, is the northwest-trending Freshwater Fault (DWR, 2004, Clark, 1990). It is unclear if the basin is hydrologically contiguous with the Mad River Basin.

Groundwater occurs in the Pliocene Hookton Formation, which underlies the alluvium in the river floodplains and is exposed surficially over approximately 70 percent of the basin. It occurs to a lesser extent in Holocene dune sand west of Humboldt Bay and alluvial deposits southeast of Arcata Bay and along the Elk River, in an almost continuous strip along the coast. Primary recharge to the alluvium occurs directly from precipitation and through seepage from Freshwater Creek, Elk River, and the Eel River (DWR, 2004). The main productive freshwater-bearing sediments are contained within Holocene alluvium and the

Pleistocene Lakewood and San Pedro Formations (DWR, 2004). Estimates of groundwater extraction for agricultural and municipal/industrial uses are 4,800 and 1,300 acre-feet respectively. Deep percolation from applied water is estimated to be 1,700 acre-feet.

Groundwater in the basin is rich in calcium and magnesium. Total dissolved solids (TDS) range from 97 to 460 milligrams per liter (mg/L}, averaging 177 mg/L (DWR unpublished data). Groundwater impairments include localized high boron, iron, manganese, and phosphorus.

8.15.1.3 Flooding Potential

The HBRP is sited within a special flood hazard area and currently located in a Zone A (100-year flood zone) area per the Federal Emergency Management Agency (FEMA) classification system (Figure 8.15-3). During site grading and preparation, however, the site will be built up to a base flood elevation (BFE) of 13 feet, thereby removing the site from Zone A. Although the site is in an area of minimal flooding, all major structures, including buildings and tanks will be anchored due to potential tsunami hazard. See Section 8.4, Geology, for a discussion of tsunami hazard.

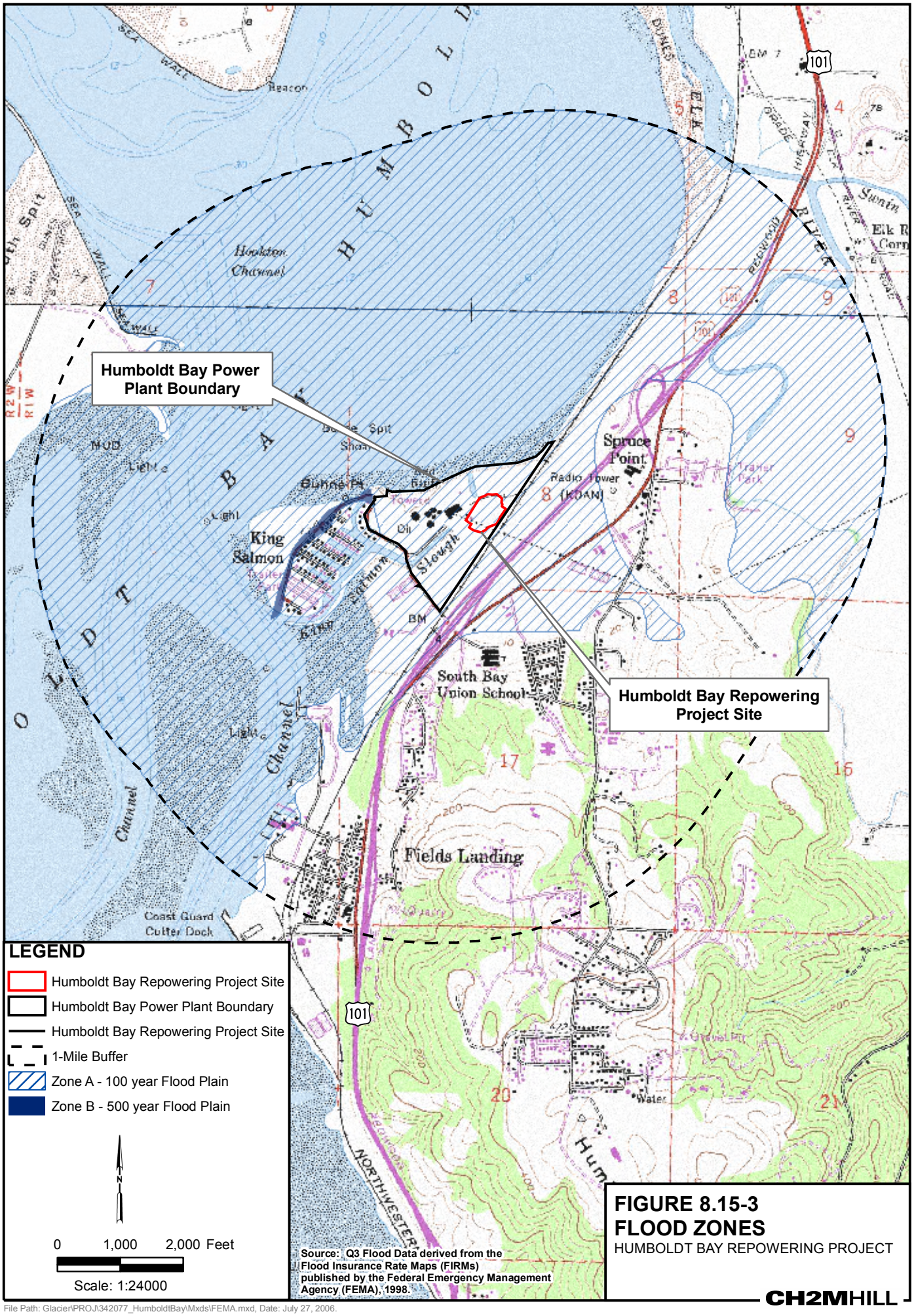
8.15.2 Environmental Consequences

Project effects on water resources can be evaluated relative to significance criteria derived from the California Environmental Quality Act (CEQA) Appendix G checklist. Under CEQA, the project is considered to have a potentially significant effect on water resources if it would do the following:

- Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite, or in flooding on- or offsite
- Create or contribute to runoff water which will exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff
- Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (for example, the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted)
- Place within a 100-year flood hazard area structures that will impede or redirect flood flows
- Cause inundation by seiche, tsunami, or mudflow

8.15.2.1 Water Supply

As described in Chapter 7.0, Water Supply, process water required for radiator makeup, equipment washdown, and other industrial uses will be supplied to the project through an existing water supply pipeline from PG&E's Humboldt Bay Power Plant Well No. 2. Domestic water required for sinks, toilets, showers, drinking fountains, and eye



Source: Q3 Flood Data derived from the Flood Insurance Rate Maps (FIRMs) published by the Federal Emergency Management Agency (FEMA), 1998.

FIGURE 8.15-3
FLOOD ZONES
HUMBOLDT BAY REPOWERING PROJECT

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wash/safety showers will be provided from a new 4- to 6-inch water supply pipeline from the Humboldt Community Services District (HCSD) main in King Salmon Avenue. This pipeline will be constructed under the temporary construction access road and will interconnect to the HCSD pipeline in King Salmon Avenue. Figure 7.1-1 in Chapter 7 is a water balance diagram showing all of the facility's process and domestic water uses.

Engine cooling will take place using an air-cooled radiator system. This is a closed-loop cooling system in which cooling water from the engines circulates through tube bundles with fins that radiate heat and that are cooled by air circulation provided by fans. This system uses very little water, compared with the existing Humboldt Bay Power Plant fossil units or conventional gas turbine technology. The engine cooling water circuits are filled from isolated maintenance water tanks, which require a small amount of makeup water averaging 1.66 gallons per minute (gpm). Water from Well No. 2 also will be used for routine makeup for the fire water tank, for turbocharger cleaning, and miscellaneous other plant service uses.

The domestic water system will keep the facility's domestic waterlines pressurized and provides water for sinks, taps and toilets within the project. Domestic water for personnel uses and emergency makeup to the firewater storage tank will be supplied via a new 4- to 6-inch pipeline and discharged to the sanitary sewer system. Projected demand for domestic water uses at the HBRP is approximately 0.11 gpm. Current and projected water supplies are adequate to meet this *de minimus* demand increase.

8.15.2.1.4 Construction Water Supply

During construction of the project, water will be required primarily for dust suppression. Estimates of usage rates are provided as follows:

- Average daily: 50 gpm x 4 hours = 12,000 gallons per day (gpd) (based on size of site)
- Maximum Daily: 200 gpm x 10 hours = 0.12 million gallons per day (mgd)
- Average annual: 180 days x 12,000 gpd = 2.16 million gallons per year (mgy)
- Maximum annual: Same as above

Because of the short duration of construction activities and the relatively limited water requirements (less than 200 gpm for 1 hour for dust control and soil compaction, at peak use) of the construction phase of the project, no significant adverse impacts to water supply are expected to result.

8.15.2.2 Wastewater Discharges and Disposal

This section characterizes the volume and quality of wastewater that would be generated by the HBRP and method of disposal. Estimated annual wastewater discharge rates are provided in Table 8.15-3.

Plant process water will be supplied by PG&E Well No. 2. Key plant process uses include engine cooling systems (air radiators), closed cooling water system for auxiliary equipment, preheating for jacket water and turbine washing. Drips from process water that has been used in engine cooling, liquid that has dripped from seals, condensate from compressors, and area wash downs will be collected in a system of floor drains, hub drains and piping and routed to two water collection sumps located adjacent to the engine house. All material that drains into these sumps will go to the oil water separator (OWS). The clean effluent will

be discharged to the sanitary sewer system. The accumulated sludge will be removed by a licensed hazardous waste transporter and disposed of at permitted recycling facility or hazardous waste disposal site.

The OWS will be an aboveground vault with baffles to collect oils and solids. Wastewater will be routed through the baffles, allowing oils to rise to the surface and solids to settle to the bottom. The OWS sludge will periodically be removed by a licensed hazardous waste transporter to an approved disposal facility in the region. The total amount of process waste water discharged into the OWS is estimated to be 0.32 gpm.

The volume of domestic sewage would be 0.11 gpm annually. This effluent, combined with the project wastewater from the OWS, will be discharged to the HCSD. The discharge volume is negligible, compared to the overall volume of discharges to the HCSD sewer system. Therefore, impacts to the wastewater system would be less than significant.

TABLE 8.15-3
Annual Wastewater Discharge Rates

Waste Discharge Stream	Discharge Location	Average* Annual Discharge (gpm)
Engine closed loop cooling system	Oily Water Collection Pit (2)	0.17
Service Use (Power House and Plant Uses including general plant drains)	Oily Water Collection Pit (2)	0.32
Domestic wastewater	Sanitary sewer system	0.11

* Average Annual Use is equal to the average daily water use (averaged over all days in a year on which the plant is operating) multiplied by the number of hours the plant would operate per year under the base case operating scenario. See Chapter 2 for a full description of the operating parameters.

8.15.2.3 Stormwater Runoff and Drainage

Stormwater runoff from area drains in the lubricating oil and diesel tank areas, will be collected in four water collection sumps. This sump water will routinely be checked for level and contamination (oil sheen or physical contamination) and periodically pumped to the OWS, if the water is contaminated. Water from these sumps that is not contaminated will be discharged to the plant stormwater drainage system. Clean effluent from the OWS will be discharged to the sanitary sewer system. Accumulated sludge will be removed by a licensed hazardous waste transporter and taken to a permitted recycling facility or hazardous waste disposal site. Stormwater from these sumps containing any cleaning chemicals or collected spills will be trucked offsite for disposals at an approved wastewater disposal facility.

Stormwater drainage areas on the HBRP site that do not have equipment, tanks, or loading areas for oil or chemicals will be collected in a new stormwater drainage system and discharged to a new discharge point southeast of the project. The storm drainage system includes catch basins for collecting stormwater and an underground piping system with manholes at all junction points and turns. An in-ground separator will treat stormwater runoff prior to discharge. Roof drains from the administration/control/maintenance building will discharge directly into a stormwater drainage system and will not flow over

parking lots, ground slabs, etc. The inlets and outlets of culverts will be provided with permanent erosion protection.

Quality and quantity of industrial wastewater discharges from the site will be in compliance with the statewide program for stormwater discharges from industrial sites (see Section 8.15.5).

Stormwater management practices will follow the California Stormwater Quality Association (CASQA) *California Stormwater Best Management Practices (BMP) Handbook*, Sections TC-20 and TC-22. Anticipated storm runoff is estimated at approximately 1.46 inches per hour under a 50-year storm event. Appendix 7B depicts the site grading and stormwater drainage plan that shows drainage after construction. Appendix 7C contains stormwater calculations. At completion of the HBRP, onsite drainage will be accomplished through gravity flow. The surface grading will direct stormwater runoff to the stormwater drains via overland flow at a minimum slope of 1 percent. The main plant complex area will be graded with moderate slopes (1 percent minimum preferred) for effective drainage.

8.15.2.4 Construction Effects on Water Quality

The site grading and drainage will be designed to comply with all applicable LORS. The general site grading will establish a working surface for construction and plant operating areas, and will provide positive drainage from buildings and structures, and adequate ground coverage for subsurface utilities.

During construction, approximately 9.62 acres of land associated with the plant site and other facilities will be disturbed (including the 4.0-acre new power plant area, 0.52-acre contractor parking, 2.20-acre construction laydown, and the 3.0-acre new temporary access road area). Surface water impacts are anticipated to be related primarily to short-term construction activity and consist of increased turbidity due to erosion of newly excavated or placed soils. Activities such as grading can potentially destroy habitat and increase rates of erosion during construction. In addition, construction materials could contaminate runoff or groundwater if not properly stored and used. Compliance with engineering and construction specifications, following approved grading and drainage plans, and adhering to proper material handling procedures will ensure effective mitigation of these short-term impacts. BMPs for erosion control will be implemented. Additionally, erosion and sediment controls, surface water pollution prevention measures, and other BMPs will be developed and implemented for both construction and operational phases. These plans will be prepared in accordance with the NPDES construction permit issued by the State Water Resources Control Board (SWRCB) and local agency requirements.

To qualify for the NPDES statewide General Permit for Stormwater Discharges Associated with Construction Activity (General Construction Permit), HBRP will be required to develop a Stormwater Pollution Prevention Plan (SWPPP) prior to construction, to prevent the off-site migration of sediment and other pollutants and to reduce the effects of runoff from the construction site to offsite areas. Successful implementation of the SWPPP will ensure that construction impacts to water resources are mitigated to a less-than-significant level.

Approximately 778,000 gallons of potable water will be used as hydrostatic test water for the natural gas, water and sewer connecting lines and tanks. The discharged water will filter

through hay bales and silt fence before it is discharged. These measures will be 90 percent or more effective in removing any sediment and other solids that may accumulate in the test water before discharge. The sediment and solids will be disposed of in a landfill if non-hazardous and in an approved hazardous waste disposal facility, if hazardous. The hydrostatic test water will be reused to the extent possible. The water will be discharged into the HCSD sanitary sewer system under the appropriate permit. None of the project discharges will thus affect waters of the state and a report of waste discharge is not required.

The construction phase of HBRP will require groundwater removal (dewatering). Previous trenching has shown that groundwater will emerge at time of trenching, but then typically recedes in 24 hours. The dewatering water will be discharged into the HCSD sanitary sewer system or a Low Threat Discharge Permit will be obtained from the NCRWQCB. Stormwater is expected to result in only several days of dewatering during construction, and this will be done in accordance with best management practices. Under a worst-case storm scenario where all of the stormwater would be collected in excavations, the water collected from a 10-year, 24-hour storm could be pumped out over 24-hours at a 50-gpm rate. For the HBRP project, this potential for site dewatering will only occur over a single rain season. Therefore, the maximum daily dewatering discharge would be 72,000 gallons or an extreme worst-case annual maximum of 0.72 million gallons, based on the worst-case daily amount for 10 days in a year.

Water used for dust control and soil compaction during construction will not result in discharge. During the construction period, sanitary waste will be collected in portable toilets (no discharge) supplied by a licensed contractor for collection and disposal of sanitary wastes at an appropriate receiving facility. Equipment wash water will be collected and disposed of offsite.

8.15.2.5 Groundwater

The HBRP would use a small amount of groundwater as raw process water from PG&E Well No. 2. This amount would not affect the availability of groundwater locally. The project also would not cause any discharges that would affect groundwater quality.

8.15.2.6 Cessation of Unit 1 and 2 Operation

At the completion of construction of the HBRP, Humboldt Bay Power Plant Units 1 and 2 will cease operation. The shutdown of Units 1 and 2 will allow a decrease in the flow of water through the existing plant's once-through cooling intake-discharge channel system. The HBRP will not use Humboldt Bay water for cooling. Unit 3, however, will require continued circulating water flow for dilution and decontamination purposes until some appropriate time during the decommissioning and demolition of Unit 3. The circulating water pumps, however, are parts of Units 1 and 2.

Circulating water flow through the intake-discharge channel will be reduced from 52,000 gpm (4 pumps) to no more than 12,900 gpm (1 pump), which is a 75 percent reduction. The continuation of the circulating water flow will provide for Units 3's dilution needs. The cessation of pumping ocean water for power plant cooling is a result of the HBRP. Potential impacts of this reduction and eventual cessation of flow could include effects on species that have become habituated to the flows of warm water at the outfall,

addressed in the biological resources section (Section 8.2); and effects on sedimentation and water quality in the intake channel and discharge canal. Reduction of water flow velocity in the intake canal as a result of the pumping reduction may or may not result in changes to the sedimentation regime and water quality characteristics. The intake canal is a tidal waterway, however, and it is likely that the influence of tidal currents on sediment transport and water quality in this waterway is stronger than the influence of the Unit 1 and 2 pumping current. For these reasons, the reduction and ultimate cessation of the cooling canal pumping flows will not cause significant adverse impacts.

8.15.3 Cumulative Impacts

The HBRP will not cause or contribute to cumulative impacts on water resources. Good engineering practices and BMPs will be used in the project design and operation. Stormwater discharge will adhere to a SWPPP and local agency water quality standards. No significant impacts to surface water or groundwater quality are expected during construction or operation of the project. The project will use very little water for cooling and industrial processes and will therefore contribute to water conservation.

8.15.4 Proposed Mitigation Measures

This section presents mitigation measures proposed to reduce impacts to water resources in areas affected by the project. These measures include the following:

- Implement BMPs designed to minimize soil erosion and sediment transport during construction of the plant site and project corridor features. Design appropriate erosion and sediment controls for slopes, catch basins, culverts, stream channels, and other areas prone to erosion.
- Conduct operations at the plant site in accordance with the U.S. Environmental Protection Agency's (USEPA's) Stormwater Phase I Final Rule (for construction activities disturbing 1 acre or more). Design and implement the BMPs to prevent or control pollutants potentially associated with the operation of the plant from entering stormwater sewers.
- Perform refueling and maintenance of mobile construction equipment only in designated lined and/or bermed areas located away from stream channels, to the extent practicable. Prepare and implement spill contingency plans in areas where they are appropriate.
- During construction of pipelines, implement BMPs to control soil erosion.
- Prepare and submit a SWPPP to ensure quality of discharged stormwater.

The mitigation measures proposed are prescribed by stormwater and erosion control management programs mandated under the NPDES permitting system. These programs have been in place for a number of years and the prescribed measures have proven effective. Under the General NPDES Permit for Construction, for example, various specific measures are prescribed, and a program of monitoring is required. The programs are at least 90 percent effective.

8.15.5 Applicable Laws, Ordinances, Regulations, and Standards

Federal, state, and local LORS applicable to water resources aspects of the HBRP are discussed in this section and summarized in Table 8.15-4.

TABLE 8.15-4
LORS Applicable to HBRP Water Resources

LORS	Applicability	How Conformance Is Achieved
Federal		
CWA/Water Pollution Control Act. P.L. 92-500, 1972; amended by Water Quality Act of 1987, P.L. 100-4 (33 USC 466 et seq.); NPDES (CWA, Section 402)	Prohibits discharge of pollutants to receiving waters unless the discharge is in compliance with an NPDES permit. Applies to all wastewater discharges, including industrial wastewater, stormwater runoff and dewatering, during both construction and operation.	Compliance with state implementation requirements as indicated by the NCRWQCB (see below under State).
State		
Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code, Sections 13000-14050), including Basin Plan	Implements and enforces the federal NPDES permit program through conformance with beneficial uses and water quality objectives in the Basin Plan as well as conformance with any applicable Total Maximum Daily Load requirements.	Operational discharges of sanitary wastewater streams are conveyed to the HCSD sewer system for disposal. Stormwater runoff is conveyed through the stormwater drainage system discharged into Buhne Slough and Humboldt Bay; discharges will be regulated under existing statewide NPDES permits for industrial and construction stormwater.
Local		
Humboldt County	Regulates all industrial activities in the County through review and approval of a Plan Of Operation submitted to the Community Development Services Department.	The Applicant will comply with Section 401 for all discharges and will obtain a Permit for Industrial Wastewater Discharge. The Applicant will comply with all permit conditions, including the following: discharge limitations, pretreatment requirements, peak flow restrictions, dewatering discharges, payment of fees, and monitoring and reporting requirements.

8.15.5.1 Federal Laws, Ordinances, Regulations, and Standards

Federal Clean Water Act (CWA). The federal CWA and subsequent amendments, under the enforcement authority of the USEPA, was established "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The CWA established the NPDES program to protect water quality of receiving waters. Under the CWA, Section 402, discharge of pollutants to receiving waters is prohibited unless the discharge is in compliance with an NPDES permit. In California, the USEPA has determined that the SWRCB and its nine regional water quality control boards (RWQCBs) have sufficient authority under state law to administer and enforce the federal NPDES permitting program. Surface and ground water in the project vicinity are under the jurisdiction of the NCRWQCB. Discharges of wastewater from HBRP and a portion of stormwater that will drain from the site maintenance or operations areas will drain into onsite collection pits. Pit water will routinely be checked for level and contamination (oil sheen or physical contamination) and pumped to the OWS.

Cleaned water from the oil water separator will be discharged to the sanitary sewer. Wastewater containing any cleaning chemicals or collected spills will be trucked offsite for disposals at an approved wastewater disposal facility. Clean stormwater (stormwater within the project site that drains areas that do not contain oil or chemical containing equipment and tanks, or are not areas of loading for oil or chemicals), shall be collected in a new stormwater drainage system and discharged to new discharge point south east of the project. This stormwater flow will also be regulated under an NPDES permit.

8.15.5.2 State Laws, Ordinances, Regulations, and Standards

Porter-Cologne Water Quality Control Act and the Basin Plan. The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) governs the regulation of water quality within California and establishes the authority of the SWRCB and the nine Regional Boards. The NCRWQCB established regulatory standards and objectives for water quality in the Bay in the Basin Plan (NCRWQCB, 1993). The Basin Plan identifies existing and potential beneficial uses and provides numerical and narrative water quality objectives designed to protect those uses.

Clean Water Act, Section 303d, Impaired Water Bodies. In accordance with Section 303(d) of the CWA, each state must present the USEPA with a list of impaired water bodies. The SWRCB has listed Humboldt Bay an *impaired water body* for certain specified contaminants. Impaired waters are defined as those that do not meet water quality standards, even after point sources of pollution have implemented pollution control technology. The law requires the development of action plans, known as total maximum daily loads (TMDL), to improve water quality of impaired water bodies. The TMDL is a calculation of the total amount of a pollutant that a water body can receive and still meet water quality objectives for a pollutant identified as causing impairment. The TMDL report allocates permissible quantities for discharge from specific sources. The pollutants that have been identified as causing impairment in Humboldt Bay are polychlorinated biphenyls (PCBs) and the sources are unknown.

Industrial Stormwater NPDES Permit. The SWRCB implements regulations under the federal CWA requiring that point source discharges (a point source discharge of stormwater is a flow of rainfall runoff in some kind of discrete conveyance such as a pipe, ditch, channel, or swale) of stormwater associated with industrial activity that discharge either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit (SWRCB, 1997). The SWRCB has issued Waste Discharge Requirements for discharges of stormwater associated with industrial activities, such as the proposed project, and excluding construction activities. After the completion of construction, the proposed site would be graded to direct stormwater runoff to the onsite storm drainage system.

Construction Stormwater NPDES Permit. The federal CWA effectively prohibits discharges of stormwater from construction sites unless the discharge is in compliance with an NPDES permit. The SWRCB is the permitting authority in California and has adopted a General Construction Permit that applies to projects resulting in one or more acres of soil disturbance. The proposed project would result in disturbance of more than 1 acre of soil. Therefore, the project will require the preparation of a SWPPP that would specify site management activities to be implemented during site development. These management

activities will include construction stormwater BMPs, dewatering runoff controls, and construction equipment decontamination. Stormwater pollution prevention measures during construction will include but not be limited to those established by the *Stormwater Best Management Practice Handbook for Construction* (CASQA, 2003). Dewatering controls will include but may not be limited to containing dewatered water in a baker tank and installing erosion control measures to contain sediment from accidental spills or releases of dewatered water. Construction equipment will be cleaned by dry or wet methods as needed to prevent tracking soils offsite.

8.15.5.3 Local Laws, Ordinances, Regulations, and Standards

Humboldt Bay Municipal Water District (HBMWD). Potable water will be delivered to the site through an existing municipal water line from HBMWD. An application submitted to the HBMWD is required.

County of Humboldt Community Development Services Department. All industrial projects located within Humboldt County must submit a Plan of Operation to the Community Development Services Department. Plan of Operation Reports are reviewed by Planning staff, representatives from the Public Works Department and the Building Inspection Division. Once the staff has reviewed the report and the project for conformance with all required County regulations and State law, the item is scheduled for a public hearing. The Planning Commission considers the recommendations of all the reviewing agencies before taking action. Details of the report include a complete project description, by products and methods of disposal, discharges produced by the project, noise impacts, and a description of the use of public facilities such as roads, water or sewer systems. The Plan of Operation Report is processed along with the application for a development permit (Use Permit or Coastal Development Permit) which should take approximately two to four months prior to a decision being made on the project.

8.15.6 Permits Required, Permit Schedule, Agency Contacts.

A summary of required permits and agency contacts is provided in Table 8.15-6.

TABLE 8.15-6
Water Quality Permits Required for HBRP

Permit	Schedule	Agency
Plan of Operation	Review process takes approximately 2-4 months	County of Humboldt Community Development Services Department Clark Complex, 15 H Street Eureka, CA 95501-4484 (707) 445-7541 main number
Humboldt Bay Municipal Water District Potable Water Application	TBD for each project.	Carol Rische, General Manager Barry Van Sickle, Superintendent 828 Seventh Street, Eureka, CA 95501 Main Office (707)443-5018 Operations (707)822-2918 FAX: (707)443-5731 Email: Office@hbmwd.com

TABLE 8.15-6
Water Quality Permits Required for HBRP

Permit	Schedule	Agency
Use of the NPDES General Permit for Construction and Industrial Operations	Submit Notice of Intent to use the permit at least 30 days in advance of construction, prepare SWPPP for local review prior to start of construction	North Coast Regional Water Quality Control Board 5550 Skylane Blvd, Ste A Santa Rosa, CA 95403 (707) 576-2220 General number in Sacramento: (916) 341-5537

8.15.7 References Cited

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