

## **8.12 Traffic and Transportation**

This section assesses transportation impacts associated with the Humboldt Bay Repowering Project (HBRP). The analysis primarily quantifies impacts on intersection levels of service expected during construction of the HBRP. Additional transportation factors examined in this section include safety, goods movement, and potential impacts to air, rail, and waterborne transportation networks. Section 8.12.1 discusses the existing environmental setting; Section 8.12.2 discusses the environmental effects of project construction and operation; Section 8.12.3 evaluates potential cumulative impacts to traffic and transportation due to other simultaneous projects; Section 8.12.4 includes proposed mitigation measures during construction and operation; Section 8.12.5 presents applicable laws, ordinances, regulations, and standards (LORS); Section 8.12.6 provides agency contacts; Section 8.12.7 discusses permits and permit schedules; and Section 8.12.8 contains references.

### **8.12.1 Affected Environment**

#### **8.12.1.1 Regional Roadway Facilities**

The HBRP lies near primary transportation corridors (Figure 8.12-1). Major roadways in proximity to the HBRP site include U.S. Highway 101 and State Route 299 (SR 299).

##### **8.12.1.1.1 U.S. Highway 101**

U.S. Highway 101 is a north-south freeway immediately east of the project area. Within the project vicinity, Highway 101 is a four-lane roadway that connects Humboldt County north to Interstate 5 via U.S. Highway 299. Highway 101 extends to areas south of the County along the coast including Ukiah and San Francisco. Most of the highway south of King Salmon Avenue is a four-lane freeway. To the north of King Salmon Avenue, there is a short section of freeway followed by city streets through Eureka. North of Eureka, Highway 101 continues as a fast two-lane road.

According to traffic counts conducted by the California Department of Transportation (Caltrans) in 2005, Highway 101 carries approximately 27,000 average daily vehicle trips in the vicinity of the project site (Caltrans, 2004 and 2005). Truck traffic accounts for about 9 percent of all trips based on 2004 data (Caltrans, 2005).

##### **8.12.1.1.2 State Route 299**

SR 299, which intersects Highway 101 about 13 miles north of the HBRP site, connects Humboldt County east to Redding, where it connects to Interstate 5. SR 299 in Humboldt County begins as a four-lane highway for the first 5 miles. The rest of the highway is scenic and winding, with rate congestion.

According to traffic counts conducted by Caltrans in 2005, SR 299 carries approximately 12,600 average daily vehicle trips in the vicinity of the project site. Truck traffic accounts for approximately 15 percent of all trips.

#### **8.12.1.2 Local Roadway Facilities**

The project site is connected to the major roadways in the area via King Salmon Avenue described below. Figure 8.12-2 shows the arrangement of the local roadway network in the

vicinity of the project site. Table 8.12-1 provides classification and traffic volume data for the local and regional roadways.

**TABLE 8.12-1**  
Characteristics of Roadways in Project Study Area

Name	Classification	Hourly Design Capacity <sup>a</sup>	Average Daily Traffic Volume <sup>b, c</sup>	Truck Traffic <sup>b</sup>	Peak-Hour Volume <sup>b</sup>
<b>Regional Roadways:</b>					
U.S. Highway 101 (post mile 72.88)	Highway	7,200	27,000	9%	2,850
SR 299 (post mile 0.42)	Highway	3,000	12,600	15%	1,200
<b>Local Roadways:</b>					
King Salmon Avenue	Local Road	800	2,355	NA	NA

<sup>a</sup> Source: Transportation Research Board, 2000.

<sup>b</sup> Source: Caltrans, 2004, 2005.

<sup>c</sup> Source: Garotte, 2006.

NA = Not available

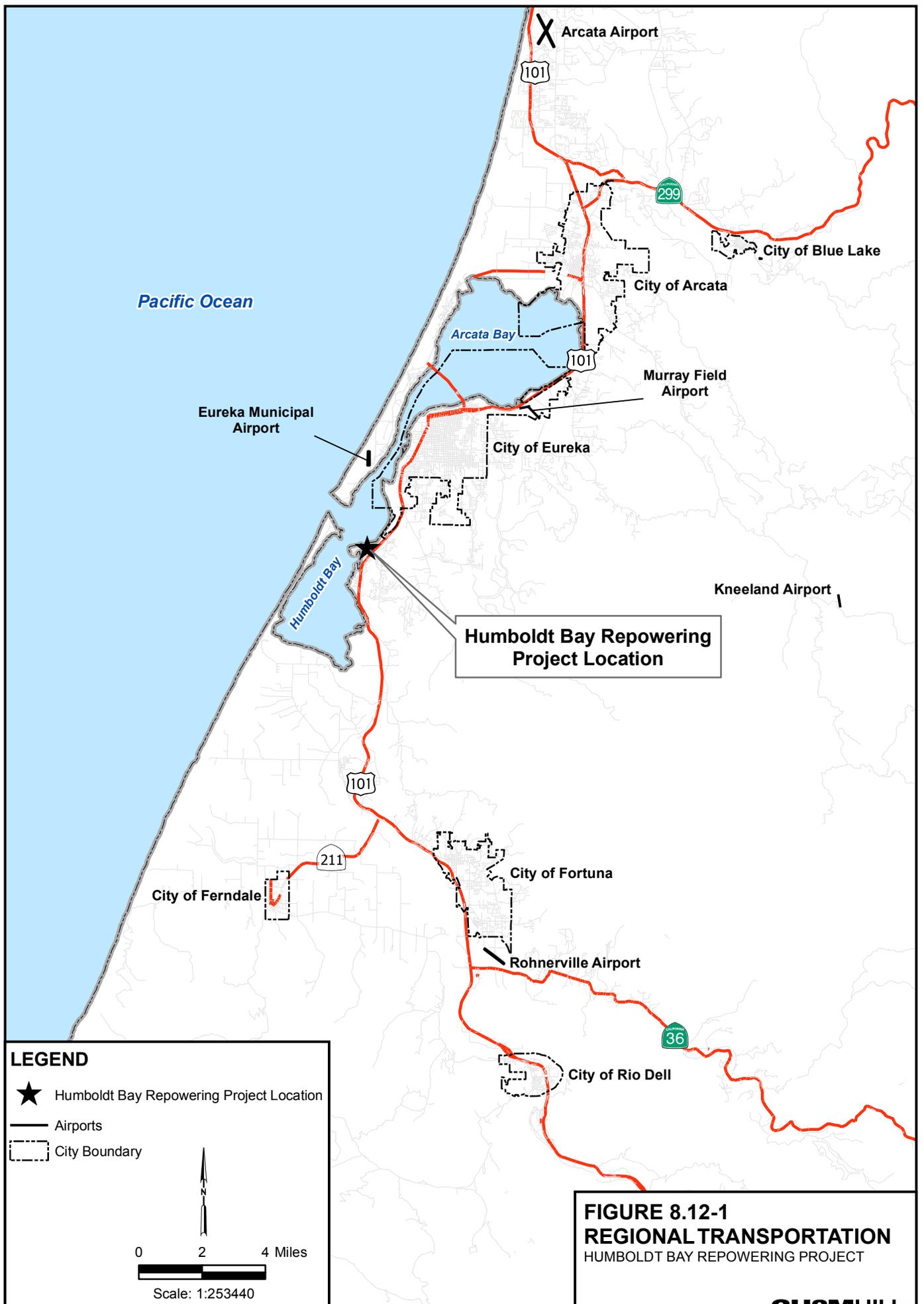
#### 8.12.1.2.1 King Salmon Avenue

King Salmon Avenue is a County-maintained road between Highway 101 and the community of King Salmon. It is also the main access road to the entrance of the Humboldt Bay Power Plant and the HBRP site. King Salmon Avenue is lightly traveled by passenger cars and trucks. Heavy trucks are limited to those associated with plant operation.

According to the Humboldt County Public Works Department, King Salmon Avenue carried approximately 1,273 vehicles per day in June 1968, 2,290 vehicles per day in July 1970, and 2,355 vehicles per day in June 1973. Only total daily traffic counts were measured during County surveys; therefore, truck traffic and peak-hour volume data were not available for King Salmon Avenue (Garotte, 2006). Employment at the Humboldt Bay Power Plant and the population of King Salmon Avenue have been relatively stable since 1973. Therefore, the traffic volume of 2,355 vehicles per day measured in 1973 is likely representative of current traffic volumes on King Salmon Avenue.

#### 8.12.1.3 Project Site Access and Parking

Access to the site will be via a new temporary construction access road, which will be immediately east of the Humboldt Bay Power Plant intake channel (see Figure 2.3-1). This road will be used to deliver equipment to the project laydown area, which will be within the Humboldt Bay Power Plant site. Construction workers will also use the temporary access road and will park in a construction parking area that will be constructed at the north end of the temporary access road. Both the temporary access road and construction parking area will be removed after construction and the area restored.



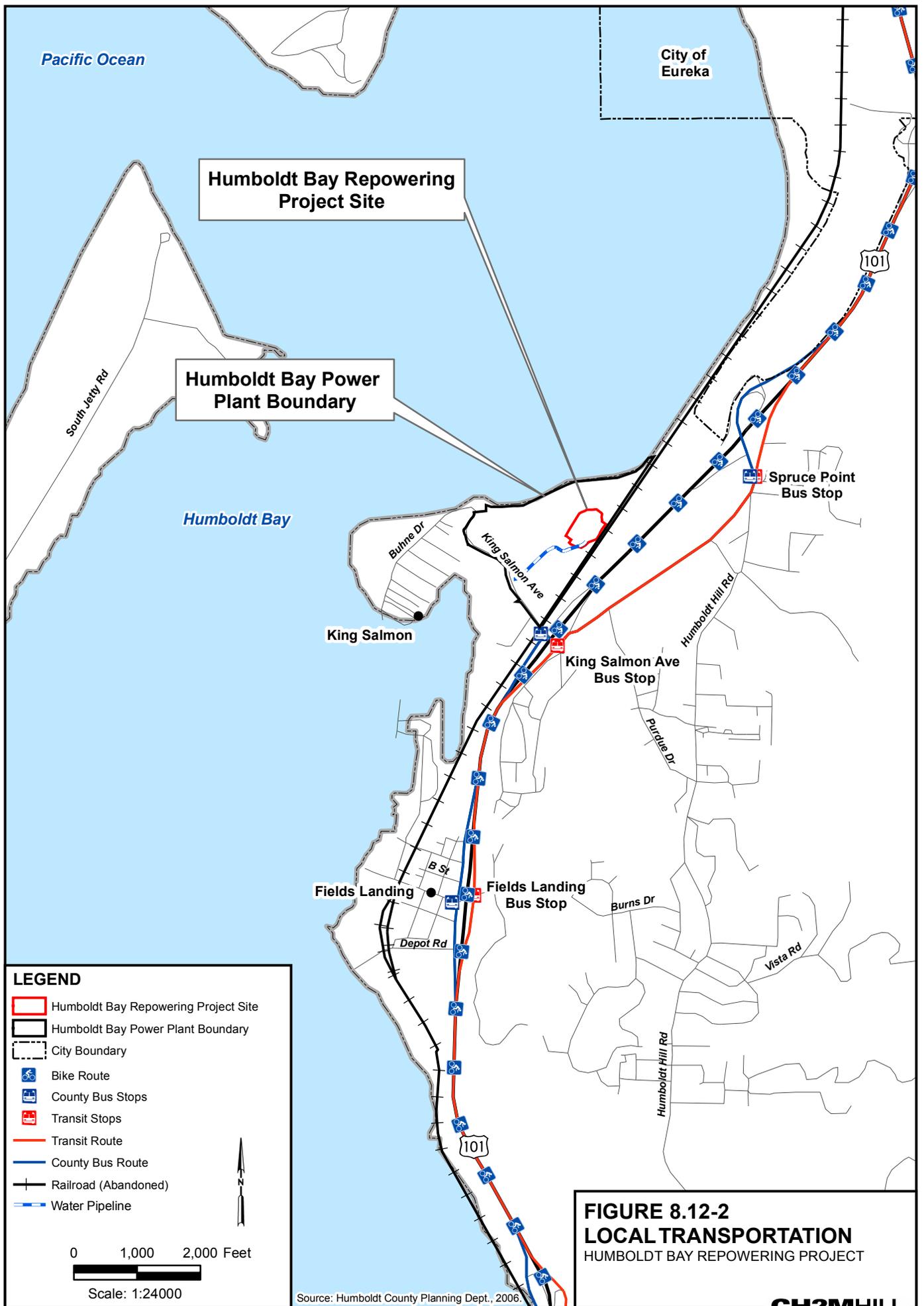
**LEGEND**

- ★ Humboldt Bay Repowering Project Location
- Airports
- - - City Boundary

  
 0      2      4 Miles  
  
 Scale: 1:253440

**FIGURE 8.12-1**  
**REGIONAL TRANSPORTATION**  
 HUMBOLDT BAY REPOWERING PROJECT

File Path: GlacierPRO.J342077\_HumboldtBay\Mxd\Regional\_Transportation.mxd, Date: September 13, 2006.



**FIGURE 8.12-2**  
**LOCAL TRANSPORTATION**  
 HUMBOLDT BAY REPOWERING PROJECT

Construction workers will also park in an temporary remote parking area previously used by Pacific Gas and Electric Company (PG&E) for Humboldt Bay Power Plant construction activities. The parking lot is off of King Salmon west of the HBRP temporary construction access road. Construction craft workers will walk to the HBRP construction site from the parking area (Figure 2.3-1 depicts the location of this trail). A temporary bridge will be installed over the intake channel for access to the HBRP site. A short-term delivery parking area adjacent to King Salmon Avenue will be also be used may be used, if necessary. This parking area may be used for additional craft parking or as a temporary parking area for delivery vehicles.

The Wartsila 18V50DF engine generator sets and associated auxiliary equipment will be ocean freighted to the Humboldt area. Specifically, the engine generator sets would be freighted to the Simpson Samoa dock or similar dock in the Eureka/Arcata area and be transferred from the ship to barges. The equipment would then be shipped to the Fields Landing terminal. The engine generator sets would then be offloaded to heavy haul tractors and trucked north on Highway 101 to the King Salmon Avenue off-ramp and on to the HBRP site. The auxiliary equipment would be ocean freighted to Eureka where it will be offloaded and transported via truck on Highway 101 south, to the King Salmon Avenue off-ramp, and on to the HBRP site.

#### 8.12.1.4 Level of Service Analysis

Humboldt County uses the Level of Service (LOS) criteria, as defined by the 2000 *Highway Capacity Manual*, to assess the performance of its street and highway system and the capacity of roadways. The requirements are specified in “Moving Goods and People” report of the Humboldt 2025 General Plan Update (Dyett and Bhatia, 2002).

Traffic flow characteristics for different LOS are described in Table 8.12-2. LOS C is the minimum acceptable LOS along all County-maintained roads and conventional state highways in Humboldt County. As an exception, LOS D may be allowed on mountainous winding and narrow roads, in Community Development areas, or at intersections of any combination of highways, arterials, conventional state highways, or freeway ramp intersections. LOS E may be allowed in designated community centers to the extent that it would support transit-oriented development and walkable communities.

**TABLE 8.12-2**  
Level of Service Criteria for Urban Streets

LOS	V/C	Traffic Flow Characteristics
A	0.00 – 0.60	Free flow; insignificant delays
B	0.61 – 0.70	Stable operation; minimal delays
C	0.71 – 0.80	Stable operation; acceptable delays
D	0.81 – 0.90	Approaching unstable; queues develop rapidly but no excessive delays
E	0.91 – 1.00	Unstable operation; significant delays
F	> 1.00	Forced flow; jammed conditions

Source: Transportation Research Board, 2000.  
V/C = volume/capacity ratio

Existing average daily traffic volume on King Salmon Avenue was collected from the Humboldt County Traffic Count database. Humboldt County intersection turn movement data were not available. Therefore, the traffic impacts were analyzed based on daily roadway capacity. Ramp volumes published by Caltrans were used to evaluate construction impacts on Highway 101 at King Salmon Avenue.

This analysis focuses on the following study area roadway segments during a typical weekday peak hour between 4:00 p.m. to 6:00 p.m. (evening peak):

- Highway 101 near King Salmon Avenue
- Highway 101/King Salmon Avenue on- and off-ramps

Traffic conditions were evaluated using the methodology of the Transportation Research Board's 2000 *Highway Capacity Manual*. LOS was calculated for road segments in the study area. It is expected that this area will experience low growth rates; therefore, the traffic conditions in 2007 (beginning of construction) and 2009 (beginning of commercial operation) will remain comparable to the 2006 (existing) conditions. Therefore, updated traffic forecasts for 2007 and 2009 were unnecessary. Additionally, facility operation conditions were not evaluated since traffic generated by permanent employees and deliveries during facility operation is expected to remain constant or decrease.

Table 8.12-3 shows the existing p.m. peak-hour traffic volumes on local roadways. Under existing conditions, the studied roadway segments operate at LOS A or better during the peak period. The roadway that will collect and carry traffic to the project site entrance, King Salmon Avenue, operates at LOS A.

**TABLE 8.12-3**  
Existing Level of Service Summary for Local Roadways

Name	Segment	Hourly Design Capacity <sup>a</sup>	Peak-Hour Volume <sup>a,b,c</sup>	V/C	LOS
Highway 101	East of King Salmon Avenue	7,200	2,850	0.39	A
King Salmon Avenue	HBRP to Highway 101	800	353	0.44	A

<sup>a</sup> Source: Transportation Research Board, 2000.

<sup>b</sup> Source: Caltrans, 2005 (for Highway 101), Garotte, 2006 (for King Salmon Avenue average daily traffic)

<sup>c</sup> Peak-hour volumes were estimated at 15 percent of average daily traffic on King Salmon Avenue because counts were not available.

V/C = volume capacity ratio

In addition, a merge/diverge analysis for the King Salmon Avenue/Highway 101 interchange was prepared using 2005 traffic data. As shown in Table 8.12-4, the analysis indicated that the freeway will operate at LOS B during the peak periods for the merge/diverge locations for all four ramps. Humboldt County considers LOS C to be an acceptable delay; therefore, the Highway 101 ramps at King Salmon Avenue operate at an acceptable LOS.

**TABLE 8.12-4**  
Existing Level of Service Summary for Highway 101 at King Salmon Avenue

Name	Segment	Average Daily Traffic Volume <sup>a</sup>	Peak-Hour Ramp Volume <sup>b</sup>	LOS <sup>b</sup>
101 Northbound	King Salmon Avenue off-ramp	625	50 (a.m. peak)	B
101 Northbound	King Salmon Avenue on-ramp	1,075	86 (p.m. peak)	B
101 Southbound	King Salmon Avenue off-ramp	950	76 (a.m. peak)	B
101 Southbound	King Salmon Avenue on-ramp	660	53 (p.m. peak)	B

<sup>a</sup> Source: Caltrans, 2004 and 2005, Highway 101 Ramp Average Daily Traffic Volume at King Salmon Avenue.

<sup>b</sup> Calculations based on Transportation Research Board, 2000, Exhibit 25-4.

### 8.12.1.5 Public Transportation

Public transportation in the area is provided by the Eureka Transit Service, the Arcata and Mad River Transit System, and the Redwood Transit System. The Redwood Transit System Bus Line is the closest connection to the project site and stops at King Salmon Avenue nine times per day between 6:00 a.m. and 10:00 p.m. (Redwood Transit System, 2006). No park-and-ride lots for carpooling were identified within 3 miles of the project site. Figure 8.12-2 shows existing bus lines in the project area.

### 8.12.1.6 Bicycle and Pedestrian Circulation

A majority of the roads in the area are narrow, with little or no shoulder and few sidewalks. All roadways in Humboldt County are open to bicycle use, with most dedicated bicycle lanes in place in Eureka, Arcata, McKinleyville, and Fortuna. The City of Arcata provides the most interconnected system of bicycle lanes. Some bicycle lanes in the region do not meet current state standards because Caltrans increased bike lane width standards from 4.0 to 4.9 feet (1.5 meters) in 1997.

### 8.12.1.7 Airports

The Eureka-Arcata Airport, adjacent to Highway 101 about 23 miles north of the HBRP site, is the primary airport for commercial air traffic in Humboldt County. This airport serves on average 115 flight operations per day (Airnav, 2006a). The Eureka Municipal Airport is on the Samoa Peninsula about 2 miles north of the HBRP site. This airport serves on average 96 flight operations per week of which all are general aviation flights consisting mostly of aircraft that seat no more than 8 people (Airnav, 2006b). The Murray Field Airport is at the northern edge of Eureka adjacent to Highway 101, about 6 miles northeast of the HBRP site. The airport serves on average 179 flights per day of which most are general aviation flights consisting mostly of aircraft that seat no more than 8 people (Airnav, 2006c).

### 8.12.1.8 Goods Movement

#### 8.12.1.8.1 Freight Rail Service

Northwestern Pacific Railroad tracks run along the eastern Humboldt Bay Power Plant boundary adjacent to Highway 101. The line was used to connect Humboldt Bay with the

coastal areas of central California. Currently, there is no passenger or freight traffic on this line in Humboldt County, and major renovations would be required to restore that service.

#### **8.12.1.8.2 Truck Access**

King Salmon Avenue is the truck route used to transport supplies to the Humboldt Bay Power Plant. A new temporary access road will be constructed from King Salmon Avenue to the HBRP site that crosses Buhne Slough south of Intake Canal and parallels the canal to the site. This road will be designed and constructed in accordance with Humboldt County requirements. It will allow for separation between HBRP construction and existing Humboldt Bay Power Plant operations.

#### **8.12.1.8.3 Marine Transportation**

The Port of Humboldt Bay is the largest marine shipping facility between San Francisco Bay and Coos Bay, Oregon. Humboldt Bay is a land-bound bay that is open to the Pacific Ocean through a maintained shipping entrance channel northwest of the HBRP site. The bay has two main channels, a North Channel and a South Channel that were dredged to a minimum depth of 40 feet in 2001. The North Channel is used mostly by private yachts and recreational vessels. It is also used by large cargo vessels and passenger vessel cruise ships having gross tonnage of about 45,000 tons (up to 650 feet in length). The South Channel is smaller and the vessels using this channel are limited to mostly private yachts, recreational vessels, and occasionally barges offloading lumber or logs. The edge of the South Channel at its closest point is about 1,000 yards from the HBRP site.

#### **8.12.1.9 Planned Transportation Improvements and Other Projects**

There are no planned transportation improvements within the immediate vicinity of the HBRP. Construction of two other projects may affect transportation and traffic conditions on the roadways in the project vicinity. PG&E will construct the Humboldt Bay Independent Spent Fuel Storage Installation (ISFSI), also known as the dry cask storage system, within the Humboldt Bay Power Plant property about 800 feet north of the HBRP site. The ISFSI project will be constructed concurrently with the HBRP. A rehabilitation project will be constructed at Fields Landing, as identified in the Humboldt County Redevelopment Plan Environmental Impact Report (EIR), to rehabilitate a main drainage line and two tide gates at the foot of C Street and Railroad Avenue to improve drainage and prevent localized flooding.

##### **8.12.1.9.1 PG&E Independent Spent Fuel Storage Installation**

The ISFSI project will involve constructing and operating a large concrete-line vault facility for safe storage of spent nuclear fuel and other radiologically contaminated materials from Unit 3. Project construction is expected to begin in the spring of 2007 with an expected workforce of 20. Construction workers will use the existing Humboldt Bay Power Plant access road and parking area. ISFSI facility startup and operation will require the same number of employees as are currently employed as caretaker employees for Unit No. 3 for the foreseeable future.

##### **8.12.1.9.2 Fields Landing Redevelopment**

The Humboldt County Redevelopment Plan EIR identifies several redevelopment sub-areas including Orick, Willow Creek, Glendale, Manila, Samoa, Fairhaven, Fields Landing, and Alton. The Fields Landing sub-area is within 1 mile of the project site. The proposed project

for Fields Landing would rehabilitate a main drainage line and two tide gates at the foot of C Street and Railroad Avenue.

Widening of the Samoa Bridge, about 5.6 miles north of the project site, was also identified in the EIR. This project would have significant and unavoidable traffic impacts; however, the project is not currently funded and would not occur during the same time period as the HBRP.

## 8.12.2 Environmental Consequences

This section discusses potential environmental impacts of the HBRP. Potential traffic impacts during construction of the project, as well as operation after construction, have been considered and analyzed. Significance criteria were developed based upon Appendix G of the California Environmental Quality Act (CEQA) Guidelines, which identifies significant impacts to be caused by a project if it results in an increase in traffic that is substantial relative to the amount of existing traffic and the capacity of the surrounding roadway network.

During the peak month of construction, the project is expected to generate approximately 236 daily construction worker round trips. When completed, the operational phase of the HBRP would not be expected to generate additional employee commutes. To analyze the “worst-case” scenario, traffic impacts associated with peak construction traffic were analyzed. A quantitative traffic analysis was not conducted for the long-term operations phase because it would not generate additional commuter volume.

### 8.12.2.1 Thresholds of Significance

The significance criteria have been developed using guidance provided in CEQA, Appendix G (Title 14 California Code of Regulations 15000 et seq.) and relevant local policies. Impacts of the HBRP to transportation and circulation will be considered significant if the following criteria are met:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system
- Exceed, either individually or cumulatively, a LOS standard established by the County congestion management agency for designated roads or highways
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
- Substantially increase hazards due to a design feature or incompatible uses
- Result in inadequate emergency access
- Result in inadequate parking capacity
- Conflict with adopted policies, plans, or programs supporting alternative transportation

### 8.12.2.2 Construction Traffic

Peak-hour traffic operations were evaluated for the local roadway network adjacent to the project site during construction. The peak-hour analysis examined the worst-case scenario, the impact of a maximum of 236 daily workers during construction of the project.

#### 8.12.2.2.1 Trip Generation

Construction of the HBRP is anticipated to begin in March 2008 and end in August 2009. The maximum number of workers who would be onsite during the peak construction period would be 236. Construction for the plant would generally be scheduled to occur between 7:00 a.m. and 7:00 p.m., Monday through Saturday, with a normal shift occurring between 7:00 a.m. and 3:00 p.m. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. During some construction periods and during the startup phase of the project, some activities will continue 24 hours per day, 7 days per week. For this analysis, worker trips to the project site are assumed to occur during the morning (inbound to site) and evening (outbound from site) peak commute hours. The delivery of construction materials and the hauling of materials from the project site would also occur during the day, but would take place throughout the day. Table 8.12-5 summarizes the total daily and peak-hour construction vehicle trip generation for the construction period.

**TABLE 8.12-5**  
HBRP Construction Trip Generation

Vehicle Type	Average Daily Round Trips	Peak Daily Round Trips	Morning Peak Hour		Evening Peak Hour	
			In	Out	In	Out
Construction Personnel	101	236	236	0	0	236
Delivery Trucks	2	20	0	0	0	0
Heavy Vehicles and Trucks	15	34	0	0	0	0
<b>Total</b>	<b>118</b>	<b>290</b>	<b>236</b>	<b>0</b>	<b>0</b>	<b>236</b>

Based on a worst-case scenario, it is assumed that each worker will drive a separate vehicle to the project site, making two trips per day (one round trip to the site and back).

Construction workers would generate a maximum of 236 round trips during the peak construction period. Delivery trucks and heavy vehicles would generate an additional 36 trips during their peak period.

#### 8.12.2.2.2 Trip Distribution

The construction worker trip distribution has been based on the assumption that the entire workforce will commute from within the Eureka area. To arrive at the project site, the construction workers will use Highway 101. It is assumed, based on the distribution of local population, that 70 percent of workers will use the southbound off-ramp to King Salmon Avenue and the remainder will use the northbound off-ramp to the HBRP site. Upon leaving the project site, 70 percent of workers will use the northbound on-ramp from King Salmon Avenue to Highway 101 and the remainder will use the southbound on-ramp.

### 8.12.2.2.3 Construction Phase Project Conditions

Table 8.12-6 shows the results of the peak construction conditions traffic analysis for local roadways. Based on the traffic analysis, the addition of the peak construction worker traffic volumes would not have a significant impact on traffic operations of the local roadways. The addition of 236 vehicles would cause the LOS to decline from LOS A to LOS C; however, this LOS is acceptable in Humboldt County (Whitworth, 2006). The LOS for Highway 101 east of King Salmon Avenue and the HBRP would remain at LOS A.

**TABLE 8.12-6**  
Local Roadways Traffic and LOS with Project Construction Traffic

Name	Segment	Hourly Design Capacity <sup>a</sup>	Peak-Hour Volume <sup>b, c</sup>	V/C	LOS
Highway 101	East of King Salmon Avenue	7,200	3,086	0.43	A
King Salmon Avenue	Highway 101 to HBRP Site	800	589	0.74	C

<sup>a</sup> Source: Transportation Research Board, 2000.

<sup>b</sup> Source: Caltrans, 2004.

<sup>c</sup> Source: Garotte, 2006– Assume that 15 percent of daily traffic occurs at peak hour.

V/C = volume/capacity ratio

Table 8.12-7 shows the results of the peak construction conditions traffic analysis for Highway 101 at King Salmon Avenue. The merge/diverge analysis prepared for Highway 101 at King Salmon Avenue indicates that all ramps will continue to operate at LOS B. Therefore, no significant impact would occur from increased construction worker traffic during peak months of construction.

**TABLE 8.12-7**  
Construction Level of Service Summary for Highway 101 at King Salmon Avenue

Name	Segment	Average Daily Traffic Volume <sup>a</sup>	Peak-Hour Ramp Volume <sup>b</sup>	LOS <sup>b</sup>
101 Northbound	King Salmon Avenue off-ramp	625	121 (a.m. peak)	B
101 Northbound	King Salmon Avenue on-ramp	1,075	251 (p.m. peak)	B
101 Southbound	King Salmon Avenue off-ramp	950	241 (a.m. peak)	B
101 Southbound	King Salmon Avenue on-ramp	660	124 (p.m. peak)	B

<sup>a</sup> Source: Caltrans, 2005. Assume 70 percent take King Salmon southbound off-ramp and northbound on-ramp.

<sup>b</sup> Source: Calculations based on Transportation Research Board, 2000.

Construction of the temporary access road from King Salmon Avenue to the HBRP site would cause temporary traffic delays. The construction craft parking areas would be located adjacent to King Salmon Avenue and would also affect traffic on the roadway; however, this impact would also be temporary. No construction is required for the short-term delivery parking area. All construction traffic impacts will be temporary and last less than 18 months.

### **8.12.2.3 Operation Traffic**

No permanent additional employees are expected from the HBRP. Some additional workers may be required during project startup; however, the impacts to traffic would be insignificant. Therefore, HBRP operation would cause no significant impact on traffic.

### **8.12.2.4 Parking Facilities**

One temporary remote construction parking area will be outside of existing site boundaries along King Salmon Avenue (See Figure 2.3-1). An additional parking area adjacent to King Salmon Avenue may be used for short-term parking of delivery vehicles. The primary parking area for construction personnel will be in the parking area at the north end of the temporary access road. The parking lot adjacent to King Salmon Avenue will be the secondary parking area, for use during peak construction times only. When the project is completed, the temporary parking areas along King Salmon Avenue will be restored. The eastern half of the remote construction parking area will be restored as wetland. The western half will remain as an area for future parking use.

### **8.12.2.5 Public Transportation**

The Redwood Transit System has a bus stop at Highway 101 and King Salmon Avenue in the vicinity of the project site. However, it is anticipated that the majority of employees will be driving to and from the project site. Therefore, public transit routes within the vicinity of the project location will not be affected during construction or facility operation.

### **8.12.2.6 Bicycle and Pedestrian Circulation**

Neither bicycle nor pedestrian facilities within the vicinity of the project location will be affected during construction or facility operation.

### **8.12.2.7 Goods Movement**

Construction and operation of the HBRP would not affect air or shipping routes. Therefore, the project would not have a significant impact on goods movement.

### **8.12.2.8 Safety**

A new temporary access road will be constructed from King Salmon Avenue to the HBRP site that runs along the southern edge of the Intake Canal. This access road will enable trucks and cars to more easily access the HBRP site and laydown area. Impacts to vehicle, pedestrian, and bicycle safety as a result of construction and operation of the project would be less than significant.

### **8.12.2.9 Air, Rail, and Waterborne Traffic**

The HBRP would have no impacts on air, rail, or waterborne traffic.

### **8.12.2.10 Hazardous Materials Transport**

Construction of the HBRP would generate hazardous wastes that may consist of batteries, asbestos-containing materials, and liquid wastes (e.g., cleaning solutions, solvents, paint, and antifreeze). Transport route arrangements would be required with Caltrans officials for permitting and escort, as applicable.

Generally, only small quantities of hazardous materials will be used during the construction period, as described in Section 8.5, Hazardous Materials Handling. These may include gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, lubricants, paint, and paint thinner. Because of the small quantities of hazardous materials involved, shipments will likely be consolidated. Multiple truck deliveries of hazardous materials during construction are unlikely.

During construction, a minimal number of truck trips per month will be required to haul waste for disposal. Because the transport of hazardous wastes will be conducted in accordance with the relevant transportation regulations, no significant impact is expected. Operation of the project would result in the generation of additional wastes including lubricants, water treatment chemicals, herbicides and pesticides, and sludge. In addition, operation of the project will require transportation of aqueous ammonia, a regulated substance. Aqueous ammonia will be delivered to the plant by truck transport using designated truck routes. Small quantities of sulfuric acid and other hazardous materials will also be used in project operations, as described in Section 8.5. According to Division 13 Section 31303 of the California Vehicle Code (CVC), the transportation of regulated substances and hazardous materials will be on state or interstate highways that offer the shortest overall transit time possible.

Aqueous ammonia is considered a potential inhalation hazard. Division 14.3 Section 32105 of the CVC specifies that unless there is not an alternative route, every driver of a vehicle transporting inhalation hazards shall avoid, by prearrangement of routes, driving into or through heavily populated areas, congested thoroughfares, or places where crowds are assembled. The use of 19 percent aqueous ammonia will require approximately 2 deliveries of ammonia per week, or 16 truck trips per month (inbound and outbound). These truck trips would generally occur during the non-peak commute hours.

Table 8.12-8 summarizes expected truck trips for the project, including delivery of hazardous materials and removal of wastes. There will be a maximum of three truck trips per day, with an average of two or less truck trips per day to the project site. For further information on the management of hazardous materials and waste products, see Sections 8.5 and 8.14, respectively.

**TABLE 8.12-8**  
Estimated Truck Deliveries at the Facility During Operation

<b>Delivery Type</b>	<b>Number and Occurrence of Trucks</b>
Aqueous ammonia	8 per month
Cleaning chemicals	1 per month
Diesel (normal, gas mode operation)	1 per month
Diesel (emergency diesel operation)	1 per hour
Trash pickup	1 per week
Lubricating oil	31 per year
Lubricating oil filters	4 per year
Laboratory analysis waste	4 per year
Oily rags	4 per year
Oil absorbents	4 per year
Water treatment chemicals	Up to 2 per year

Additionally, transporters of inhalation hazardous or explosive materials (for example, aqueous ammonia and diesel fuel) must contact the California Highway Patrol (CHP) and apply for a Hazardous Material Transportation License (CHP, 2000). Upon receiving this license, the shipper will obtain a handbook that will specify the routes approved to ship inhalation hazardous or explosive materials. The exact route of the inhalation or explosive material shipment will not be determined until the shipper contacts the CHP and applies for a license. Transportation impacts related to hazardous materials associated with power plant operations will not be significant since deliveries of hazardous materials will be limited. Delivery of these materials will occur over prearranged routes and will be in compliance with all LORS governing the safe transportation of hazardous materials.

Standards for the transport of hazardous materials are contained in the Code of Federal Regulations (CFR), Title 49 and enforced by the U.S. Department of Transportation. Additionally, the State of California has promulgated rules for hazardous waste transport that can be found in the California Code of Regulations, Title 26. Additional regulations for the transportation of hazardous materials are outlined in the California Vehicle Code (Sections 2500-505, 12804-804.5, 31300, 3400, and 34500-501). The two state agencies with primary responsibility for enforcing federal and state regulations governing the transportation of hazardous wastes are the CHP and Caltrans. Transport of hazardous materials to and from the HBRP will comply with all applicable requirements.

For those materials that require offsite removal, a licensed hazardous waste transporter would move these substances to a Class I hazardous waste landfill in proximity to the project site. Access by waste haulers to the project site would be via Highway 101.

Outbound trucks would proceed south on Highway 101 to provide access to California's three Class I hazardous waste facilities including:

- Safety Kleen, Buttonwillow (Kern County)
- Safety Kleen, Westmorland (Imperial County)
- Chemical Waste Management, Kettleman Hills (Kings County)

The major highways and interstates that would be used to carry hazardous wastes from the project site to the appropriate landfills contain adequate capacity to accommodate these vehicle trips. Hauling would be carried out in accordance with local, state, and federal regulations that include the Resource Conservation and Recovery Act (42 U.S. Code 6901et seq.), the California Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.) and the Humboldt County Health and Human Services Department requirements.

In addition, the federal government prescribes regulations for transporting hazardous materials. These regulations are described in the Code of Federal Regulations, Title 49, Section 171. These laws and ordinances place requirements on hazardous waste hauling, from materials handling to vehicle signs, to ensure public safety. Transporting and handling of chemicals and wastes are discussed in Section 8.5, Hazardous Materials Handling, including the transport of aqueous ammonia.

### 8.12.3 Cumulative Impacts

The ISFSI construction is scheduled from March to November 2007, and loading will be completed by 2009. As HBRP construction will begin in March 2008 and continue into 2009, HBRP construction will overlap with ISFSI construction for several months. The ISFSI construction will require about 20 peak-hour trips, which is insignificant compared to peak construction trips for the HBRP and existing traffic volumes. Thus, cumulative impacts associated with construction and operation of ISFSI and construction and operation of the HBRP will not differ from impacts described in Section 8.12.2.2.

Rehabilitation of the main drainage line and two tide gates at the foot of C Street and Railroad Avenue in Fields Landing, proposed in the Humboldt County Redevelopment Plan EIR, did not identify any impacts to traffic; therefore, this project would not contribute to cumulative impacts in combination with the HBRP project.

Because the project would result in a net decrease in local traffic during operation, it would not contribute to significant adverse cumulative traffic impacts.

### 8.12.4 Mitigation Measures

#### 8.12.4.1 Construction Impacts

Construction of the HBRP would add a moderate amount of traffic to local roadways during the construction period. Since there are no significant impacts, no mitigation measures are required for the local roadways.

#### 8.12.4.2 Operation Impacts

The operations-related and maintenance-related traffic associated with the project is considered to be minimal; state and local roadways have adequate capacity to accommodate operations-related traffic. Consequently, no operations-related mitigation measures are required.

### 8.12.5 Laws, Ordinances, Regulations and Standards

LORS related to traffic and transportation are summarized in the following sections. All applicable LORS and administering agencies are summarized. Table 8.12-9 describes how the project will comply with all LORS pertaining to traffic and transportation impacts.

#### 8.12.5.1 Federal

- Title 49 CFR 171-177 governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- Title 49 CFR 350-399 and Appendixes A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.
- Title 49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, directs the U.S. Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials.

**TABLE 8.12-9**  
Compliance with Laws, Ordinances, Regulations, and Standards

Authority	Administering Agency	Requirements	Compliance
49 CFR, §§ 171-177	U.S. Department of Transportation and Caltrans	Requires proper handling and storage of hazardous materials during transportation.	Project and transportation will comply with all standards for the transportation of hazardous materials.
49 CFR, §§ 350-399 and Appendixes A-G	U.S. Department of Transportation and Caltrans	Requires transporters to address safety considerations for the transport of goods, materials, and substances over public highways.	Project and transportation will comply with all standards for the transport of goods, materials, and substances.
49 CFR, § 397.9	U.S. Department of Transportation and Caltrans	Directs the USDOT to establish criteria and regulations for the safe transportation of hazardous materials.	Project and transportation will comply to criteria established by USDOT under the Hazardous Materials Transportation Act of 1974.
CVC §§13369, 15275 and 15278	Caltrans	Addresses the licensing of drivers and classifications of licenses required for the operation of particular types of vehicles. In addition, certificates permitting the operation of vehicles transporting hazardous materials are required.	The project will conform to these sections in the CVC.
CVC §§2500-2505	Caltrans	Authorizes the issuance of licenses by the Commissioner of the CHP for the transportation of hazardous materials including explosives.	The project will conform to these sections in the CVC.
CVC §§25160 et seq.	Caltrans	Addresses the safe transport of hazardous materials.	The project will conform to these sections in CVC.
CVC §31303-31309	Caltrans	Requires transporters to meet proper storage and handling standards for transporting hazardous materials on public roads.	Transporters will comply with standards for transportation of hazardous materials on state highways during construction and operations. The project will conform to CVC §31303 by requiring that shippers of hazardous materials use the shortest route possible to and from the site.
CVC §§31600-31620	Caltrans	Regulates the transportation of explosive materials.	The project will conform to CVC 31600 - 31620.
CVC §§32000-32053	Caltrans	Regulates the licensing of carriers of hazardous materials and includes noticing requirements.	The project will conform to CVC 32000 - 32053.

**TABLE 8.12-9**  
Compliance with Laws, Ordinances, Regulations, and Standards

Authority	Administering Agency	Requirements	Compliance
CVC §§32100-32109 and 32105.	Caltrans	Establishes special requirements for the transportation of substances presenting inhalation hazards and poisonous gases. Requires that shippers of inhalation or explosive materials contact the CHP and apply for a Hazardous Material Transportation License.	The project will conform by requiring shippers of inhalation or explosive materials to contact the CHP and obtain a Hazardous Materials Transportation License.
CVC §§34000-34121	Caltrans	Establishes special requirements for the transportation of flammable and combustible liquids over public roads and highways.	The project will conform to CVC §§34000 - 34121.
CVC §§34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7, 34506, 34507.5, and 34510-11	Caltrans	Regulates the safe operation of vehicles, including those used to transport hazardous materials.	The project will conform to these sections in the CVC.
CVC §§35550-35559	Caltrans	Regulates weight and load limitations.	The project will conform to these sections in the CVC.
CVC §35780	Caltrans	Requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.	Transportation permits will be obtained by transporters for all overloads, as required.
S&HC §§117, 660-711	Caltrans	Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery.	Encroachment permits will be obtained by transporters, as required.
S&HC §§660, 670, 1450, 1460 <i>et seq.</i> , 1470, and 1480	Caltrans	Regulates right-of-way encroachment and the granting of permits for encroachments on state and county roads.	The project will conform to these sections in the CVC.
California State Planning Law, Government Code Section 65302	Caltrans	Project must conform to the General Plan.	Project will comply with General Plan.
CFR	Code of Federal Regulations		
CVC	California Vehicle Code		
S&HC	California Streets and Highways Code		

### 8.12.5.2 State

- CVC Sections 13369, 15275 and 15278 address the licensing of drivers and classifications of licenses required for operation of particular types of vehicles. In addition, certificates permitting the operation of vehicles transporting hazardous materials are addressed.
- CVC Sections 2500-2505 authorize the issuance of licenses by the Commissioner of the CHP to transport hazardous materials, including explosives.
- CVC Sections 25160 et seq. describe requirements for the safe transport of hazardous materials.
- CVC Sections 31303-31309 regulate the highway transportation of hazardous materials, routes used, and restrictions. CVC Section 31303 requires hazardous materials to be transported on state or interstate highways that offer the shortest overall transit time possible.
- CVC Sections 31600-31620 regulate the transportation of explosive materials.
- CVC Sections 32000-32053 regulate the licensing of carriers of hazardous materials and include noticing requirements.
- CVC Sections 32100-32109 establish special requirements for the transportation of substances presenting inhalation hazards and poisonous gases. CVC Section 32105 requires shippers of inhalation or explosive materials to contact the CHP and apply for a Hazardous Material Transportation License. Upon receiving this license, the shipper will obtain a handbook specifying approved routes.
- CVC Sections 34000-34121 establish special requirements for transporting flammable and combustible liquids over public roads and highways.
- CVC Sections 34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7, 34506, 34507.5, and 34510-11 regulate the safe operation of vehicles, including those used to transport hazardous materials.
- CVC Section 35780 requires approval for a permit to transport oversized or excessive loads over state highways.
- California Street and Highways Code (S&HC) Sections 660, 670, 1450, 1460 et seq., 1470, and 1480, regulate right-of-way encroachment and granting of permits for encroachments on state and county roads.
- S&HC Sections 117 and 660-711 require permits for any construction, maintenance, or repair involving encroachment on state highway rights-of-way.
- California State Planning Law, Government Code Section 65302, requires each city and county to adopt a General Plan, consisting of seven mandatory elements, to guide its physical development. Section 65302(b) requires that a circulation element be one of the mandatory elements.
- All construction in the public right-of-way will need to comply with the “Manual on Uniform Traffic Control Devices” (Caltrans and Federal Highway Administration, 2003).

- Caltrans weight and load limitations for state highways apply to all state and local roadways. The weight and load limitations are specified in the CVC Sections 35550 to 35559. The following provisions, from the CVC, apply to all roadways and are therefore applicable to this project.

General Provisions:

- The gross weight imposed upon the highway by the wheels on any axle of a vehicle shall not exceed 20,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle, and resting upon the roadway, shall not exceed 10,500 pounds.
- The maximum wheel load is the lesser of the following: a) the load limit established by the tire manufacturer, or b) a load of 620 pounds per lateral inch of tire width, as determined by the manufacturer's rated tire width.

Vehicles with Trailers or Semitrailers:

- The gross weight imposed upon the highway by the wheels on any one axle of a vehicle shall not exceed 18,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle and resting upon the roadway, shall not exceed 9,500 pounds, except that the gross weight imposed upon the highway by the wheels on any front steering axle of a motor vehicle shall not exceed 12,500 pounds.

### 8.12.5.3 Local

The transportation elements of local plans that are applicable to the project are summarized below:

- The 2002 Humboldt 2025 General Plan Update establishes regional transportation goals, policies, objectives, and actions for various modes of transportation, including intermodal and multinodal transportation activities. The administering agency is the Humboldt County Community Services Department.
- The Humboldt County Public Works Department requires encroachment permits for projects that occur on County right-of-ways and for road improvements. The administering agency is the Humboldt County Public Works Department. The Public Works Department also requires Transportation Permits for oversize loads.

### 8.12.6 Involved Agencies and Agency Contacts

The HBRP lies in proximity to roadways operated by the Humboldt County and Caltrans. The relevant agencies and appropriate contacts are shown in Table 8.12-10.

**TABLE 8.12-10**  
Agency Contacts

Agency	Contact/Title	Telephone
Humboldt County Public Works Department - Transportation Permits and Encroachment Permits	Ken Freed, Engineering Technician 3033 H Street Eureka, CA 95501	(707) 445-7205

**TABLE 8.12-10**  
Agency Contacts

Agency	Contact/Title	Telephone
Caltrans District 1 Transportation Permits	Staff 1656 Union Street Eureka, CA 95501	(707) 445-6600
California Highway Patrol	Accounting Section HM Licensing Program P.O. Box 942902 Sacramento, CA 94298-2902	(916) 445-1865
Federal Motor Carrier Safety Administration	California Division 1325 J Street, Suite 1540 Sacramento, CA 95814	(916) 930-2760

### 8.12.7 Permits Required and Permit Schedule

Traffic studies for projects require consultation with the Humboldt County Public Works Department, California Highway Patrol, and Caltrans to comply with their requirements. The relevant permits required for work performed within streets in Humboldt County are identified in Table 8.12-11.

**TABLE 8.12-11**  
Required Permits

Responsible Agency	Permit/Approval	Schedule
County of Humboldt, Public Works Department	Encroachment Permit for new access road from King Salmon Avenue to HBRP site.	2 weeks
County of Humboldt, Public Works Department	Transportation Permit for oversized loads	Approximately 2 weeks prior to delivery
Caltrans, District 1	Overload Limit Permits	Approximately 2 weeks prior to delivery

### 8.12.8 References

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Garotte, Michael. 2006. Personal communication between Burleson staff and Michael Garotte, Humboldt County Public Works Department, Eureka, California. July 12.

Redwood Transit System. 2006. Maps & Schedules. Accessed on July 17, 2006, from <http://www.hta.org/rts/NorthFrame/northframe.htm>.

Transportation Research Board. 2000. Highway Capacity Manual.

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