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**APPENDIX [in Volume II]**

Appendix M Roadway Analyses

## **8.10 TRAFFIC AND TRANSPORTATION**

This section assesses transportation impacts associated with the construction and operation of the proposed CGS project. The analysis primarily examines impacts on roadway levels of service expected during both construction and operation of the plant. Additional transportation factors examined in this section include parking, pedestrian and bicyclist impacts, safety, goods movement, and potential impacts to air, rail, and waterborne transportation networks. This section also identifies and reviews applicable laws, regulations and ordinances relevant to traffic and transportation activities.

Information sources include traffic counts provided by Colusa County staff, data provided by the California Department of Transportation (Caltrans), field observations, and communications with Colusa County staff. URS Corporation performed project area reconnaissance in August 2006 to document roadway characteristics, identify physical constraints, and assess general traffic conditions.

### **8.10.1 Affected Environment**

#### **8.10.1.1 Existing Transportation Facilities**

##### **8.10.1.1.1 Regional Roadway Facilities**

The proposed project lies in a rural agricultural area of Colusa County approximately 4 miles west of the Interstate 5 (I-5) transportation corridor (Figure 8.10-1). I-5 runs north and south through central California. Near the project site, it connects the towns of Williams, Maxwell, and Willows, and Sacramento which is approximately 75 miles to the south. Colusa, the county seat, is located approximately 13 miles to the east of the I-5 corridor.

I-5 is comprised of four lanes of mixed flow traffic in the area near the project. The design capacity of I-5 is 15,600 vehicle two-way trips per lane. Access to the CGS from I-5 northbound and southbound is by the Delevan Road interchange. I-5 carries approximately 26,250 daily and 2,750 peak hour two-way trips north of the Delevan Road interchange and 26,250 daily and 2,800 peak hour two-way trips south of the Delevan Road interchange based on a growth factor of 1 percent per year applied to the Caltrans 2003 traffic counts. Based on Caltrans data, the truck traffic on I-5 is approximately 28 percent of the daily traffic.

##### **8.10.1.1.2 Local Roadway Facilities**

Local roadways that provide access to and from the project site and I-5 are Delevan Road, McDermott Road, and Dirks Road. The County currently has no weight or loading limitations on these three local roadways. The design capacities of these roads are 1,000 vehicle one-way trips per day for the paved sections and 500 vehicle one-way trips per day for the unpaved sections. In the vicinity of the project, Delevan Road, McDermott Road, and Dirks Road are rural roadways with no sidewalks, curb and gutter, or turn lanes at the intersections. The three roadway segments provide two unpaved travel lanes with no shoulders. Under existing conditions, no speed limits are posted along the roadway segments. The intersection of Delevan Road/McDermott Road is the only intersection in the vicinity of the project with two-way stop control. These roadways are briefly described below. Figure 8.10-2 shows the local roadway network in the vicinity of the CGS. No schools are located in the immediate vicinity of the project site. Discussion with Colusa County Department of Public Works revealed that there has not been any significant growth in traffic volumes along the study roadway segment since the traffic volumes were collected in Year 2000. Therefore, no new traffic volumes were conducted. However, a growth factor of 1 percent was applied to the Year 2000 traffic volumes for Year 2006 traffic volumes in order to conduct a conservative traffic analysis. Based on traffic volume data (Average Annual Daily Traffic and Peak Hour Volumes) available from Caltrans in the vicinity of the project, it is assumed that approximately 10 percent of the daily volume occurs in the peak hour.

### **Delevan Road**

Delevan Road is a two-lane roadway with one travel lane in each direction and functions as the principal east-west roadway in the study area, extending east from Four Mile Road to McDermott Road. It curves to a north-south direction after McDermott Road and ends at the Colusa-Glenn County limit. It currently carries approximately 370 vehicles per day (based on a growth factor of 1 percent per year applied to the traffic data provided by Colusa County, 2000). The Public Works Department estimates that about 10 percent of these vehicles are trucks. It was assumed that 10 percent of the daily volume occurs in the peak hour (approximately 40 vehicles during the peak hour).

### **McDermott Road**

McDermott Road is a two-lane roadway that parallels I-5 running from Maxwell Road past the Colusa-Glenn County line to Road 68 in Glenn County. It is a paved roadway between Dirks Road and Delevan Road and between the Colusa-Glenn County line and Road 68. Within the project site vicinity McDermott Road (Delevan Road to Dirks Road) currently carries 178 vehicles per day (based on a growth factor of 1 percent per year applied to the traffic data provided by Colusa County for 2000). The Public Works Department estimates that about 10 percent of these vehicles are trucks. It was assumed that 10 percent of the daily volume would occur in the peak hour (approximately 20 vehicles during the peak hour).

### **Dirks Road**

Dirks Road is a short two-lane, east-west roadway that connects McDermott with Delevan Road. The portion of Dirks Road maintained by the County ends at Delevan Road and a paved private road continues to the project site. No daily traffic data were available for Dirks Road; however, traffic is believed to be less than the traffic on Delevan or McDermott roads. The Public Works Department estimates that about 10 percent of these vehicles are trucks.

#### **8.10.1.1.3 Existing Roadway Level of Service**

Table 8.10-1 provides the classification, along with the current daily and peak hour traffic volumes, for the local and regional roadways in the study area. A Level of Service (LOS) analysis was completed to assess roadway operational performance based on existing and future traffic conditions. LOS is identified through a letter designation, varying from LOS A (less than a 40 percent time delay for local roads or less than 7 passenger cars per mile per lane for a freeway) to LOS F as described in Tables 8.10-2 and 8.10-3. Typically, LOS E represents the worst service level that is acceptable during peak hours.

As noted previously, existing conditions (Year 2006) traffic volumes for level of service analysis were projected by applying a growth factor of 1 percent per year to Year 2000 traffic volumes (the growth factor was applied to the roadway segments of Dirks Road, McDermott Road, Delevan Road, Road 68, and Old 99W Road only). Based on discussion with Colusa County, there has not been any significant growth in traffic volumes in the vicinity of the project. However, the growth factor was applied to projected traffic volumes to analyze the worst-case scenario. Delevan, McDermott, and Dirks roads all currently (under Existing Conditions) operate at LOS A. Each of the study roadway segments currently has a very low traffic volume, approximately less than 40 vehicles during the peak hour (based on the projected volumes); a two-lane road can accommodate up to 1,000 vehicles an hour at an acceptable service level (LOS D or better). Similarly traffic volumes along I-5 were projected by applying a growth factor of 1 percent per year to Caltrans 2003 traffic counts for level of service analysis. I-5 currently operates at LOS B during the peak hour in the north and south directions of the Delevan Road interchange.

#### **8.10.1.1.4 Other Transportation Elements**

##### **Parking**

Street parking is not allowed on any local roads near the project site. Onsite parking will be provided for staff and construction workers within the project site.

##### **Public Transportation**

Colusa County does not currently provide public transportation in the project area.

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

There are no designated bicycle routes or pedestrian trails in Colusa County. None of the roadways described above have sidewalks.

##### **Airports**

The Glenn County Airport is located approximately 8 miles north of the proposed project site on I-5. The Colusa County Airport is approximately 20 miles south via I-5 and State Highway 20. Sacramento International Airport is 65 miles south via I-5.

##### **Safety**

The Colusa Department of Public Works provided accident data (1994-2005) on the studied roadways and intersections maintained by the County. Crashes on county roadways are reported as the total number of accidents by severity and not as accident rates, because of the very low traffic volumes. In the past eleven years, there was one property-damage-only crash on McDermott Road, and one injury crash at the McDermott Road/Dirks Road intersection. I-5 accident data were collected for three years (1998-2000) and are reported by Caltrans as crashes per million vehicle miles (crashes/MVM). Table 8.10-4 summarizes crash information in the study area.

##### **Goods Movement**

*Freight Rail Service:* A rail line runs parallel to I-5 approximately 4 miles east of the freeway. Union Pacific Railroad owns the rail line but it is operated by the California Northern Railroad. The main roadbed and rails appear to be in good condition—no problems are evident visually. The railroad is currently in use. It would be used to transport construction materials and could also be used to transport operating materials for the project in the future.

*Truck Access:* The largely agricultural land uses near the CGS generate truck traffic, although no designated truck routes exist near the project vicinity. Truck traffic from the power plant would access the project site from I-5 by heading west on Delevan Road, turning right (north) on McDermott Road, and then turning left (west) on Dirks Road.

#### **8.10.1.2 Planned County Transportation Improvements**

Colusa County has no currently planned improvements within the immediate vicinity of the power plant.

#### **8.10.1.3 Planned Project Improvements**

The following three roadway improvements will be completed by E&L Westcoast, in conjunction with the construction and operation of the Colusa Generating Station:

- Glenn-Colusa Canal Bridge (0.4 mile west of Delevan Road on Dirks Road) and Teresa Creek Bridge ( $\frac{5}{8}$  mile north of Delevan on McDermott) are currently not adequate to accommodate heavy construction truck traffic; therefore, they will be replaced. Figures 3.6-5 and 3.6-6 provide conceptual designs for these bridge replacements, respectively.
- The turning radius at the Delevan Road/McDermott Road intersection is currently not adequate to accommodate the turning movements of construction trucks; therefore, additional gravel will be placed on the northeast and southeast corner to increase the turning radius. This area is shown on Figure 8.10-2.
- County and private access roads used by project traffic to travel between I-5 and the project will be repaved following construction. These roads are shown on Figure 8.10-2.

Non-transportation-related environmental consequences associated with these improvements are addressed in other sections, as appropriate.

## 8.10.2 Environmental Consequences

This subsection discusses potential transportation-related impacts from the construction and operation of the proposed project.

### 8.10.2.1 Thresholds of Significance

Significant criteria were developed based upon Appendix G of the CEQA *Guidelines*, which identifies potentially significant project impacts. A significant traffic-related project impact would occur if the project significantly changed the operating conditions on the surrounding roadway network. Roadway section LOS analysis was conducted to assess operational performance of the roads during construction and operation of the project. For LOS, the applicable significance threshold is a degradation in level of service from A, B, C, or D to E or F.

Significant issues to be addressed include:

- **Additional Vehicular Traffic:** would the additional traffic generated by the proposed project adversely affect operating conditions (i.e., LOS) on local and regional roadways?
- **Public Transit:** would the additional traffic generated by the proposed project impede public transit operations in the vicinity of the project?
- **Bicycle and Pedestrian Circulation:** would the additional traffic generated by the proposed project obstruct bicycle and pedestrian access to and from the project site or along adjacent bicycle and pedestrian routes?
- **Parking Facilities:** would the additional traffic generated by the proposed project consume limited parking in proximity to the project site?
- **Goods Movement:** would the additional traffic generated by the proposed project hinder goods movement along local and regional roadways?
- **Safety:** would the traffic generated by the proposed project impose any safety concerns, such as a significant increase in accidents?
- **Air, Rail, and Waterborne Traffic:** would the traffic generated by the proposed project interfere with air, rail, or waterborne traffic, or access to these transportation modes?

### 8.10.2.2 Construction Impacts

#### Construction Activities and Traffic Forecast

Weekday traffic operations were evaluated for the local roadway network adjacent to the proposed project during construction. Onsite construction of the project is expected to take place a total of 24 months as shown in Figure 3.6-1. The schedule has been estimated on a single-shift, 8 hours/day and 40 hours/week. However, occasional use of a second shift may be necessary to make up schedule deficiencies or to complete critical construction activities. During the startup and testing phase of the project, some activities may continue 24 hours per day, 7 days per week.

The onsite workforce will consist of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. The onsite workforce is expected to reach its peak of 669 individuals during the 14th month of construction.

For the proposed project, trip generation figures were provided by E&L Westcoast and their engineer, Bechtel Power Corporation, based upon observed trip generation for similar projects at comparable facilities. These data represents the average one-way and maximum number of daily trips. In order to provide a conservative estimate of the potential traffic impacts associated with the proposed project, the maximum number of one-way daily trips was used as the basis for the analysis.

Estimates of the average and peak construction traffic during the onsite construction period are provided in Table 8.10-5. Based on experience with similar projects, it is estimated that part of the workforce will carpool and the average vehicle occupancy will be 1.5 persons per vehicle. During the peak month, the estimated number of construction staff (passenger) one-way trips per day is 446 ( $669 \div 1.5 = 446$ ). The greatest number of truck trips expected during construction of the project in the peak construction month is approximately 16 daily one-way truck trips. Truck deliveries will normally be on weekdays between 7:00 a.m. and 5:00 p.m. Peak construction traffic during the peak month (Month 14) was used for level of service analysis, to analyze worst-case scenario.

The impact analysis examined the worst-case scenario of 446 passenger one-way trips per day during peak construction months, plus 16 delivery one-way truck trips per day. This study assumed that 70 percent of the 446 one-way trips generated by construction personnel at the CGS will arrive during the morning peak hour of the roadway, and depart during the evening peak hour of the roadway at the end of the day shift. Because delivery vehicles and heavy trucks would likely arrive and depart throughout the day, 20 percent of the one-way daily truck trips were assumed to occur during the peak hour. The truck trips were converted to passenger car equivalent by applying a multiplication factor of three per truck. These assumptions allow for a worst-case assessment of the potential project-related traffic impacts. Based on these assumptions and the information provided, it is projected that a total of approximately 462 one-way trips per day will be generated during the peak construction months with 315 trips occurring during the peak hour. Trips generated by the CGS are presented in Table 8.10-6. It should be noted that the construction workers usually arrive early in the morning and depart early in the evening before the peak hour of the roadway begins. The arrival and departure of the construction workers during the peak hour was assumed to provide a conservative traffic analysis. Traffic conditions (LOS) are evaluated in this study using the Highway Capacity Software (HCS+), which incorporates the methodology of the Transportation Research Board's 2000 *Highway Capacity Manual*. This program assigns a LOS designation based upon Percent Time Delay (for local roadways) and Maximum Density (for freeways).

Based on the information provided, it is projected that 16 delivery one-way truck trips per day would not have any significant impact on the study roadway segments, since the roadway segments have excess capacity due to low existing traffic volumes.

## Trip Distribution

Based upon information developed for Section 8.8, Socioeconomics, the distribution of construction workers is estimated as follows: 5 percent from Glenn County/Colusa County, 45 percent from Greater Sacramento (counties of Placer, El Dorado, Sutter, Yuba, and Yolo), and 50 percent from the East Bay. Therefore, 95 percent of the construction workers will be heading north on I-5, and 5 percent will be heading south on I-5 to access the Colusa Generating Station. I-5 volumes south of Delevan Road are slightly higher than those north of Delevan Road; therefore, traffic conditions on I-5 have been analyzed using existing and future volumes south of Delevan Road.

## Traffic Impacts During Project Construction

Table 8.10-7 summarizes the existing and future Level of Service on key roadways in the study area. The construction traffic resulting from the proposed project is expected to change the peak hour operating conditions on Delevan and McDermott roads from the existing LOS A to LOS B. This change would occur only during the peak construction months, which are scheduled to last for 4 to 6 months. Afterwards, the traffic LOS is expected to return to LOS A when the CGS is operating. Detailed LOS worksheets are included in Appendix M. During the same peak construction months, traffic on I-5 south of Delevan Road is expected to continue to operate at LOS B during the peak periods.

The analysis indicates that the proposed project would not cause a significant LOS deterioration at the study roadway segments. The anticipated LOS would remain good for all roadway segments with the addition of anticipated project-related construction traffic. All study roadway segments are projected to operate at LOS B or better with the addition of projected construction related traffic.

The roadways providing access to the CGS contains adequate capacity to accommodate the additional vehicle trips expected during construction. Therefore, impacts during construction are not expected to be significant. However, the existing Glenn-Colusa Canal Bridge on Dirks Road, Teresa Creek Bridge on McDermott Road, and the turning radius at the Delevan Road/McDermott Road intersection are not adequate to accommodate heavy construction truck traffic. Therefore, the Glenn-Colusa Canal Bridge and Teresa Creek Bridge need to be replaced and additional gravel will be placed on the northeast and southeast corners of the Delevan Road/McDermott Road intersection to properly accommodate project-related construction traffic. E&L Westcoast plans to complete these improvements as part of the project.

The existing Glenn-Colusa Canal Bridge will be operational until the new bridge is constructed just north of the existing bridge. During reconstruction of the Teresa Creek Bridge, a temporary 14-foot-wide bridge and detour road would be installed immediately downstream of the existing bridge, allowing traffic to pass through this area.

If the temporary bridge over Teresa Creek were not constructed, traffic would be detoured. The detour route would be as follows: vehicles would travel eastbound on Delevan Road, northbound on I-5 or on Old 99W, and then travel west on Road 68 in Glenn County, southbound on McDermott Road, and westbound on Dirks Road. Road 68 is a paved two-lane roadway with one travel lane in each direction. Old 99W is a paved two-lane state highway that runs parallel to I-5. Table 8.10-8 provides the classification, along with the current daily and peak hour traffic volumes for the local and regional roadways in the study area. Table 8.10-9 provides the power plant construction trip generation during the closure of Teresa Creek Bridge.

According to the Colusa County Department of Public Works, three-fourths of the traffic that would be detoured if Teresa Creek Bridge is closed would be farm equipment that would most likely use Old 99W rather than I-5. Peak hour traffic volumes on each roadway during the closure of Teresa Creek Bridge and construction of the power plant are summarized in Table 8.10-10. LOS analysis was completed to assess roadway operational performance based on existing and future traffic conditions during the detour.

The analysis indicates that the proposed detour route would not cause a LOS deterioration on any of the studied road segments. McDermott Road, Delevan Road, Road 68, and Old 99W would remain at LOS A with the addition of anticipated project-related construction traffic and detoured traffic. I-5 south of Road 68 is expected to continue operating at LOS B. Table 8.10-11 summarizes the existing and future LOS on key roadways in the study area. The detailed LOS worksheets are included in Appendix M.

### **Parking Facilities**

The proposed project site provides adequate onsite parking spaces to accommodate 462 passenger and truck vehicles during peak construction months. No significant parking impacts are projected.

### **Public Transportation**

Colusa County does not provide public transportation to the project site. Therefore, the proposed project would not cause any impacts to public transportation.

### **Bicycle and Pedestrian Circulation**

Construction-related traffic would have no impact on local pedestrian or bicycle access because there are no designated bicycle routes or pedestrian trails in Colusa County, and none of the study roadway segments (Delevan Road, McDermott Road and Dirks Road) have sidewalks.

### **Goods Movement**

The temporary construction-related activities would not significantly impact goods movement on the adjacent railroad or on I-5 in the project area. Both I-5 and the railroad spur west of the project site have adequate capacity to accommodate delivery of goods and equipment to the project.

### **Safety**

The roadways in the vicinity of the proposed project site have adequate sight distance, and accident counts and accidents rates on the nearby roadways are historically very low (two accidents in the last 11 years on the County roads studied, no accidents on the I-5 Delevan Road ramps, and 0.22 accidents per million vehicle miles on average along the I-5 freeway segments). In addition, the project site is located in an agricultural area, with no neighboring commercial/retail businesses or residences that might be impacted by a traffic accident. The increase in construction traffic is not expected to significantly increase the risk of traffic accidents in the area.

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

The proposed project would have no adverse impacts on air, rail, or waterborne traffic.

#### **8.10.2.3 Operation Impacts**

Plant operations will require approximately 31 permanent workers as per the data provided by E&L Westcoast and their engineer, Bechtel Power Corporation. Under a worst-case scenario, which would assume no carpooling, these workers would generate approximately 31 one-way trips during operations. The plant is scheduled to operate 7 days a week, 365 days a year, and therefore traffic trips would be consistent throughout the year. Plant operations would also generate approximately 3 delivery truck trips a day. This total number of project trips would not change the current LOS of A on Delevan or McDermott roads in the project area or the assumed LOS A on Dirks Road, or the LOS B on I-5; therefore, no significant traffic impacts are projected regardless of the distribution of the trips during the peak hour.

The proposed improvements at the Glenn-Colusa Canal Bridge, Teresa Creek Bridge, and improvements at the intersection of Delevan Road/McDermott Road will improve traffic conditions during operations by providing an adequate load capacity and turning radius for heavy haul vehicles for future use.

#### **8.10.2.4 Hazardous Materials Transport**

Construction of the proposed project would generate hazardous wastes consisting primarily of waste oil and oil filters, paint, solvents, and spent welding materials. Operation of the proposed project would result in the generation of additional wastes, including waste crankcase oil, oily rags and absorbent, spent catalyst, and HSRG cleaning wastewater.

It is estimated that approximately 5 to 7 truck trips per month would be required for transport of hazardous waste materials during normal plant operations (this number of trips is included in the calculation of truck trips in the above sections). A licensed hazardous waste transporter would move materials that require offsite removal to a hazardous waste landfill that is able to accommodate hazardous wastes of the appropriate class. Access by waste haulers to and from the CGS is via I-5 to Delevan Road, north on McDermott Road and left (west) on Dirks Road into the plant site. I-5 provides access to the following waste facilities that will potentially be used:

- Class I Hazardous waste — Clean Harbors Buttonwillow Landfill (Buttonwillow) or Chemical Waste Management Kettleman Hills Landfill (Kettleman City)
- Class II Non-hazardous waste — Hay Road Landfill (Vacaville) or Ostrom Road Sanitary Landfill (Wheatland)
- Class III Non-hazardous waste — Yolo County Landfill (Woodland) or Anderson Solid Waste (Anderson)

I-5, which is the major highway that would be used to carry hazardous wastes from the CGS to the appropriate landfills, contains adequate capacity to accommodate these vehicle trips. In case of a hazardous materials spill, the California Highway Patrol and local fire department shall be contacted immediately. Transport of aqueous ammonia is discussed further in Section 8.12.2.2.

#### **8.10.3 Cumulative Impacts**

Potential development proposals have been brought to the attention of the Colusa County Planning Department, but no formal applications have been submitted at this time. These proposals consist of the potential development of an 18-unit subdivision near Maxwell, located about 5 miles southeast of the project site. No further information is available on these potential projects, nor is there any available information on their schedules or likelihood of an Applicant submitting an application. The Colusa County Planning Department is not aware of any planned development projects in closer proximity to the project site.

Thus, based on the information that no development applications have been submitted in conjunction with the distance of possible future planned development, potential cumulative impacts to traffic and transportation would be less than significant.

#### **8.10.4 Mitigation Measures**

No significant LOS impacts are anticipated from the additional traffic generated by the construction and operation of the proposed power plant; therefore, no mitigation is required.

#### **8.10.5 Laws, Ordinances, Regulations, and Standards**

Table 8.10-12 summarizes applicable traffic and transportation laws, ordinances, regulations, and standards for the proposed project. The proposed project area lies within the territory of Caltrans,

District 3, which has jurisdiction over the portion of I-5 described in Section 8.10.1.1.1. Colusa County has jurisdiction over the local roadways described in Section 8.10.1.1.2. These ordinances do not apply to the private section of Dirks Road.

Colusa County does not currently have a General Plan that contains detailed requirements for evaluation of roadway operation and performance. *Caltrans Standard Plans* provides guidelines for traffic control and lane closures for construction work that should be followed.

To comply with the hazardous materials regulations, the project sponsor must follow the guidelines set forth in Section 8.10.2.4, Hazardous Materials Transport, which include rules from the Federal Motor Carrier Safety Administration.

Standards for the transport of hazardous materials are contained in the Code of Federal Regulations, 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. Hauling would be carried out in accordance with state and federal regulations that include the Resource Conservation and Recovery Act (42 U.S. Code 6901 et seq.) and the California Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.). 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 California Highway Patrol and Caltrans. Colusa County does not currently have any local hazardous materials hauling regulations. In addition, the federal government prescribes regulations for transporting hazardous materials. These regulations are described in the Code of Federal Regulations, Number 49, Part 171. These laws and ordinances place requirements on various aspects of hazardous waste hauling, from materials handling to vehicle signs, to ensure public safety. Transporting/handling of chemicals and wastes are discussed in the Hazardous Materials Management Section, including the transport of ammonia (for a more detailed description of hazardous waste regulations, see Table 8.13-5).

### 8.10.6 Involved Agencies and Agency Contacts

The proposed project lies in proximity to roadways operated by Colusa County. The relevant agencies and appropriate contacts are shown below.

Issue	Agency/Address	Contact/Title	Telephone
Local Roadway Improvements	Colusa County, Department of Public Works 1215 Market Street Colusa, CA 95932	Jon Wrynski, Assistant Director	(530) 458-0466
Local Circulation Plans and Policies	Colusa County, Department of Planning and Building 200-12th Street Colusa, CA 95932	Steve Hackney, Director	(530) 458-0480
Hazardous Materials Transport	Federal Motor Carrier Safety Administration 980 – 9th Street, Suite 450 Sacramento, CA 95814	Glenn Beck, Operations Supervisor	(916) 498-5050
I-5 Traffic	California Department of Transportation 703 B Street Marysville, CA 95901	Randy Evans, Chief, Office of Special Funded Projects	(530) 634-7616

### 8.10.7 Permits Required and Permit Schedule

Traffic studies for projects in Colusa County require consultation with the Department of Public Works to comply with their traffic analysis requirements. The short duration of the construction, in conjunction with the permanent addition of 34 one-way trips (31 power plant personnel trips and 3 delivery truck trips), impose such an insignificant addition to existing traffic levels that these requirements are not entirely applicable to this project. However, these issues require consultation with Department of Public Works staff.

The relevant permits required for work performed within County Roads in Colusa County are identified below.

Responsible Agency	Permit/Approval	Schedule
Colusa County, Department of Public Works	Land Grading Permit	7 days
Colusa County, Department of Public Works	Encroachment Permit	7 days

### 8.10.8 References

California Resources Agency. 1999. CEQA: The California Environmental Quality Act – *Statutes and Guidelines*. Amended March 29, 1999.

Caltrans (California Department of Transportation). 2003. *Traffic and Vehicle Systems Data Unit*. District 3.

Caltrans (California Department of Transportation). 1999 and 2004. *Traffic Volumes on California State Highways*. District 3.

CFR (*Code of Federal Regulations*). 1998. 49, *Transportation, Parts 100 to 185*. Office of the Federal Register, National Archives and Records Administration. Revised, October 1, 1998.

Colusa County. 2000 and 2006. Department of Public Works, Traffic Counts for the years 2000 and 2005.

Glenn County. 2001. Public Works Department. Traffic counts for 2001.

Transportation Research Board. 2004. *Highway Capacity Manual 2000*. Updated 2004.

<b>Table 8.10-1 Existing Traffic Volumes in Proximity to the Colusa Generating Station</b>			
<b>Name</b>	<b>Classification</b>	<b>Daily Traffic Volume</b>	<b>Peak Hour Traffic Volume</b>
<b>Local Roadways<sup>a</sup></b>			
Delevan Road	County Road	369	37 <sup>b</sup>
McDermott Road	County Road	178	18 <sup>b</sup>
Dirks Road	County Road	NA	NA
<b>Regional Roadways<sup>c</sup></b>			
Interstate 5 (North of Delevan Road)	Freeway	26,250	2,750
Interstate 5 (South of Delevan Road)	Freeway	26,250	2,800
Notes: <sup>a</sup> Source: Colusa Public Works Department, 2000. Daily Bidirectional and Peak Hour traffic volumes are projected based on the growth factor applied. <sup>b</sup> Assumes that 10 percent of the daily volume would occur in the peak hour. <sup>c</sup> Source: Caltrans, 2003. Daily Bidirectional and Peak Hour traffic volumes are projected based on the growth factor applied. NA – not available			

<b>Table 8.10-2 Level of Service Designations for Two-Lane Highways in Class II (Local Roadways)</b>	
<b>Level of Service</b>	<b>Percent Time Delay</b>
A	≤ 40.0
B	> 40.0 – 55.0
C	> 55.0 – 70.0
D	> 70.0 – 85.0
E	> 85.0
Source: Transportation Research Board, 2004.	

<b>Table 8.10-3 Level of Service Designations (Freeways)</b>	
<b>Level of Service</b>	<b>Maximum Density (Pc/Mi/Ln)</b>
A	≤ 7.0
B	> 7.0 – 11.0
C	> 11.0 – 16.0
D	> 16.0 – 22.0
E	> 22.0 – 28.0
F	> 28.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.  
Note:  
Pc/Mi/Ln = Passenger Cars per Mile per Lane  
Density is the number of vehicles occupying a given length (one mile) of one lane of roadway at a given instant.

<b>Table 8.10-4 Crash Information in the Study Area</b>	
<b>Location</b>	<b>Number of Crashes (1994 – 2005)<sup>a</sup></b>
<b>Local Roads</b>	
McDermott Road	1 Property Damage (1998)
McDermott Road and Dirks Road	1 Injury (1999)
<b>Freeways</b>	<b>Crashes per Million Vehicle-Miles<sup>b</sup> (1998-2000)</b>
I-5 (North Maxwell-Delevan Road)	0.16
I-5 (Delevan Road-Colusa County Limit)	0.28
I-5 Northbound Off-ramp	0.00
I-5 Northbound On-ramp	0.00
I-5 Southbound Off-ramp	0.00
I-5 Southbound On-ramp	0.00

Notes:  
<sup>a</sup> Source: Colusa County, 2005  
<sup>b</sup> Source: Caltrans, 2003, data about 2001

<b>Table 8.10-5 Average and Peak Daily Construction Traffic</b>		
<b>Vehicle Type</b>	<b>Average Daily One-Way Trips</b>	<b>Peak Daily One-Way Trips<sup>b</sup></b>
Construction Worker Passenger Vehicles <sup>a</sup>	199	446
Delivery Trucks (including heavy trucks)	15	16
<b>Total</b>	<b>214</b>	<b>462</b>
Notes: <sup>a</sup> Assumes that part of the workforce will carpool (1.5 persons per vehicle). <sup>b</sup> "Peak" refers to the scheduled peak construction month. The peak workforce during this month is expected to be 669 persons.		

<b>Table 8.10-6 Colusa Generating Station Vehicle Trip Generation</b>		
<b>Vehicle Type</b>	<b>One-Way Peak<sup>a</sup> Daily Trips</b>	<b>Peak Hour Trips</b>
Construction Personnel <sup>b</sup>	446	312 <sup>c</sup>
Construction Delivery Trucks <sup>d</sup>	16	3 <sup>e</sup>
<b>Construction Total</b>	<b>462</b>	<b>315</b>
Power Plant Personnel	31	18 <sup>c</sup>
Operations Delivery Trucks <sup>d</sup>	3	1 <sup>e</sup>
<b>Operations Total</b>	<b>34</b>	<b>19</b>
Notes: <sup>a</sup> "Peak" refers to the scheduled peak construction month. Peak workforce during this month is expected to be 669 persons. <sup>b</sup> Assumes that part of the work force will carpool (1.5 persons per vehicle) <sup>c</sup> Assumes that 70 percent of workers will arrive and depart in the morning and evening peak hours, respectively. <sup>d</sup> Includes heavy vehicles <sup>e</sup> Assumes that approximately 20 percent of the delivery trucks will arrive in the peak period.		

<b>Table 8.10-7 Roadway Level of Service Summary</b>			
<b>Roadway</b>	<b>Existing Conditions</b>	<b>Existing Conditions Plus Project Construction Traffic</b>	<b>Existing Conditions Plus Operation Traffic</b>
	<b>LOS</b>	<b>LOS</b>	<b>LOS</b>
Delevan Road	A	B	A
McDermott Road	A	B	A
Dirks Road <sup>a</sup>	A	B	A
I-5 South of Delevan Road	B	B	B

Notes:  
<sup>a</sup> Assumed the LOS of Dirks Road is similar to that of Delevan and McDermott roads because no traffic data was available, but traffic is believed to be less than that of Delevan or McDermott roads  
 LOS = Level of Service

<b>Table 8.10-8 Characteristics of Roadways Used for Detour</b>			
<b>Name</b>	<b>Classifications</b>	<b>Daily Bidirectional Traffic Volume</b>	<b>Peak Hour Traffic Volume</b>
<b>Local Roadways</b>			
Delevan Road	Colusa County Road	369 <sup>a</sup>	37 <sup>b</sup>
Road 68	Glenn County Road	82 <sup>c</sup>	8 <sup>c</sup>
McDermott Road, north of Teresa Creek Bridge	Glenn & Colusa County Road	47 <sup>c</sup>	5 <sup>c</sup>
Old 99W	Glenn County Road	960 <sup>c</sup>	96 <sup>c</sup>
<b>Regional Roadways</b>			
Interstate 5 (North of Road 68) <sup>d</sup>	Freeway	26,250	2,750 <sup>e</sup>
Interstate 5 (South of Road 68) <sup>d</sup>	Freeway	26,250	2,800 <sup>e</sup>

Notes:  
<sup>a</sup> Source: Colusa Public Works Department, 2000 and 2006. Daily Bidirectional and Peak Hour traffic volumes are projected based on the growth factor applied.  
<sup>b</sup> Assumes that 10 percent of the daily volume would occur in the peak hour.  
<sup>c</sup> Source: Glenn County Public Works Department, 2001.  
<sup>d</sup> Source: Caltrans, 2003. Daily Bidirectional and Peak Hour traffic volumes are projected based on the growth factor applied.  
<sup>e</sup> Two-way peak hour traffic volume

Vehicle Type	One-Way Peak <sup>a</sup> Trips	Peak Hour Trips
Construction Personnel <sup>b</sup>	446	312 <sup>d</sup>
Construction Delivery Trucks <sup>c</sup>	16	3 <sup>e</sup>
<b>Construction Total</b>	<b>462</b>	<b>315</b>

Notes:

<sup>a</sup> "Peak" refers to the scheduled peak construction month (month 15). Peak workforce during this month is expected to be 96 persons.

<sup>b</sup> Assumes that part of the work force will carpool (1.5 persons per vehicle)

<sup>c</sup> Includes heavy vehicles

<sup>d</sup> Assumes that 70 percent of workers will arrive and depart in the morning and evening peak hours, respectively.

<sup>e</sup> Assumes that approximately 20 percent of the delivery trucks will arrive in the peak period.

Name	Existing Traffic Volumes	Additional Traffic Volumes Due to Detour	Colusa Generating Station Construction Traffic Volumes	Total Traffic Volumes
<b>Local Roadways</b>				
Delevan Road	37	18 <sup>a</sup>	0	55
Road 68	8	18 <sup>a</sup>	305	331
McDermott Road North of Dirks Road	5	18 <sup>a</sup>	305	328
Old 99W	96	13 <sup>b</sup>	0	109
<b>Regional Roadway</b>				
Interstate 5 (South of Road 68)	2,700	4 <sup>b</sup>	305	3,009

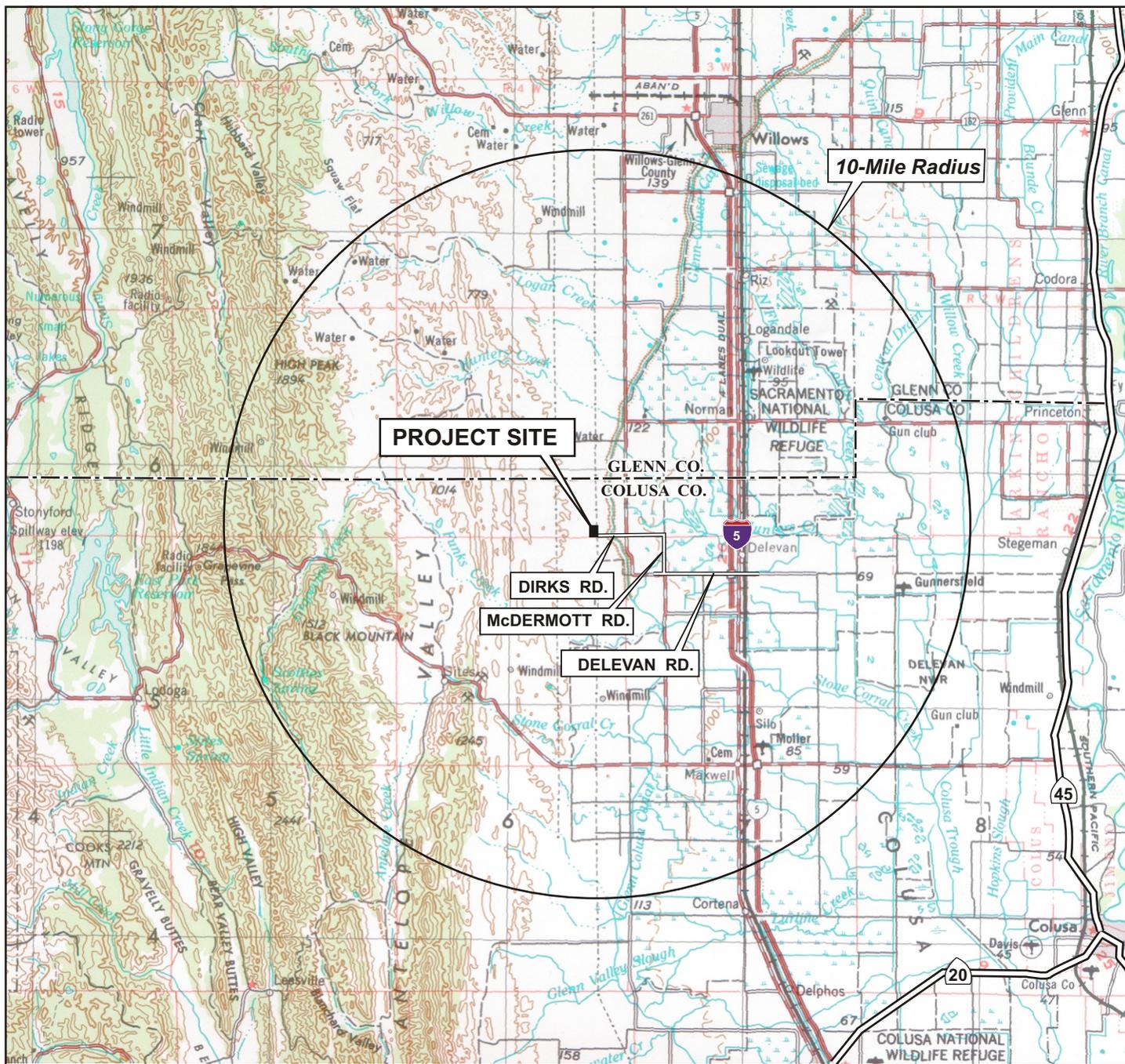
Notes:

<sup>a</sup> The existing 168 daily vehicles on McDermott Road south of the bridge would be detoured to Delevan Road. It was assumed that 10 percent of the daily volume would occur in the peak hour.

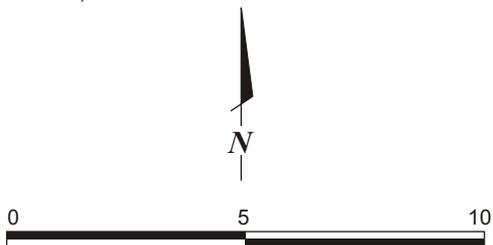
<sup>b</sup> Colusa County Department of Public Works estimated that ¾ of the existing 168 daily vehicles on McDermott Road would use Old 99W and ¼ would use I-5. It was assumed that 10 percent of the daily volume would occur in the peak hour.

<b>Table 8.10-11 Roadway Level of Service Summary for Detour Route</b>		
<b>Roadway</b>	<b>Existing Conditions</b>	<b>Existing Conditions Plus Project Construction Traffic and Detoured Traffic</b>
	<b>LOS</b>	<b>LOS</b>
Delevan Road	A	A
Road 68	A	A
McDermott Road North of Dirks Road	A	A
Old 99W	A	A
I-5 South of Road 68	B	B
Note: LOS = Level of Service		

<b>Table 8.10-12 Applicable Traffic and Transportation Laws, Ordinances, Regulations, and Standards</b>			
<b>Laws, Ordinances, Regulations, and Standards</b>	<b>Applicability</b>	<b>Administering Agency</b>	<b>AFC Section</b>
<b>Federal</b>			
Hazardous Materials Regulations	Transporting Hazardous Materials	Federal Motor Carrier Safety Administration	Section 8.10.2.4
<b>State</b>			
Caltrans Standard Plans	Traffic Control/ Lane Closures	Caltrans	Section 8.10.5
<b>Local</b>			
Regulations for Working in Colusa County Streets	Traffic Control	Colusa County Department of Public Works	Section 8.10.5
Regulations for Excavating and Restoring Streets in Colusa County	Pavement Excavation/ Restoration	Colusa County Department of Public Works	Section 8.10.5



Source:  
 USGS Topographic-Bathymetric Series  
 Ukiah, California, 1979



Scale in Miles  
 1:250,000

**REGIONAL TRANSPORTATION FACILITIES**

Colusa Generating Station  
 E&L Westcoast, LLC  
 November 2006  
 Colusa County, California

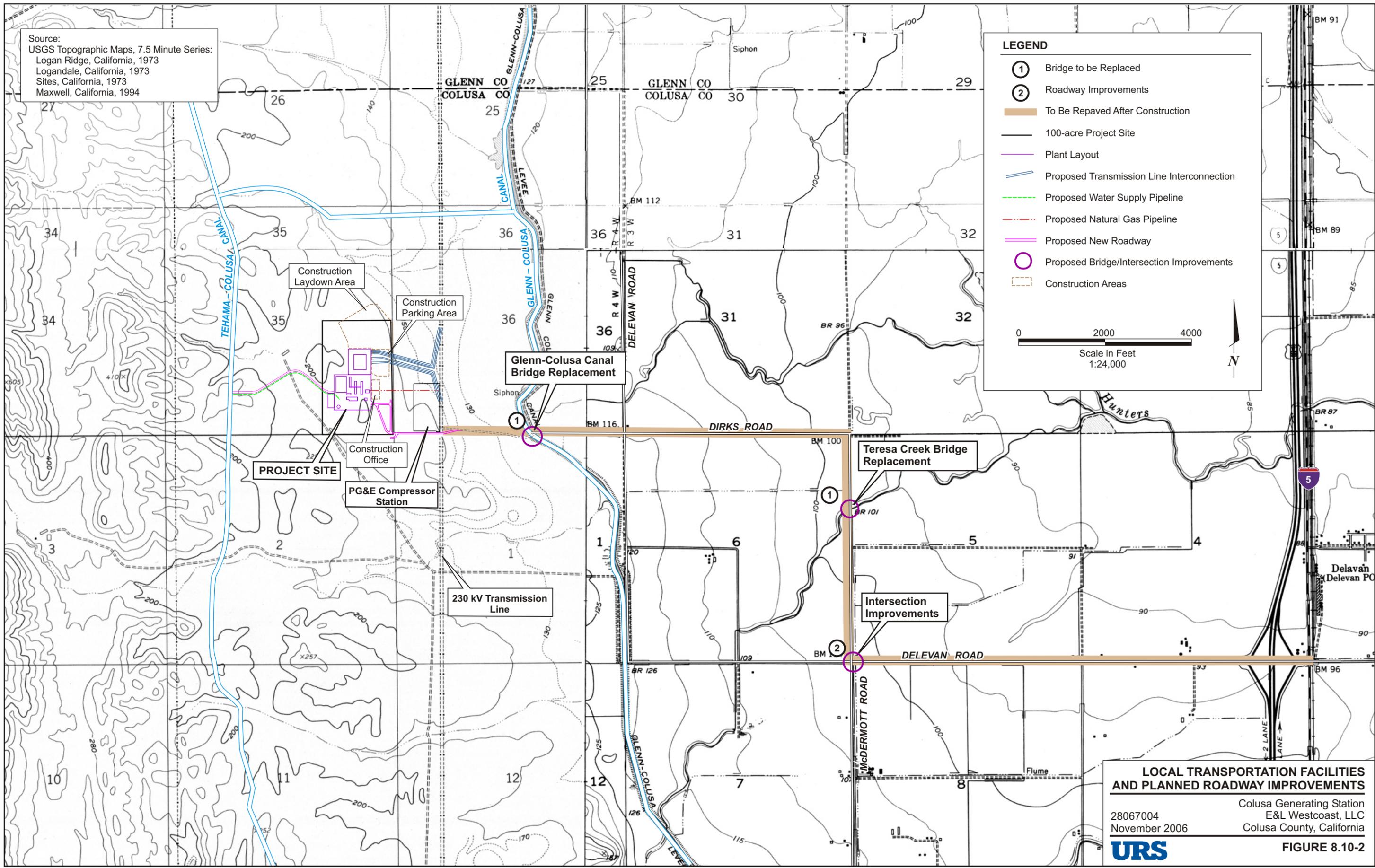


**FIGURE 8.10-1**

Source:  
 USGS Topographic Maps, 7.5 Minute Series:  
 Logan Ridge, California, 1973  
 Logandale, California, 1973  
 Sites, California, 1973  
 Maxwell, California, 1994

**LEGEND**

- ① Bridge to be Replaced
- ② Roadway Improvements
- To Be Repaved After Construction
- 100-acre Project Site
- Plant Layout
- Proposed Transmission Line Interconnection
- Proposed Water Supply Pipeline
- Proposed Natural Gas Pipeline
- Proposed New Roadway
- Proposed Bridge/Intersection Improvements
- Construction Areas



**LOCAL TRANSPORTATION FACILITIES AND PLANNED ROADWAY IMPROVEMENTS**

28067004  
 November 2006  
 Colusa Generating Station  
 E&L Westcoast, LLC  
 Colusa County, California



**FIGURE 8.10-2**