7.10 TRAFFIC AND TRANSPORTATION

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

As described in Chapter 2, the project will consist of a 37-acre power plant site, a 14-acre temporary construction laydown area, a new natural gas pipeline interconnection, a 0.6-mile potable water pipeline and access road corridor, and 0.6 mile of transmission lines. The power plant site and transmission line route are located within unincorporated Riverside County, approximately 8 miles northwest of downtown Palm Springs and 2.5 miles west of Desert Hot Springs.

Information sources include new roadway segment and intersection traffic counts collected within the transportation and traffic study area; data collected from the California Department of Transportation (Caltrans) traffic count database; field observations; and communications with local, regional, and federal agencies. URS staff performed a traffic study area reconnaissance and review in February 2007 to document study intersection and roadway characteristics, identify physical constraints, and assess general traffic conditions. The traffic study area is generally bounded by Interstate 10 (I-10) to the south, Indian Avenue to the east, Powerline Road to the north, and SR 62 to the west. The existing traffic counts are provided in Appendix O-1.

7.10.1 Affected Environment

7.10.1.1 Existing Transportation Facilities

Regional Roadway Facilities

As point of reference and in context to the regional roadway system, the proposed project is located northeast of the intersection of State Route (SR) 62 and I-10 in unincorporated Riverside County (Figures 7.10-1a and b).

Interstate 10 Freeway

I-10 is a six-lane, east-west interstate freeway located 1 mile south of the proposed project and under the operational jurisdiction of Caltrans. I-10 originates in Santa Monica and runs through Los Angeles, San Bernardino County, Riverside County, and beyond through transcontinental U.S. to the east. In the vicinity of the proposed project, access to I-10 is provided via freeway ramp connections at Indian Avenue and SR 62. The posted speed limit is 70 miles per hour (mph), and trucks comprise 24 percent of traffic on I-10.

State Route 62

SR 62 is a north-south state highway that provides regional access and is located west of the proposed project. SR 62 is a four-lane highway with a posted speed limit of 55 mph. In the vicinity of the proposed project, SR 62 is accessed via Dillon Road. SR 62 is classified as a California State Scenic Highway leading to and from Joshua Tree National Monument.

Local Roadway Facilities

The primary north-south roadways that provide access to and from the proposed project are SR 62 to the west and Indian Avenue to the east. Just south of the proposed project, Dillon Avenue provides local east-west access. The local roadway characteristics are briefly described below. Figure 7.10-2 shows the roadway circulation network and study intersection lane configurations in the proposed project vicinity.

Dillon Road

Dillon Road is a two-lane collector road with a posted speed limit of 55 mph. It runs east-west from SR 62 and connects with Indian Avenue to the east of the proposed project. Dillon Road runs along the south side of the site.

Indian Avenue

Indian Avenue is a north-south, two-lane paved collector road approximately 1.5 miles to the east of proposed project. The posted speed limit is 55 mph. Indian Avenue provides regional freeway access via a freeway interchange at I-10.

16th Avenue

16th Avenue is a two-lane, east-west paved road that leads into the gated entrance of Southern California Edison (SCE) Devers substation office.

Diablo Road

Diablo Road is a two-lane, north-south roadway to the west of the proposed project. Diablo Road intersects with Dillon Road and is currently controlled by stop signs for both northbound and southbound approaches. The segment of Diablo Road north of Dillon Road is paved, while the southern segment is currently unimproved.

Worsley Road

Worsley Road is a paved north-south, two-lane roadway immediately east of SR 62. It is currently controlled with two-way stop signs crossing Dillon Road.

Level of Service Concept

Level of service (LOS) is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F. These categories can be viewed much like school grades, with A representing the best traffic flow conditions and F representing poor conditions. LOS A indicates free-flowing traffic, and LOS F indicates substantial congestion with stop-and-go traffic and long delays at intersections.

Table 7.10-1 describes the LOS performance designations for both signalized and unsignalized intersections. Table 7.10-2 describes the link/volume capacity LOS for Riverside County roadways.

Existing Freeway/Roadway Levels of Service

An existing LOS analysis was conducted to assess the existing operational performance of study roadway segments within the traffic study area. Table 7.10-3 provides the number and type of lanes, average daily traffic (ADT) volume, and corresponding LOS of the project study roadway segments. Figure 7.10-3 shows the existing freeway and local roadway traffic volumes.

As shown in Table 7.10-3, all traffic study area freeway and state highway segments are forecast to operate at acceptable LOS B, while the local roadway study segment of Indian Avenue to the north of I-10 is forecast at LOS F.

Existing Intersection Levels of Service

Table 7.10-4 presents intersection LOS and average vehicle delay under existing conditions. The LOS calculation worksheets are provided in Appendix O-2. Figure 7.10-4 shows the existing a.m. and p.m. peak-hour turning movement volumes at each study area intersection.

As shown in Table 7.10-4, all traffic study intersections operate at LOS D or better under existing conditions with the exception of the intersection of SR 62/Dillon Road, which is forecast at LOS F during both a.m. and p.m. peak hours.

Other Transportation Elements

Parking

Where there is adequate shoulder width, on-street parking on local streets is generally allowed within the traffic study area. With the exception to roadway emergencies, parking or stopping is restricted along freeway and state highway segments.

Public Transportation

The main public transportation provider within the traffic study area is the Sunline Transit Agency, which offers the Sunbus and Sundial services.

Sunbus Line 14 provides north-south bus service 7 days a week between the cities of Palm Springs and Desert Hot Springs via Gene Autry Trail and Palm Drive. A secondary bus service, Line 14 School Tripper, operates during school days only from Indian Avenue and Thumb Drive in the North Palm Springs area, then works its way northbound towards its destination at Desert Hot Springs High School.

SunDial is a valleywide, curb-to-curb service designed to meet the requirements of the Americans with Disabilities Act (ADA). The purpose is to provide next-day public transportation service for persons who are unable to use regular SunBus service.

Bicycle and Pedestrian Circulation

There are no designated bicycle routes, and due to the distance from major activity centers, there is minimal pedestrian activity observed within the traffic study area

Airports

Palm Springs International Airport is the main air transportation facility within the traffic study area. The airport is owned and managed by the City of Palm Springs, with advisory direction provided by the Airport Commission. The airport is located approximately 9 miles to the southeast of the proposed project.

In addition to Palm Springs International, SCE's Devers substation heliport is located to the north of the project site.

Safety

The local roadways serving the proposed project are generally controlled by stop signs and traffic signals. Near the vicinity of the site Dillon Road operates unimpeded and free-flowing, while the local north-south cross-streets are controlled by stop signs. Due to the low-volume traffic and sufficient line of sight along the cross streets, no major safety hazards were observed.

To the west to the proposed project, Dillon Road dips in elevation, but motorists are warned with advance warning signs. At the intersection of SR 62 and Dillon Road, SR 62 operates as free-flowing and uncontrolled, while both approaches of Dillon Road are controlled by stop signs. The wide cross-section and median of SR 62 and the 55 mph and above speeds of northbound and southbound SR 62 traffic is a potential safety concern for crossing and turning vehicles from both approaches of Dillon Road. Currently, westbound through and left-turning vehicles from Dillon Road to southbound SR 62 must watch for gaps in the northbound SR 62 traffic and then watch for gaps in the southbound SR 62 traffic. When there is adequate gap in traffic, the crossing or turn could be executed in one movement; however, some vehicles have to linger across the median to safely continue with the left turns or to proceed straight in the westbound direction.

Goods Movement

According to the *Riverside County General Plan* Circulation Element, "Goods movement in the region is anticipated to grow more than 30 percent, from 431 million tons to more than 564 million tons in the next 20 years, as a result of both population growth and the growth in international trade."

Freight Rail Service: The Union Pacific (UP) and the Burlington Northern Santa Fe (BNSF) Railroads provide freight service in Riverside County, connecting the County with major markets within California and other destinations north and east. The UP line traverses the traffic study area just south of I-10.

Passenger Rail Service: The only Amtrak station located in Riverside County is Palm Springs. This station provides connecting Amtrak service to points west, including Los Angeles, and to points east, including Tucson, Arizona, and El Paso, Texas. Amtrak does provide bus connections to and from other Riverside County areas to the San Bernardino Amtrak station on a daily basis.

Truck Access: Truck traffic associated with construction and operation of the proposed project would access the proposed project from I-10 by heading north SR 62, then east on Dillon Road and north via an access road to the site.

7.10.1.2 Planned Transportation Improvements

To the south of the proposed project, the proposed reconstruction of the I-10/Indian Avenue interchange is currently under environmental clearance process. That project is funded by the Riverside County Measure A Initiative. The key I-10/Indian Avenue interchange project milestones are summarized below.

Project Schedule	Milestone Dates
Environmental Completion (PA&ED)	May 2007
Design/Anticipated Completion Date (PS&E)	March 2008
Right-of-Way Certification	May 2008
Start of Construction	October 2008
Construction/Anticipated Completion Date	October 2010

7.10.2 Environmental Consequences

This section discusses potential transportation-related impacts from the construction and operation of the proposed project. A Year 2009 traffic analysis was conducted for project construction traffic impact analysis, and Year 2010 traffic analysis was conducted for project operations traffic impact analysis.

The following improvements are planned and proposed by CPV Sentinel in conjunction with the construction and operation of the proposed project:

- The 0.6-mile plant entrance from Dillon Road would be constructed to applicable County of Riverside Standards.
- The proposed project would use a temporary construction laydown area to the south of the proposed project (see Figure 2.3-1).
- New gas and potable water lines would be provided.
- A new 220-kilovolt (kV), two-circuit line from the proposed project switchyard to SCE's Devers substation would be constructed.

7.10.2.1 Thresholds of Significance

Significance criteria were developed based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, which identifies potentially significant project impacts. A significant traffic-related project impact would occur if the proposed project significantly changed the operating conditions on the surrounding roadway network. A freeway/roadway segment and intersection LOS analysis was conducted to assess operational performance of the traffic study area freeways/roadways and intersections during construction and operation of the project. For LOS, the applicable significance threshold was based on the Riverside County Transportation Commission (RCTC) 2006 Congestion Management Program (CMP) and County of Riverside requirements.

CMP Level of Service Standards

The following discussion of LOS standards was excerpted from RCTC 2006 CMP:

CMP System of Streets and Highways

- Establishment of Minimum LOS

With the intent of the legislation in mind, the RCTC Technical Advisory Committee (TAC) CMP Subcommittee approved a "two-tiered" approach to establish the minimum LOS standard. Tier 1 involves the "locally established minimum traffic LOS – or – ceiling," while Tier 2 involves the CMP minimum LOS standard – or – floor."

Most local agencies in Riverside County and Caltrans have adopted LOS standards of C or D (representing the "ceiling" in Tier 2) in an effort to maintain a desired LOS for the local circulation system. To address the CMP legislative requirements and establish minimum LOS along the regional system of roadways and highways within the County (representing the "floor" in Tier 2), RCTC approved a minimum traffic LOS standard of E.

In accordance to CMP statutes, certain facilities (roadway segments and intersections) had been identified (see Table 4-1 and Exhibit 4-1 2006 Riverside County CMP Document) to be exempt from CMP requirements as having been documented at LOS F since 1991.

The responsibility to implement the above requirements will be RCTC and local jurisdictions.

Within the traffic study area, both SR 62 and I-10 have been identified as key elements of the CMP system.

A significant traffic impact occurs:

- When pre-project (Base) LOS A, B, C, and D becomes LOS E or F with project
- When pre-project (Base) LOS E becomes LOS F with project

State Highway Level of Service Standard

According to the Caltrans Guide for the Preparation of Traffic Impact Studies, "Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway Facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the target LOS. If an existing state highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained.

Based on the above requirements, the following conditions apply in the determination of significant State Highway impacts:

- Desired LOS is LOS D
- When pre-project (Base) LOS A, B, C, and D becomes LOS E or F with project
- When pre-project (Base) LOS E becomes LOS F with project

Local Level of Service Standard

According to the Riverside County General Plan Circulation Element, to achieve the true intent of community center design, LOS designations are typically lower (LOS E) to minimize the impacts of accommodating uncongested roadways and to maximize pedestrian use. Higher level of service designations (LOS A, B, C) require wider road widths, and as a result, would create circulation systems that are more accommodating to automobiles than pedestrians.

The County strives to maintain the following countywide target LOS:

- LOS C along all County-maintained roads and conventional state highways. As an exception, LOS D may be allowed in Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Expressways, 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.

Based on the above requirements, the following conditions apply in the determination of significant local impacts:

- Desired LOS is LOS C, D, or E (with specific conditions)
- When pre-project (Base) LOS A, B, C, and D becomes LOS E or F with project
- When pre-project (Base) LOS E becomes LOS F with project

Significance issues for the other transportation elements 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 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 crashes?
- 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?

7.10.2.2 Construction Impacts

Construction Activities and Traffic Forecast

Mobilization of the proposed project is expected to ensue immediately upon receipt of certification. Onsite construction would commence in December 2008 and be completed by May 2010, a total of 18 months. The first five turbine units are planned for operation by March 2010. The construction schedule has been estimated on a single-shift, 10-hour day and 50-hour week. However, longer work days or work weeks 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 could continue 24 hours per day, 7 days per week. Construction operations are expected to take place between 6:00 a.m. and 6:00 p.m.

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 371 workers during the sixth month of construction. A proposed worker carpooling program (assumed at 11 percent single trip reduction) would result in a reduction of trips from 371 to 330 one-way vehicle trips. The number of construction workers (craft) would be expected to be less than 300 for approximately 13 months out of the 18-month construction period. Construction access to the proposed project will be via Dillon Road, SR 62, and Indian Avenue. Truck deliveries will normally be on weekdays between 7:00 a.m. and 5:00 p.m.

A new natural gas pipeline will be provided to supply the proposed project. Construction of the natural gas pipeline would require trenching, and when crossing roadways, could potentially require alternating partial closure of the traveled roadway while trenching work is conducted on the other half of the roadway.

All construction activities shall comply with County requirements, including securing the necessary permits. Offsite construction activities will be coordinated with adjoining jurisdictions and provisions for detour and alternate routes might be required to alleviate traffic.

During construction, all traffic signs, equipment, and control measures shall conform to the provisions specified in the Caltrans Traffic Manual (Red Book) and the Manual of Uniform Traffic Control Device. Specific requirements will be identified during permit application process.

Signalized intersection analysis follows the procedures outlined in the *2000 Highway Capacity Manual* (HCM), *Transportation Research Board Special Report 209.* This method defines LOS in terms of delay, or more specifically, average stopped delay per vehicle. Delay is a measure of driver and passenger discomfort, frustration, fuel consumption, and lost travel time. This technique uses 1,900 vehicles per hour per lane (vphpl) as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage of trucks), and shared lane movements (i.e., through and right-turn movements originating from the same lane). The LOS criteria used for this technique are described in Table 7.10-1. The computerized intersection analysis was performed with the Dowling Associates 2000 Traffix 7.6 R1 software package.

Unsignalized intersections, including two-way and all-way stop controlled intersections, were analyzed using the 2000 HCM (Section 10) unsignalized intersection analysis methodology. The Traffix 7.6 R1 software supports this methodology and was used to produce LOS results. The LOS For a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement.

Trip Generation

Construction Workers

The traffic analysis took into consideration that the 330 peak worker trips (with worker carpooling discussed above) generated by construction personnel for the proposed project would not arrive at the same time during the morning peak period (7:00 a.m. – 9:00 a.m.) nor depart at the same time during the evening peak period (4:00 p.m. – 6:00 p.m.). Approximately 95 percent of the workers are expected to arrive prior to the morning peak period and leave the site during the evening peak period after a 10-hour work schedule. The traffic analysis took into consideration that no more than half of workers would leave the site during the peak p.m. construction hour in anticipation of extended work hours and to stagger departure times to smooth out worker traffic exiting from the proposed project and the surrounding roadway system.

Construction Truck Deliveries

Because truck deliveries will likely arrive and depart throughout the day, half of the daily truck trips were conservatively assumed to occur during the a.m. and p.m. peak hours.

Construction Equipment Deliveries

Based on the construction equipment usage and schedule, the majority of the construction equipment is assumed to be already on site during the peak construction month of May 2009.

The above assumptions allow for a worst-case assessment of the potential project-related traffic impacts. The estimated project construction trips projected to be generated by the proposed project during the a.m. and p.m. peak hour traffic analysis scenarios are presented in Table 7.10-5.

The project trip generation data in Table 7.10-5 show the resultant trips that would be generated by construction personnel and delivery trucks. The estimation of the project trip generation was based on the following key assumptions:

- Project construction hours = 6 a.m. to 6 p.m.
- Passenger car equivalent (PCE) per delivery truck = 3 PCE
- Total peak workforce = 371 workers (with potential carpooling = 330 workers)

Trip Distribution and Assignment

During project construction, the majority of the construction workforce is anticipated to be sourced locally and from the surrounding communities near the proposed project. Some non local specialty trades supporting proprietary plant equipment/components and construction processes are also expected, but only on a short-term basis. The distribution pattern assumed for the peak construction workforce is as follows:

- 70 percent from the west via I-10
- 10 percent from the east via I-10
- 5 percent from the north via SR 62
- 5 percent from the north via Indian Avenue
- 10 percent from the south via Indian Avenue

To access the proposed construction worker parking and laydown area to the south of the project site, the recommended route for incoming workers will be via SR 62, then east on Dillon Road, north on Melissa Lane, towards the parking and construction laydown area. Vehicles originating from the east, northeast and southeast will access the site via Indian Avenue, Dillon Road and Melissa Lane.

Freeway and Roadway Level of Service During Project Construction

Table 7.10-6 presents the ADT freeway/roadway segment LOS under Year 2009 No Project conditions. Figure 7.10-5 shows Year 2009 No Project traffic study area and project vicinity freeway/roadway segment traffic volumes.

Similar to existing conditions and as shown in Table 7.10-6, all study freeway and state highway segments are forecast to operate at acceptable LOS B, while the local roadway study segment of Indian Avenue to the north of I-10 is forecast to operate at LOS F.

Table 7.10-7 presents the peak-hour directional freeway/roadway segment LOS under Year 2009 Project Construction conditions. Figure 7.10-6 shows Year 2009 Project Construction roadway segment traffic volumes.

The four study highway segments are forecast to continue operating at LOS B or F on the same segments as 2009 No Project conditions during the a.m. and p.m. peak hours. None of the study highway segments' LOS would deteriorate; therefore, significant impacts are not expected. The incremental change in directional traffic volume associated with trips added by project construction at the segments operating at LOS B or F is provided below in context to 2009 No Project conditions.

- Interstate 10 (West of SR 62) – LOS B (added traffic is less than 1 percent of daily traffic)
- Interstate 10 (East of SR 62) – LOS B (added traffic is less than 1 percent of daily traffic)
- Interstate 10 (East of Indian Avenue) – LOS B (added traffic is less than 1 percent of daily traffic)

- SR 62 (North of Dillon Road) – LOS B (added traffic is approximately 1 percent of daily traffic)
- Indian Avenue (North of I-10) – LOS F (added traffic is less than 3 percent of daily traffic)

As shown in Table 7.10-7, none of the project study roadway segments would be significantly affected by project construction added trips. All freeway and highway roadway segments are forecast to operate at LOS B, while Indian Avenue is forecast at LOS F.

Intersection Level of Service During Project Construction (2009)

Table 7.10-8 presents peak hour intersection LOS and average vehicle delay results under Year 2009 No Project conditions. The LOS Calculation worksheets are provided in Appendix O-3. Figure 7.10-7 shows Year 2009 No Project a.m. and p.m. peak-hour turning movement volumes at each study area intersection.

As shown in Table 7.10-8, all study intersections would operate at LOS D or better under Year 2009 No Project conditions with the exception of the following locations.

- SR 62/Dillon Road – LOS F (a.m., p.m.)
- Indian Avenue/Dillon Road – LOS E (p.m.)

Table 7.10-9 presents peak hour intersection LOS and average vehicle delay results under Year 2009 project construction conditions. The LOS Calculation worksheets are provided in Appendix O-4. Figure 7.10-8 shows Year 2009 Project Construction conditions a.m. and p.m. peak-hour turning movement volumes at each study area intersection.

As shown in Table 7.10-9, all study intersections would operate at LOS C or better under Year 2009 Project Construction conditions with the exception of the following locations.

- SR 62/Dillon Road – 2009 No Project LOS F (a.m., p.m.) condition increases by 14 seconds (a.m.) and 3 seconds (p.m.) during 2009 Peak Project Construction.
- Indian Avenue/Dillon Road – 2009 No Project LOS E (p.m.) condition worsens to LOS F (p.m.) during 2009 Peak Project Construction.
- Indian Avenue/20th Street – 2009 No Project LOS D (p.m.) condition worsens to LOS E (p.m.) during 2009 Peak Project Construction.

These intersections are anticipated to experience short-term significant impacts during the peak construction period. However, the LOS is expected to return to pre-project levels upon completion of construction.

Parking Facilities

An offsite parking area located immediately south of the project site would be provided for staff and construction workers. The proposed project would provide a construction laydown and construction contractor parking on the property.

Public Transportation

The following public transportation providers would traverse the study area or indirectly serve the proposed project site:

- Sunline Transit Agency – Line 14 provides seven days a week north-south service to and from the City of Desert Hot Springs to Palms Springs via Palm Drive. During school days, Line 14 "School Tripper" provides service between the communities north of I-10 and Desert Springs High School. This line originates at Indian Avenue and Thumb Street and serves segments of Dillon Avenue east of Indian Avenue.

- Amtrak – The Palm Springs Amtrak Station is located near Indian Avenue. The Sunset Limited train serves Orlando-New Orleans-Houston-San Antonio-Tucson-Los Angeles. The Texas Eagle train serves Chicago-St. Louis-Dallas-San Antonio-Tucson-Los Angeles.

Based on the limited conflicts with transit and rail crossings, the proposed project is not anticipated to cause significant impacts to public transportation.

Bicycle and Pedestrian Circulation

There are no dedicated bicycle facilities and no observed pedestrian traffic within the vicinity of the project site and study area.

Goods Movement

The short-term construction-related activities including the peak four months of project construction would not significantly affect goods movement on the local circulation system serving the study area. The surrounding roadway circulation system, including I-10 and SR 62, are anticipated to accommodate the delivery of goods and equipment to the proposed project site. As shown in Tables 7.10-7 and 7.10-9, Year 2009 Project Construction activities will not significantly affect the aforementioned project study roadway segments.

Safety

The roadways in the vicinity of the proposed project have adequate sight distance. The roadways' vertical profile, primarily Indian Avenue is generally flat with no sharp curves that would affect driver perception and reaction time. Similarly Dillon Road is relative flat and straight with the exception to dip in the roadway towards SR 62, which is adequately signed and motorist are advised way in advance. In addition, the project site is located in a wind power generating area, with very few neighboring commercial/retail businesses or residences that might be affected by traffic incidents. The short-term 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.

Air Traffic: The nearest airport facility is Palm Springs International Airport, located approximately 9 miles southeast of the proposed project. The SCE's Devers Substation has a Heliport to the north of the project site.

The proposed project would have no effect on air traffic patterns. The operation of the proposed project is not dependent upon air transport-related materials, manpower, and services and would therefore not result in increases of air traffic levels. Project design features such as stacks (90 feet above ground) would not obstruct air traffic patterns because the existing wind turbine generating units currently operating and in-place within the project vicinity have historically posed no constraints to normal airport

operations. Based on these existing physical features, it can be concluded that the proposed project would also not create any new constraints to existing and future air traffic patterns.

Rail Traffic: Within the vicinity of the project study area, the UP tracks run parallel on the south of I-10. Based on the construction worker routes and delivery routes, construction activities will not adversely conflict with the current rail traffic. Most of the heavy equipment items are transported by rail to the rail terminal nearest the site. Equipment and material are off-loaded at the rail terminal and transported to the site by truck. The best railroad siding to unload railcars is in Indio.

Waterborne Traffic: The project study area does not have significant waterborne features.

7.10.2.3 Operations Impacts

The project is projected to begin operations in 2010. At this time, plant operations will require approximately 10 full-time and 4 part time personnel. Based on the minimal operational added trips, the proposed plant operations would not substantially change the LOS of the roads and intersections in the study area. Therefore, no significant traffic impacts during project operations are anticipated.

Freeway/Roadway Level of Service During Project Operations (2010)

Table 7.10-10 presents the ADT freeway/roadway segment LOS under Year 2010 No Project conditions.

As shown in Table 7.10-10, all study freeway and state highway segments are forecast to operate at acceptable LOS B while the local roadway study segment of Indian Avenue to the north of I-10 is forecast at LOS F. The above LOS remains the same as Existing and 2009 Project Construction conditions.

Table 7.10-11 presents the ADT freeway/roadway segment LOS under Year 2010 Project Operations conditions. Figure 7.10-10 shows Year 2010 Project Operations roadway segment traffic volume.

As shown in Table 7.10-11, the LOS at traffic study area freeway/roadway segments under Year 2010 Project Operations would remain unchanged from Year 2010 No Project conditions, due to the minimal added trips associated with Year 2010 Project Operations. There will be negligible to minimal freeway added trips as the small operational workforce, are anticipated to commute through local roadways.

Based on these findings, no significant traffic impacts would occur at traffic study area freeway/roadway segments during project operations.

Intersection Level of Service During Project Operations (2010)

Table 7.10-12 presents peak-hour intersection LOS and average vehicle delay under Year 2010 No Project conditions. The LOS calculation worksheets are provided in Appendix O-5. Figure 7.10-11 shows Year 2010 No Project conditions a.m. and p.m. peak-hour turning movement volumes for each traffic study area intersection.

Table 7.10-13 presents peak-hour intersection LOS and average vehicle delay results under Year 2010 Project Operations conditions. The LOS calculation worksheets are provided in Appendix O-6. Figure 7.10-12 shows Year 2010 Project Operations a.m. and p.m. peak-hour turning movement volumes for each study area intersection.

As shown in Table 7.10-13, traffic study area intersection LOS under Year 2010 Project Operations conditions would remain unchanged from Year 2010 No Project conditions. Due to the minimal added trips associated with Year 2010 Project Operations, there would be a minimal increase in intersection delay. This delay would not cause a change in LOS at any of the study intersections.

Based on these findings, no significant traffic impacts would occur at the traffic study area intersections during project operations.

7.10.2.4 Hazardous Materials Transport

Construction of the proposed project would generate hazardous wastes consisting primarily of waste oil including motor oil, transmission fluid, hydraulic fluid, antifreeze, oil filters, paint waste, thinners and solvents, spent welding materials, oily rags, and absorbent. Operation of the proposed project would result in the generation of additional wastes, including hydraulic actuators and lubricants, spent batteries, and oily water.

A licensed hazardous waste transporter would move those materials that require offsite removal to a hazardous waste landfill that is able to accommodate hazardous wastes of the appropriate class. Consistent with the project construction truck delivery trip patterns, incoming operational hazardous material truck deliveries originating from I-10 will head north on SR 62, east on Dillon Road, then head north via the project access road to the project site. All loaded hazardous materials trucks and empty delivery trucks leaving the site will head south on the project access road, head east on Dillon Road, then south on Indian Avenue toward the I-10 interchange. Local delivery vehicles originating from the east, northeast, and southeast will access the site via Indian Avenue, Dillon Road, and the project access road.

Tanker trucks with a capacity of up to about 8,000 gallons will deliver aqueous ammonia to the facility up to 56 times per year from a supplier based in Southern California. Such deliveries will be made to replenish aqueous ammonia stored on site. The average amount of aqueous ammonia to be stored on site is 12,000 gallons, and the maximum storage capacity is 24,000 gallons. To maintain adequate aqueous ammonia reserve levels on site, two full tanker trucks at 8,000 gallons each load are needed each month. Transport of ammonia is also discussed in Section 7.12.2.2.

Sulfuric acid will also be used for pH control. Based on an estimated usage rate of 4,200 gallons in 30 days, the 5,000 gallons of sulfuric acid stored on site will be replenished once a month.

7.10.3 Cumulative Impacts

The following cumulative projects have been identified as being within the immediate vicinity of the proposed project:

- Indian Avenue/I-10 Interchange Project: This proposed project involves reconstruction of the I-10 Freeway/Indian Avenue interchange and is located south of the proposed project. The project is currently under environmental clearance process. It is funded by the Riverside County Measure A Initiative. Additional project details and schedule are discussed in Section 7.10.1.2.

- Dillon Wind Farm: Installation of 45 wind turbines located in three separate areas, including (1) an area west of Devers substation, (2) an area 2,000 feet east of the project site, and (3) an area 4,500 feet to the southeast of the project site. The Environmental Impact Report for this project was recently certified by Riverside County. Construction would occur over 6 months. Currently, there is no information on when construction would begin.

- Wind Energy Conservation System (WECS) 20 Permit Project: This project would consist of 8 new GE 1.5 MW wind turbine generators in the existing WECS 20 Wind Park. This site is located approximately 0.5 mile west of State Route 62, and approximately 2 miles north of I-10; about 2 miles northwest of the proposed project site.

- Green Path Project: The main feature of the Green Path project is a new 100-mile, 500-kV line planned to extend from the Devers-Palo Verde transmission corridor north to a new Upland substation in the northeastern sector of Los Angeles Department of Water and Power (LADWP) service territory. The project would increase the reliability and voltage support of existing system by upgrading to 230-kV standards of existing corridors. Planned construction is 2007 to 2009; planned in-service date is 2010.

- Oasis Annexation: Mixed-use development (including residential) on 155 acres located approximately 3.2 miles northeast of the project site.

- Alpine Group Development: Mixed-use development (including schools and high-density residential) on 160 acres located 1 mile northwest of the project site. The City Desert of Hot Springs is expecting to annex and approve this project. At this early stage, there is no firm time timetable for construction and completion of this development.

- Palmwood Specific Plan and Outparcels Development: Mixed-use development (including 1,853 residential units) on 1,926-acres located 6.5 miles north of the site.

The proposed project's peak construction activities would occur in 2009, and the plant is expected to be operational by 2010. Taking into consideration the combination of distance from the project site, scheduling, and actual implementation of the above proposed projects, short-term cumulative impacts associated with the project are anticipated to be less than significant.

Due to the relatively small number of operational trips (commuting of 8 full time, 4 part time employees) and nonrecurring service/delivery trips to and from the project site (one or two trips a month), it is anticipated that the proposed project will not contribute to long-term cumulative impacts in conjunction to the proposed projects mentioned above.

7.10.4 Mitigation Measures

During project construction, no study roadway segments would be significantly impacted by the proposed project. The following three intersections would experience short-term significant impacts during the peak construction period. It is expected that LOS levels would return to pre-project conditions upon completion of project construction.

- SR 62/Dillon Road – 2009 No Project LOS F (a.m., p.m.) condition increases by 14 seconds (a.m.) and 3 seconds (p.m.) during 2009 Peak Project Construction.

- Indian Avenue/Dillon Road – 2009 No Project LOS E (p.m.) condition worsens to LOS F (p.m.) during 2009 Peak Project Construction.

- Indian Avenue/20th Street – 2009 No Project LOS D (p.m.) condition worsens to LOS E (p.m.) during 2009 Peak Project Construction.

All three impacted locations are currently unsignalized. According to the unsignalized intersection methodology, the worst intersection movement LOS is reported as the overall intersection LOS even though some movements such as major street movements are operating at acceptable LOS.

A typical solution to mitigate longer term traffic impacts and improve poor LOS is to recommend traffic signalization; however, traffic signal warrants need to be fulfilled before an intersection can be signalized. This is often a lengthy process not commonly implemented or easily accomplished for short–term construction impacts. An alternative measure that will be as effective as traffic signalization is discussed in TRA-1 below:

TRA-1 Manual Traffic Control Measure

Trained Traffic Control personnel will be deployed at the intersections of Indian Avenue/Dillon Road and Indian Avenue/20th Street during the a.m. and p.m. peak hour. The implementation of this measure will be coordinated with Riverside County, local jurisdictions and law enforcement agencies. This measure will minimize delay at the affected intersection movements experiencing poor LOS through more efficient assignments of vehicle right-of-way.

During the p.m. peak hour of project construction, the intersection of Indian Avenue (Uncontrolled) and 20th Street (Stop controlled) is forecast to operate at LOS E, based on the worst case LOS of the intersection attributed to the westbound approach of 20th Street (approach LOS E). The remaining approaches of the intersections are operating at acceptable LOS A (Indian Avenue northbound and southbound approaches) and LOS C (20th Street eastbound approach) respectively. With manual traffic control intervention, the westbound approach traffic (8 vehicles turning left and one vehicle turning right) will be given opportunities to cross the intersection rather being stopped unassisted, waiting for gaps in traffic to make their turns safely. This will eliminate the LOS E at that approach.

The deployment of manual traffic control at Indian Avenue/Dillon Road and Indian Avenue/20th Street would fully mitigate the p.m. peak hour traffic impacts at these intersections. In addition, the majority of project added traffic routed via SR 62 and Dillon Road will be re-routed through Indian Avenue and Dillon Road thereby fully mitigating the a.m. and p.m. peak hour impacts at SR 62 and Dillon Road.

It must also be noted that, manual traffic control will be implemented only when there is an observed and immediate need to intervene and facilitate traffic congestion. If the intersection is operating efficiently (i.e., no long queues and no excessive delays on all movements) no manual intervention should be necessary. Both Indian Avenue intersections (Dillon and 20th Street) will be monitored for efficient operation during peak construction.

In addition to the above measure, the following project design features are proposed as proactive measures to minimize construction-related trip generation and resultant increases in traffic to the surrounding roadway circulation system.

TRA-2 Traffic Control Measures

A standard traffic and monitoring control plan designed to minimize impacts to traffic flow will be developed and implemented consistent with the size and scope of the project construction activity.

Proposed measures include but are not limited to the following:

- Use proper signs and traffic control measures in accordance with Caltrans and Riverside County requirements. All traffic signs, equipment, and control measures shall conform to the provisions specified in the Caltrans Traffic Manual (Red Book) and the Manual of Uniform Traffic Control Device. Specific jurisdictional requirements will be identified during the plan review and approval process.

- Schedule traffic lane or road closures during off-peak hours whenever possible (e.g., during construction of the offsite gas pipeline).

- Employ cut and cover techniques during the excavation/trenching operations for utilities to minimize roadway delays.

- Limit vehicular traffic to designated access roads, construction laydown and worker parking areas, and the proposed project construction site.

- Provide orientation and briefing to employees and contractors on the desired construction route.

- Encourage worker carpooling to minimize drive-alone worker trips.

7.10.5 Laws, Ordinances, Regulations, and Standards

Table 7.10-14 summarizes applicable traffic and transportation LORS for the proposed project. The proposed project lies within the territory of Caltrans, District 8, which has jurisdiction over I-10 and SR 62. The County of Riverside and City of Palm Springs have jurisdiction over the local roadways. Although the City of Desert Hot Springs is located to the north, the project site and its immediate vicinity is within the City's Sphere of Influence.

The Circulation Element of the County of Riverside General Plan provides the policies, goals and objectives that address the circulation, parking, pedestrian, bicycle, and goods movement within the County. The Riverside County Traffic Impact Analysis Preparation Guide was used in the evaluation of intersection and roadway operational performance. The *Caltrans Standard Plans, Manual of Uniform Traffic Control Device and Caltrans Traffic Manual* provides guidelines for traffic control and lane closures for construction work that should be followed.

To comply with the hazardous materials regulations, CPV Sentinel must follow the guidelines set forth in Section 7.10.2.4, Hazardous Materials Transport, which includes rules from the Federal Motor Carrier Safety Administration.

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. 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. In addition, the federal government prescribes regulations for transporting hazardous materials. These regulations are described in CFR, 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.

7.10.5.1 Federal Authorities and Administering Agencies

Title 49, Code of Federal Regulations, Parts 171-177. Governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.

The administering agencies for the above regulation are the California Highway Patrol (CHP) and the Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration.

The proposed project would conform to this law by requiring that shippers of hazardous materials use the required markings on their transportation vehicles.

Title 14, Code of Federal Regulations, Section 77.13(2)(i). Requires an applicant to notify the Federal Aviation Administration (FAA) of construction of structures with a height greater than 200 feet from grade or greater than an imaginary surface extending outward and upward at a slope of 10 to 1 from the nearest point of the nearest runway of an airport with at least one runway more than 3,200 feet in length. The administering agency for the above regulation is the FAA.

The proposed facility heights would not exceed 200 feet. Therefore, notification to the FAA would not be required.

7.10.5.2 State Authorities and Administering Agencies

California Vehicle Code, Section 353. Defines hazardous materials as any substance, material, or device posing an unreasonable risk to health, safety, or property during transportation, as defined by regulations adopted pursuant to Section 2402.7. The administering agency for the above statute is the California Highway Patrol (CHP).

The proposed project would comply with these codes by continuing to classify all hazardous materials in accordance with their clarification.

California Vehicle Code, Sections 2500-2505. Authorizes the Commissioner of Highway Patrol to issue licenses for the transportation of hazardous materials including explosives. The administering agency for the above statutes is the CHP.

The proposed project would comply with these codes by requiring that contractors and employees be properly licensed and endorsed when operating vehicles used to transport hazardous materials.

California Vehicle Code, Sections 13369, 15275, 15278. Addresses the licensing of drivers and the classification of license required for the operation of particular types of vehicles. Requires a commercial driver's license to operate commercial vehicles. Requires an endorsement issued by the Department of Motor Vehicles (DMV) to drive any commercial vehicle identified in Section 15278. The administering agency for the above statutes is the DMV.

The proposed project would comply with these codes by requiring that contractors and employees be properly licensed and endorsed when operating such vehicles.

California Vehicle Code, Sections 31303-31309. Requires that the transportation of hazardous materials be on the state or interstate highway that offers the shortest possible overall transit time. The administering agency for the above statutes is the CHP.

The proposed project would comply with this law by requiring that shippers of hazardous materials use the shortest route possible to and from the project site.

California Vehicle Code, Sections 31600-31620. Regulates the transportation of explosive materials. The administering agency for the above statutes is the CHP. It must be noted that the proposed project would not use explosive materials specifically defined in Section 12000 of the Health and Safety Code. However, the proposed project would comply with this law by requiring that shippers of other potentially explosive materials have the required licenses from the CHP.

California Vehicle Code, Sections 32000-32053. Authorizes the CHP to inspect and license motor carriers transporting hazardous materials of the type requiring placards. The administering agency for the above regulation is the CHP.

The proposed project would comply with this law by requiring that motor carriers of hazardous materials be properly licensed by the CHP.

California Vehicle Code, Sections 32100-32109. Requires that shippers of inhalation hazards in bulk packaging comply with rigorous equipment standards, inspection requirements, and route restrictions. The administering agency for the above regulation is the CHP. If applicable, the proposed project would comply with this law by requiring shippers of these types of material to comply with all route restrictions, equipment standards, and inspection requirements.

California Vehicle Code, Sections 34000-34100. Establishes special requirements for vehicles having a cargo tank and for hazardous waste transport vehicles and containers, as defined in Section 25167.4 of the Health and Safety Code. The commissioner shall provide for the establishment, operation, and enforcement of random on- and off-highway inspections of cargo tanks and hazardous waste transport vehicles and containers and ensure that they are designed, constructed, and maintained in accordance with the regulations adopted by the commissioner pursuant to this code and Chapter 6.5 (commencing with Section 25100) of Division 20 of the Health and Safety Code. The administering agency for the above regulation is the CHP.

The proposed project would comply with this law by requiring that shippers of hazardous materials maintain their hazardous material transport vehicles in a manner that ensures the vehicles will pass CHP inspections.

California Vehicle Code, Section 3500. Regulates the safe operation of vehicles, including those vehicles that are used for the transportation of hazardous materials. The administering agency for this regulation is the CHP.

The proposed project would comply with this law by requiring shippers of hazardous materials to have the necessary permits, inspections, and licenses issued by the CHP for the safe operation of the hazardous materials transport vehicles.

California Vehicle Code, Section 35550. Imposes weight guidelines and restrictions on vehicles traveling on freeways and highways. The section holds that "a single axle load shall not exceed 20,000 pounds. The load on any one wheel or wheels supporting one end of an axle is limited to 10,500 pounds. The front steering axle load is limited to 12,500 pounds." Furthermore, CVC Section 35551 defines the maximum overall gross weight as 80,000 pounds and adds that "the gross weight of each set of tandem axles shall not exceed 34,000 pounds." The administering agency for this statute is Caltrans.

The proposed project would comply with this code by requiring compliance with weight restrictions and by requiring heavy haulers to obtain permits, if required, prior to delivery of any heavy haul load.

California Vehicle Code, Section 35780. Requires a Single-Trip Transportation Permit to transport oversized or excessive loads over state highways. The permit can be acquired through the Caltrans. The administering agency for this statute is Caltrans.

The proposed project would comply with this code by requiring that heavy haulers obtain a Single-Trip Transportation Permit for oversized loads for each vehicle, prior to delivery of any oversized load.

California Streets and Highways Code, Section 117. Unless otherwise specifically provided in the instrument conveying title, the acquisition by the department of any right-of-way over any real property for state highway purposes, includes the right of the department to issue, under Chapter 3 (commencing with Section 660), permits for the location in the right-of-way of any structures or fixtures necessary to

telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures. The administering agency for this statute is Caltrans.

If applicable, the proposed project would comply with this code by acquiring the necessary permits and approval from Caltrans with regard to use of public rights-of-way.

The California Streets and Highways Code, Sections 660, 670, 672, 1450, 1460, 1470, 1480 et seq. Defines highways and encroachment, requires encroachment permits for projects involving excavation in state highways and county/city streets. This law is generally enforced at the local level. The administering agencies for this regulation are Caltrans and County of Riverside Public Works Department.

The proposed project would apply for encroachment permits for any excavation in state and county roadways prior to construction.

California Health and Safety Code, Section 25160 et seq. Addresses the safe transport of hazardous wastes, requires a manifest for hazardous waste shipments, requires a person who transports hazardous waste in a vehicle to have a valid registration issued by the Department of Toxic Substances Control (DTSC) in his or her possession while transporting the hazardous waste. The administering agency for this regulation is the DTSC.

The proposed project would comply with this law by requiring that shippers of hazardous wastes are properly licensed by the DTSC and hazardous waste transport vehicles are in compliance with DTSC requirements.

California Department of Transportation Traffic Manual, Section 5-1.1. Requires a temporary traffic control plan be provided for "continuity of function (movement of traffic, pedestrians, bicyclists, transit operations), and access to property/utilities" during any time the normal function of a roadway is suspended. The administering agencies for this regulation are Caltrans and County of Riverside Public Works Department.

CPV Sentinel would file a Traffic Control Plan prior to the start of construction.

7.10.6 Involved Agencies and Agency Contacts

The proposed project lies in proximity to roadways under the operational jurisdiction of Caltrans, in an unincorporated area of Riverside County, the City of Palm Springs, and the sphere of influence of the City of Desert Hot Springs. The relevant agencies and appropriate contacts are shown below.

Issue	Agency/Address	Contact/Title	Telephone
Navigable Airspace	Federal Aviation Administration Western-Pacific Region P.O. Box 92007 Los Angeles, CA 90009	Karen McDonald	(310) 725-6557
State Highways/Hazardous Materials Transport	California Highway Patrol 2211 Western Ave. San Bernardino, CA 92411-1243	Officer Jorge Sanchez Inland Coordinator	(909) 806-2400
Regional Congestion Management Program	Coachella Valley Association of Governments (CVAG) 73-710 Fred Waring Drive, Ste 200 Palm Desert, CA 92260	Anne Azzu, Transportation Engineer	(760) 346-1127

Issue	Agency/Address	Contact/Title	Telephone
Regional Congestion Management Program Compliance	Riverside County Transportation Commission (RCTC) 4080 Lemon Street, 3rd Floor Mailing Address: P.O. Box 12008 Riverside, CA 92502-2208	Shirley Gooding	(951) 787-7141
County Circulation Plan Traffic Analysis Guideline Future Growth Projections	County of Riverside, Department of Public Works, Development Review	Herman Basmaciyan, Traffic Engineer Farah Khorashadi, Group Manager Kevin Tsang, Engineer	(951) 955-6828
Local Roadway Improvements Local Circulation Plans and Policies Local Lane Closure and Loads Permits	City of Palm Springs, Department of Public Works, 3200 E. Tahquitz Canyon Way Palm Springs, CA 92262	Dave Barakian, PE, Public Works Director/City Traffic Engineer	(760) 323-8253 ext. 8732
Local Roadway Analysis Local Circulation Plans and Policies	City of Desert Hot Springs, Department of Public Works 65-950 Pierson Boulevard Desert Hot Springs, CA 92240	Eldon Lee, City Engineer	(760) 329-6411 ext. 246
Hazardous Materials Transport	Federal Motor Carrier Safety Administration 980 – 9th Street, Suite 450 Sacramento, CA 95814	Glenn Beck, Operations Supervisor	(916) 498-5050
Freeway Segment Analysis	California Department of Transportation District 8 464 West 4th St., San Bernardino, CA 92401-1400	Greg Ramirez, PE, Senior Transportation Engineer	(909) 383-6309
Traffic Operations	California Department of Transportation District 8 464 West 4th St., San Bernardino, CA 92401-1400	Julie Griffin, Transportation Engineer	(909) 383-4331
Caltrans Transportation Permits	Southern Region Transportation Permits California Department of Transportation District 8 464 West 4th St., MS 618 San Bernardino, CA 92401	Moe Bhuyian, MS, PE Regional Manager	(909) 553-8402
I-10 Traffic Closures and Conditions	California Department of Transportation District 8 464 West 4th St., San Bernardino, CA 92401	Terri Kasinga, Public Information Officer	(909) 383-4631

7.10.7 Permit Requirements

The relevant permits required for traffic related construction or operational work activities are identified below.

Responsible Agency	Permit/Approval	Schedule
Riverside County	Encroachment permits will be required to conduct construction activities such as trenching and pipelaying across or parallel (within right of way) to County and other local jurisdictional roadways.	Permits will be processed and approved prior to construction
California Department of Transportation	Oversize, overweight extra-legal loads will require permits from Caltrans District 8, County of Riverside and affected local jurisdictions.	Prior to construction
Riverside County		Prior to construction

7.10.8 References

Caltrans, 2005. 2005 Traffic Volumes on the California State Highway System, URL: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata.

County of Riverside, 2003. *General Plan Circulation Element.*

National Research Council, Transportation Research Board, 2000. *Highway Capacity Manual 2000.*

Riverside County Transportation Commission, 2006. *Congestion Management Program for Riverside County.*

Riverside County Transportation Department, 2005. *Traffic Impact Analysis Preparation Guide.*

Sunline Transit Agency, 2007. SunBus and Sundial Route and Schedule. URL: http://www.sunline.org/home/index.asp

Table 7.10-1
Intersection Level of Service Descriptions

Description of Operation	Signalized Intersection Delay (seconds per vehicle)	Stop-Controlled Intersection Delay (seconds per vehicle)
LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	<10.0	<10.0
LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	10.1 – 20.0	10.1 – 15.0
LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.1 – 35.0	15.1 – 25.0
LOS D describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.	35.1 – 55.0	25.1 – 35.0
LOS E is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.	55.1 – 80.0	35.1- 50.0
LOS F describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.	>80.0	>50.0

Table 7.10-2
Link/Volume Capacity/Level of Service for Riverside County Roadways

Roadway Classification	Number of Lanes	C	D	E
Collector	2	10,400	11,700	13,000
Secondary	4	20,700	23,300	25,900
Major	4	27,300	30,700	34,100
Mountain	2	12,900	14,500	16,100
Mountain	3	16,700	18,800	20,900
Mountain	4	29,800	33,500	37,200
Urban	4	28,700	32,300	35,900
Urban	6	43,100	48,500	53,900
Urban	8	57,400	64,600	71,800
Expressway	4	32,700	36,800	40,900
Expressway	6	49,000	55,200	61,300
Expressway	8	65,400	73,500	81,700
Freeway	4	61,200	68,900	76,500
Freeway	6	94,000	105,800	117,500
Freeway	8	128,400	144,500	160,500
Freeway	10	160,500	180,500	200,600
Ramp	1	16,000	18,000	20,000

Source: Riverside County, 2003. General Plan Circulation Element.

Table 7.10-3
Freeway/Roadway Segment Level of Service
Existing Conditions

Roadway	Segment	Number and Type of Lanes	Existing ADT	Percent Truck	LOS
Interstate 10	West of SR 62	6-Lane Freeway	88,000	22%	B
Interstate 10	East of SR 62	6-Lane Freeway	86,000	26%	B
Interstate 10	East of Indian Avenue	6-Lane Freeway	86,000	25%	B
SR 62	North of Dillon Road	4-Lane Divided	24,900	11%	B
Indian Avenue	North of I-10	2-Lane Undivided	16,900	N/A	F

Table 7.10-4
Peak-Hour Intersection LOS – Existing Conditions

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Average Delay (sec)	LOS	Average Delay (sec)	LOS
1. SR 62/Dillon Road	350.4	F	182.8	F
2. Worsley Road/Dillon Road	10.9	B	10.0	B
3. Diablo Road/Dillon Road	10.2	B	9.2	A
4. Indian Avenue/Dillon Road	15.9	C	28.8	D
5. Indian Avenue/20th Street	22.7	C	26.8	D
6. Indian Avenue/I-10 Westbound Ramps	16.6	B	19.2	B
7. Indian Avenue/I-10 Eastbound Ramps	30.8	C	22.4	C

Table 7.10-5
Project Construction Trip Generation

Vehicle Type	Peak Daily Round Trips	A.M. Peak Trips			P.M. Peak Trips		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Construction Worker Vehicles[1]	660[3]	8	0	8	0	157	157
Delivery Vehicles (including heavy trucks)[2]	16[4]	4	0	4	0	4	4

25. Peak workforce was conservatively analyzed at 330 worker trips. During the morning peak hour of the peak month of construction, 5 percent of worker trips (16) are projected to commute during the morning peak period and half (8) of the trips occur during the peak hour. Ninety 5 percent of the 314 worker trips are projected to leave during the evening peak period (4 to 6 p.m. window). The evening peak analysis assumes no more than half (157) of the 314 worker trips leave during the evening peak hour in anticipation to extended work hours and smooth traffic flow of exiting workers on site and to the surrounding roadway system.

25. Delivery vehicles were adjusted into Passenger Car Equivalent (1 Heavy Vehicle = 3 PCE) vehicle in the traffic impact analysis. Analysis assumed 50 percent of eight delivery vehicles arrive during the 7 to 9 a.m. peak hour (leave outside of a.m. peak hour), 50 percent arrive outside of the 4 to 6 p.m. peak hour (leave during the p.m. peak hour). Numbers shown on the table are non-passenger car equivalent adjusted.

25. Total round trips from 330 worker vehicle trips (with carpooling) × 2

[4] Total round trips from eight delivery vehicles × 2

Table 7.10-6
Freeway/Roadway Segment Level of Service
Year 2009 No Project Conditions

Roadway	Segment	Number and Type of Lanes	2009 No Project ADT	Percentage of Trucks	LOS
Interstate 10	West of SR 62	6-Lane Freeway	91,500	22%	B
Interstate 10	East of SR 62	6-Lane Freeway	89,400	26%	B
Interstate 10	East of Indian Avenue	6-Lane Freeway	89,400	25%	B
SR 62	North of Dillon Road	4-Lane Divided	25,900	11%	B
Indian Avenue	North of I-10	2-Lane Undivided	17,600	N/A	F

Table 7.10-7
Freeway/Roadway Segment Level of Service
Year 2009 Project Construction Conditions

Roadway	Segment	Number and Type of Lanes	2009 + Project ADT	Percentage Added by Project	LOS
Interstate 10	West of SR 62	6-Lane Freeway	91,996	0.5%	B
Interstate 10	East of SR 62	6-Lane Freeway	89,666	0.3%	B
Interstate 10	East of Indian Avenue	6-Lane Freeway	89,470	0.1%	B
SR 62	North of Dillon Road	4-Lane Divided	26,166	1.0%	B
Indian Avenue	North of I-10	2-Lane Undivided	17,972	2.1%	F

Table 7.10-8
Peak-Hour Intersection LOS – Year 2009 No Project Conditions

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Average Delay (seconds)	LOS	Average Delay (sec)	LOS
1. SR 62/Dillon Road	455.2	F	250.0	F
2. Worsley Road/Dillon Road	11.0	B	10.1	B
3. Diablo Road/Dillon Road	10.3	B	9.2	A
4. Indian Avenue/Dillon Road	17.2	C	35.8	E
5. Indian Avenue/20th Street	24.3	C	28.7	D
6. Indian Avenue/I-10 Westbound Ramps	17.4	B	19.8	B
7. Indian Avenue/I-10 Eastbound Ramps	33.6	C	24.3	C

Table 7.10-9
Peak-Hour Intersection LOS – Year 2009 Project Construction Conditions

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Average Delay (seconds)	LOS	Average Delay (seconds)	LOS
1. SR 62/Dillon Road	469.4	F	252.6	F
2. Worsley Road/Dillon Road	11.1	B	10.2	B
3. Diablo Road/Dillon Road	10.4	B	9.3	A
4. Indian Avenue/Dillon Road	17.3	C	54.5	F
5. Indian Avenue/20th Street	24.4	C	36.3	E
6. Indian Avenue/I-10 Westbound Ramps	17.4	B	22.4	C
7. Indian Avenue/I-10 Eastbound Ramps	33.7	C	25.3	C

Table 7.10-10
Freeway/Roadway Segment Level of Service
Year 2010 No Project Conditions

Roadway	Segment	Number and Type of Lanes	2010 No Project ADT	Percent Truck	LOS
Interstate 10	West of SR 62	6-Lane Freeway	93300	22%	B
Interstate 10	East of SR 62	6-Lane Freeway	91200	26%	B
Interstate 10	East of Indian Avenue	6-Lane Freeway	91200	25%	B
SR 62	North of Dillon Road	4-Lane Divided	26400	11%	B
Indian Avenue	North of I-10	2-Lane Undivided	17900	N/A	F

Table 7.10-11
Freeway/Roadway Segment Level of Service
Year 2010 Project Operations Conditions

Roadway	Segment	Number and Type of Lanes	2010 + Project ADT	Project Added Percent	LOS
Interstate 10	West of SR 62	6-Lane Freeway	93300	0%	B
Interstate 10	East of SR 62	6-Lane Freeway	91200	0%	B
Interstate 10	East of Indian Avenue	6-Lane Freeway	91200	0%	B
SR 62	North of Dillon Road	4-Lane Divided	26,400	0%	B
Indian Avenue	North of I-10	2-Lane Undivided	17914	0.1%	F

Table 7.10-12
Peak-Hour Intersection LOS – Year 2010 No Project Conditions

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Average Delay (sec)	LOS	Average Delay (sec)	LOS
1. SR 62/Dillon Road	514.3	F	289.8	F
2. Worsley Road/Dillon Road	11.0	B	10.2	B
3. Diablo Road/Dillon Road	10.4	B	9.2	A
4. Indian Avenue/Dillon Road	18.0	C	39.8	E
5. Indian Avenue/20th Street	25.1	D	29.7	D
6. Indian Avenue/I-10 Westbound Ramps	17.8	B	20.1	C
7. Indian Avenue/I-10 Eastbound Ramps	35.3	D	25.5	C

Notes: LOS = level of service, sec = second(s); Westbound = westbound

Table 7.10-13
Peak-Hour Intersection LOS – Year 2010 Project Operation Conditions

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Average Delay (sec)	LOS	Average Delay (sec)	LOS
1. SR 62/Dillon Road	514.3	F	289.8	F
2. Worsley Road/Dillon Road	11.0	B	10.2	B
3. Diablo Road/Dillon Road	10.4	B	9.2	A
4. Indian Avenue/Dillon Road	18.3	C	40.7	E
5. Indian Avenue/20th Street	22.1	C	30	D
6. Indian Avenue/I-10 Westbound Ramps	17.8	B	20.1	C
7. Indian Avenue/I-10 Eastbound Ramps	35.4	D	25.4	C

Notes: LOS = level of service, sec = second(s)

Table 7.10-14
Laws, Ordinances, Regulations, and Standards

Jurisdiction	LORS	Requirements	Conformance Section	Administering Agency
Federal				
	Title 49, Code of Federal Regulations, Section 171-177	Governs the transportation of hazardous materials, including the marking of transportation vehicles.	Section 7.10.5.1, Federal Authorities and Administering Agencies	California Highway Patrol
	Title 14, Code of Federal Regulations, Section 77.13(2)(i)	Requires Applicant to notify FAA of any construction greater than height limits defined by the FAA.	Section 7.10.5.1, Federal Authorities and Administering Agencies	Federal Aviation Administration
State				
	California Vehicle Code, Section 353	Defines the hazardous materials.	Section 7.10.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Vehicle Code, Sections 13369, 15275, 15278	Addresses the licensing of drivers and the classification of license required for the operation of particular types of vehicles. In addition, these sections require the possession of certificates of permitting the operation of vehicles transporting hazardous materials.	Section 7.10.5.2, State Authorities and Administering Agencies	California Department of Motor Vehicles
	California Vehicle Code, Section 31303-31309	Requires transporters of hazardous materials to use the shortest route possible.	Section 7.10.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Vehicle Code, Section 32000-32053	Regulates the licensing of carriers of hazardous materials and noticing requirements.	Section 7.10.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Vehicle Code, Section 32100-32109	Transporters of inhalation hazardous materials or explosive materials must obtain a hazardous materials transportation license.	Section 7.10.5.2, State Authorities and Administering Agencies	California Highway Patrol

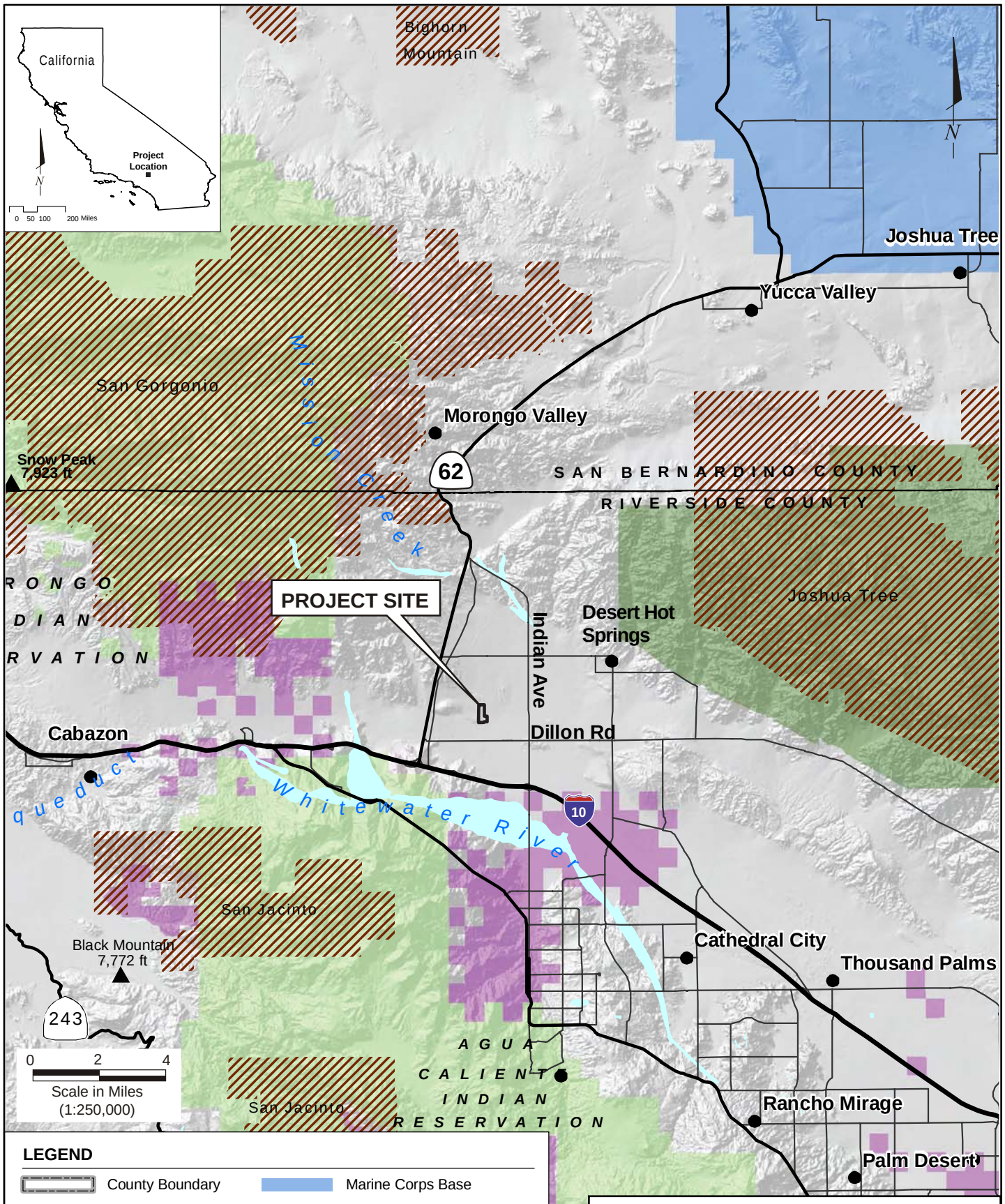
Table 7.10-14
Laws, Ordinances, Regulations, and Standards

Jurisdiction	LORS	Requirements	Conformance Section	Administering Agency
	California Vehicle Code, Section 34000-34100	Establish special requirements for the flammable and combustible liquids over public roads and highways.	Section 7.10.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Vehicle Code, Section 34500	Regulate the safe operation of vehicles, including those that are used for the transportation of hazardous materials.	Section 7.10.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Vehicle Code, Section 35550	Imposes weight guidelines and restrictions upon vehicles traveling upon freeways and highways.	Section 7.10.5.2, State Authorities and Administering Agencies	California Department of Transportation
	California Vehicle Code, Section 35780	Requires approval for a permit to transport oversized or excessive load over state highways.	Section 7.10.5.2, State Authorities and Administering Agencies	California Department of Transportation
	California Streets and Highways Code, Sections 117	Permits for the location in the ROW of any structures or fixtures necessary to telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures.	Section 7.10.5.2, State Authorities and Administering Agencies	California Department of Transportation
	California Streets and Highways Code, Sections 660, 670, 672, 1450,1460,1470, 1480 et seq.	Defines highways and encroachment. Regulate ROW encroachment and the granting of permits with conditions for encroachment in state and county roads.	Section 7.10.5.2, State Authorities and Administering Agencies	California Department of Transportation and County of Riverside
	California Health and Safety Code, Section 25160 et seq.	Addresses the safe transport of the hazardous materials.	Section 7.10.5.2, State Authorities and Administering Agencies	California Highway Patrol
	California Department of Transportation Traffic Manual, Section 5-1.1	Requires traffic control plans to ensure continuity of traffic during roadway construction.	Section 7.10.5.2, State Authorities and Administering Agencies	County of Riverside

Table 7.10-14
Laws, Ordinances, Regulations, and Standards

Jurisdiction	LORS	Requirements	Conformance Section	Administering Agency
Local				
	County of Riverside General Plan, Circulation Element	Requires LOS C, D or E (depending on location) or better operating conditions for County intersections and roadways	Section 7.10.5.3, Local Authorities and Administering Agencies	County of Riverside

Notes:
FAA = Federal Aviation Administration
LORS = laws, ordinances, regulations, and standards
ROW = right-of-way



REGIONAL VICINITY

CPV Sentinel Energy Project
CPV Sentinel, LLC
Riverside County, California

June 2007
28067168

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FIGURE 7.10-1A

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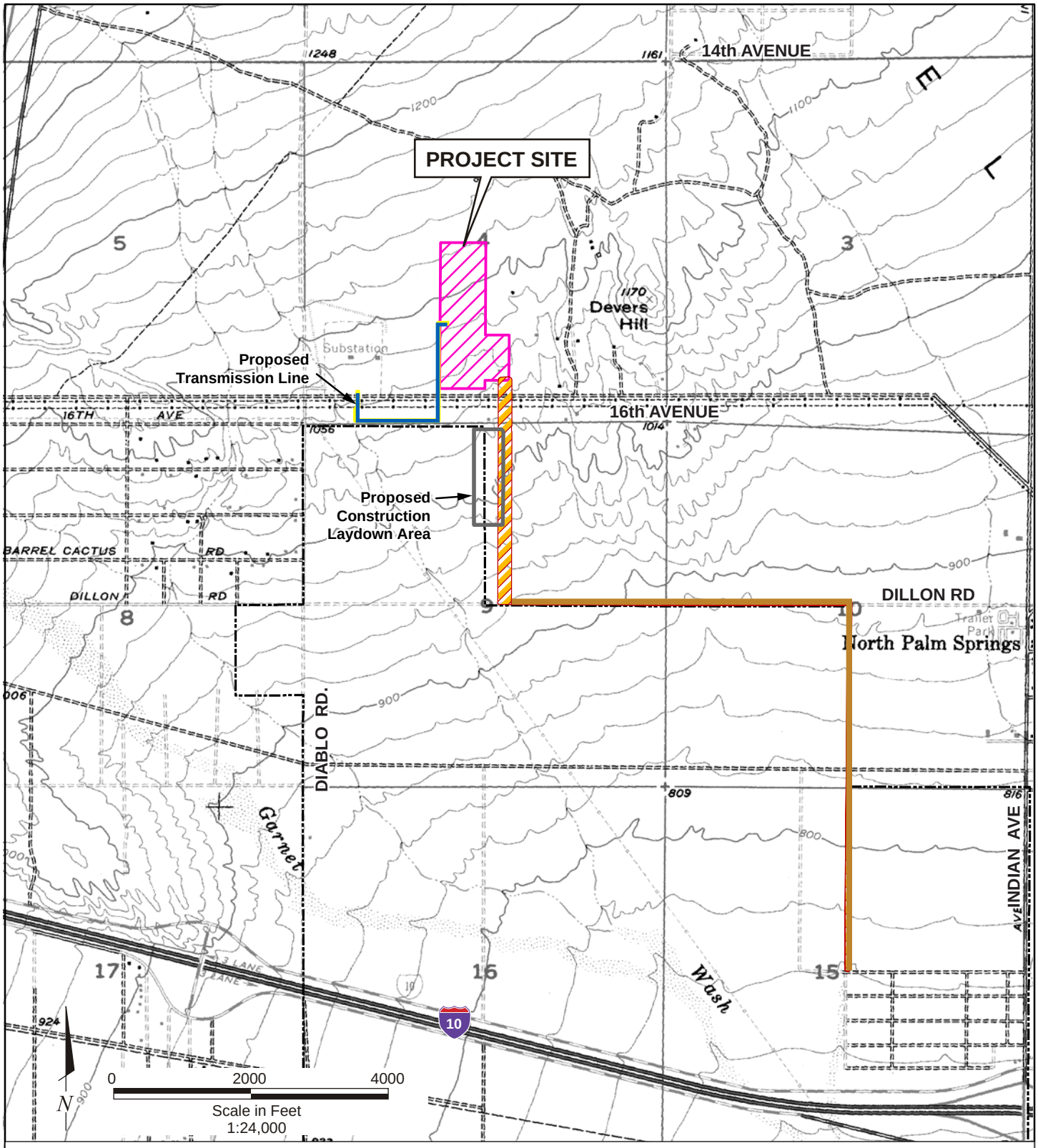

LEGEND

- Proposed Site
- Potential Construction Laydown Area
- Gas Transmission Corridor
- Gas Transmission Corridor Potable Water Line/ Access Road Corridor
- Transmission Line

PROJECT LOCATION

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FIGURE 7.10-1B

Source:
USGS 7.5-minute quadrangle, Desert Hot Springs, CA,1978.

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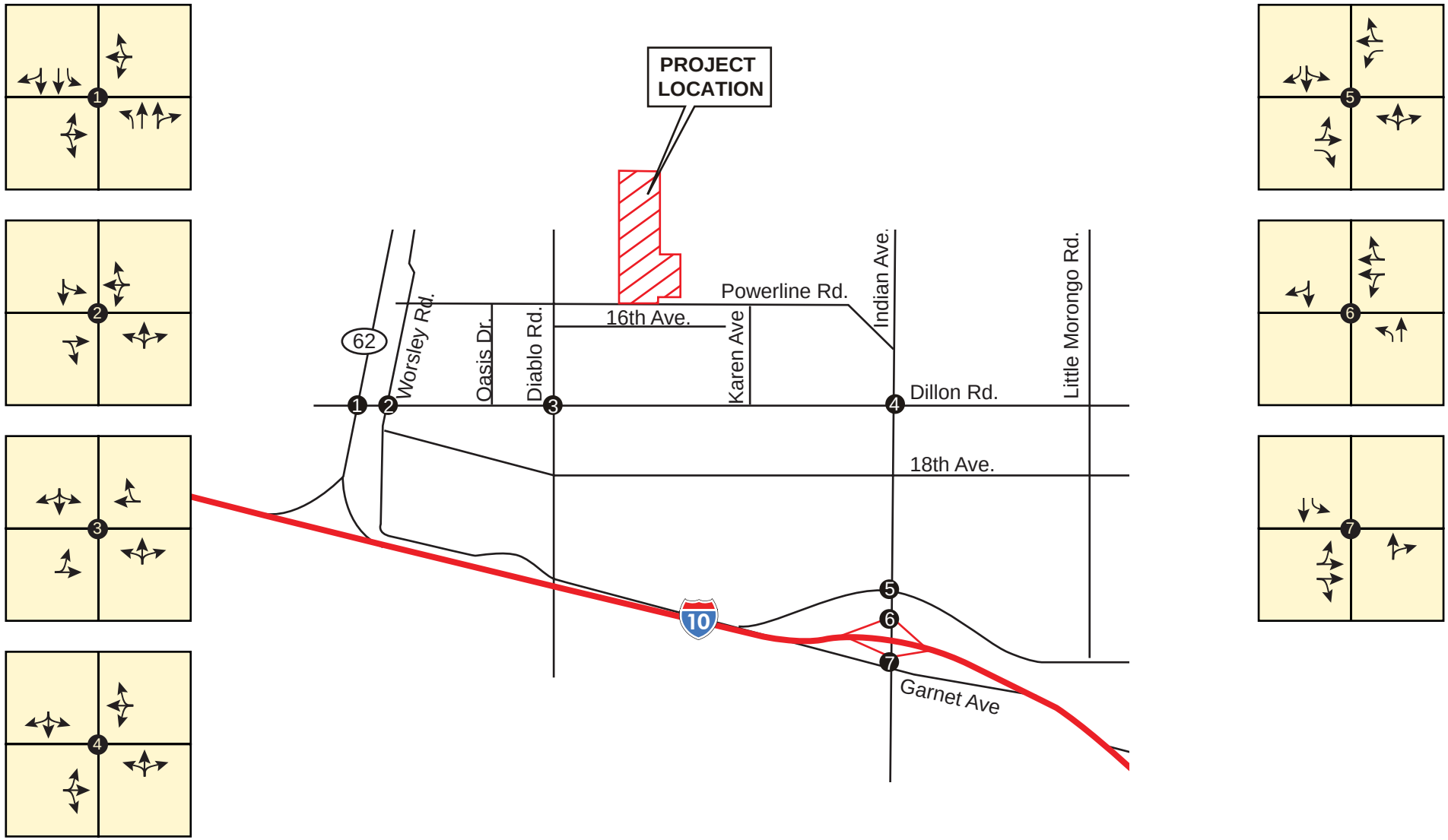

EXISTING INTERSECTION GEOMETRICS

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FIGURE 7.10-2

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EXISTING ROADWAY ADT VOLUMES

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Riverside County, California

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FIGURE 7.10-3

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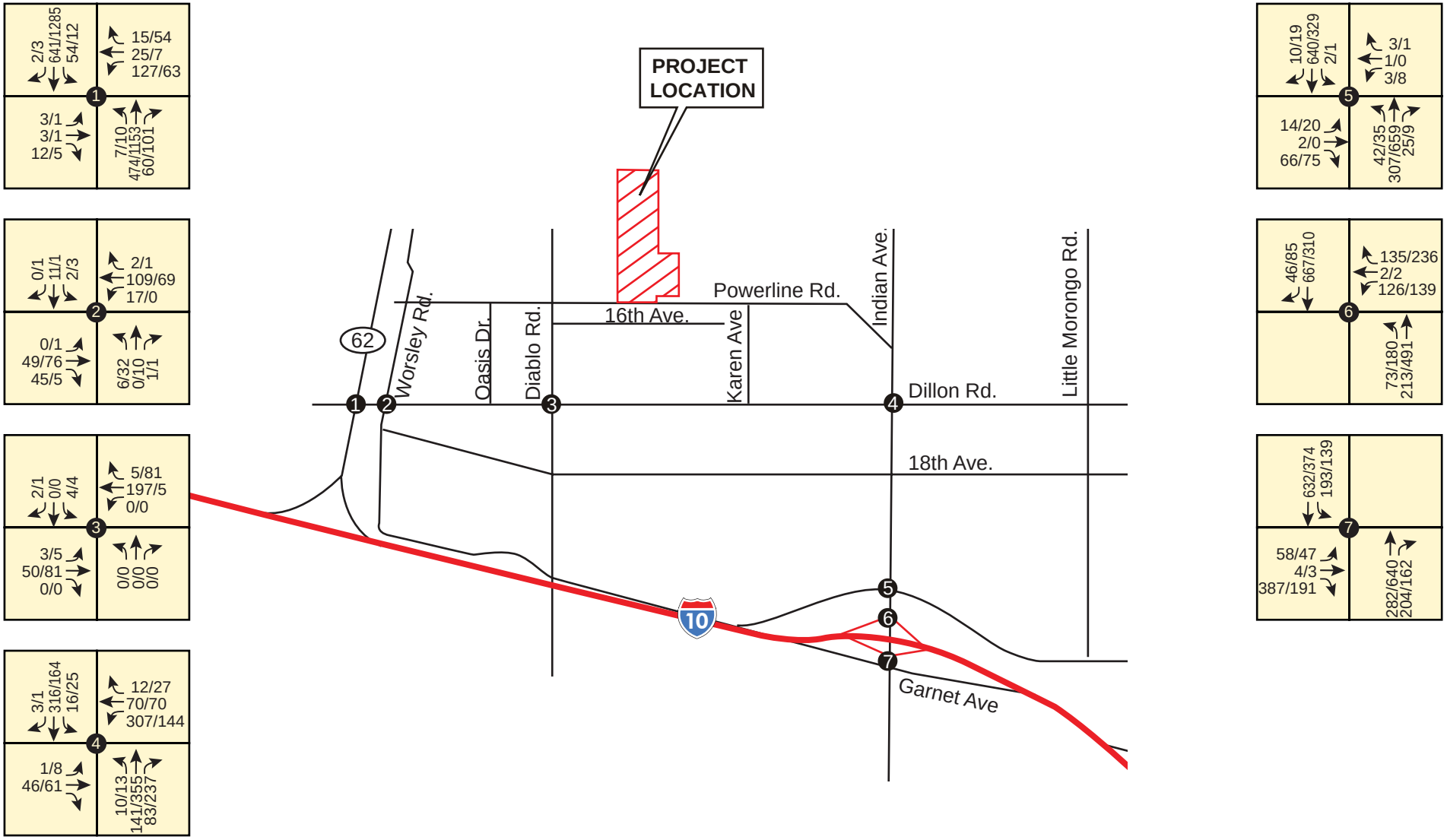

EXISTING A.M./P.M. PEAK-HOUR TURNING MOVEMENT VOLUMES

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FIGURE 7.10-4

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2009 NO PROJECT ROADWAY ADT VOLUMES

CPV Sentinel Energy Project
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28067168
CPV Sentinel, LLC
Riverside County, California

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FIGURE 7.10-5

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YEAR 2009 PROJECT CONSTRUCTION ROADWAY ADT VOLUMES

CPV Sentinel Energy Project
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Riverside County, California

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FIGURE 7.10-6

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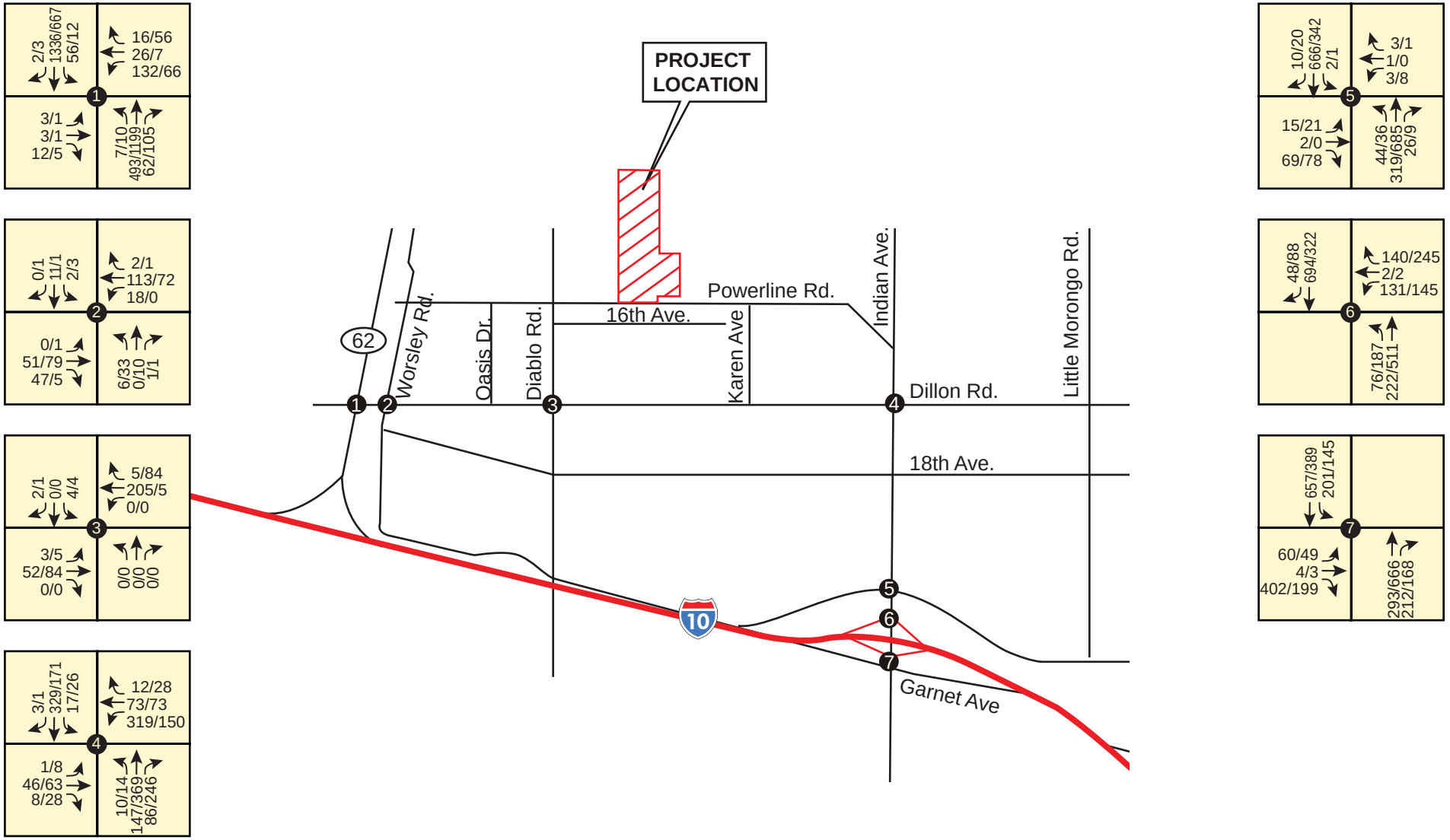

YEAR 2009 NO PROJECT A.M./P.M.
PEAK-HOUR TURNING MOVEMENT VOLUMES

CPV Sentinel Energy Project
CPV Sentinel, LLC
Riverside County, California

June 2007
28067168

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FIGURE 7.10-7

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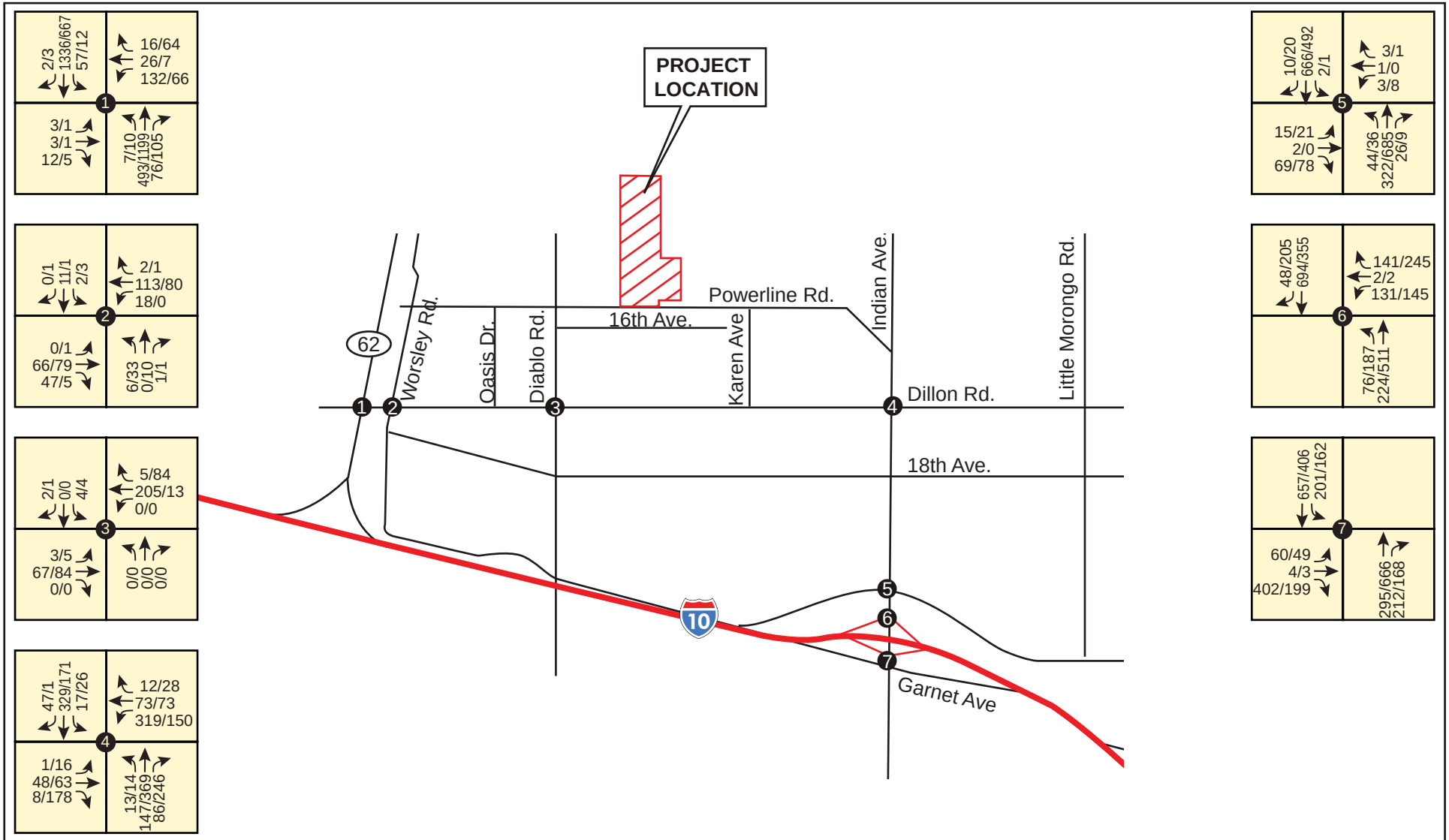

YEAR 2009 PROJECT CONSTRUCTION A.M./P.M. PEAK-HOUR TURNING MOVEMENT VOLUMES

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FIGURE 7.10-8

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YEAR 2010 NO PROJECT
ROADWAY ADT VOLUME

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FIGURE 7.10-9

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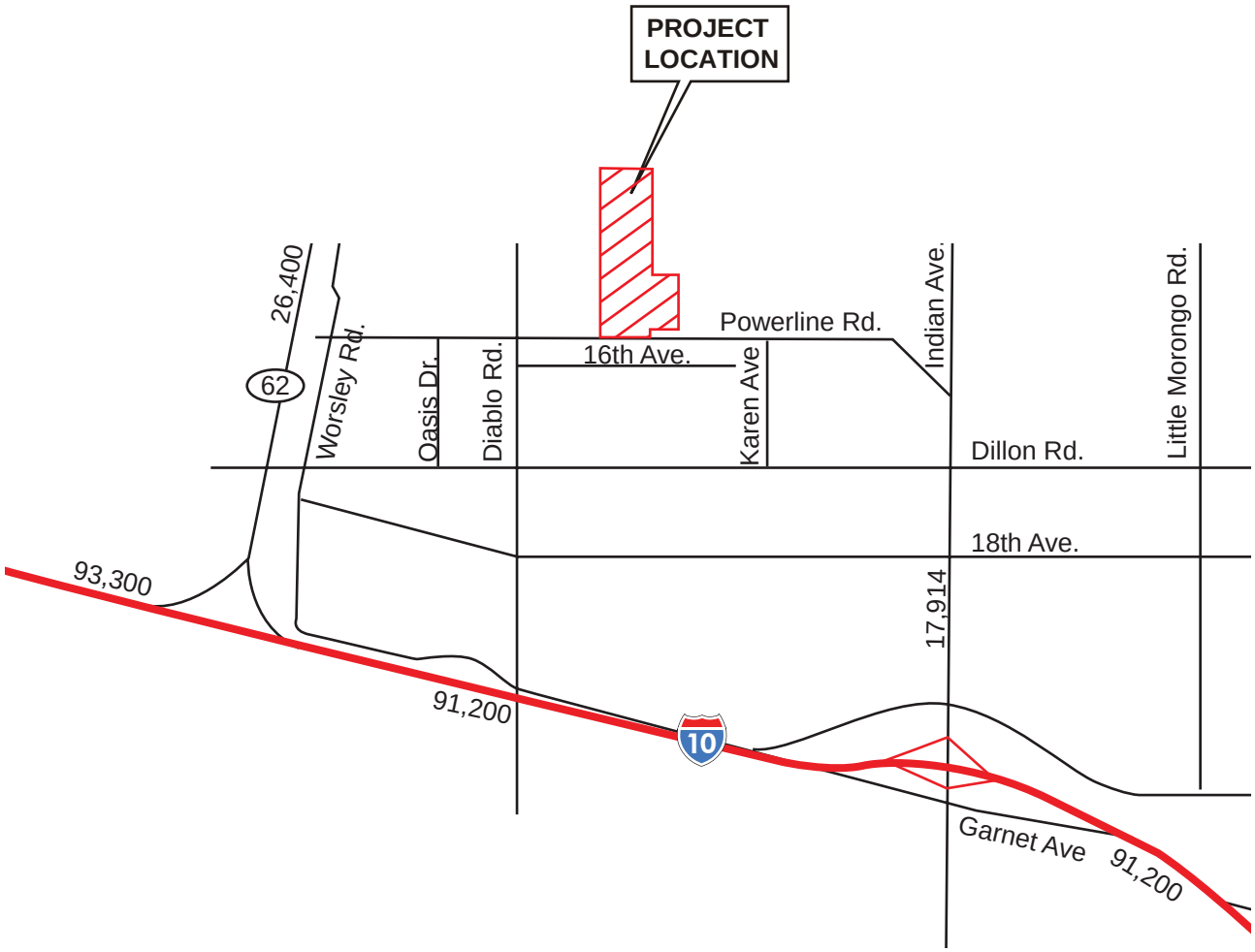

YEAR 2010 PROJECT OPERATIONS
ROADWAY ADT VOLUMES

CPV Sentinel Energy Project
June 2007
CPV Sentinel, LLC
28067168
Riverside County, California

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FIGURE 7.10-10

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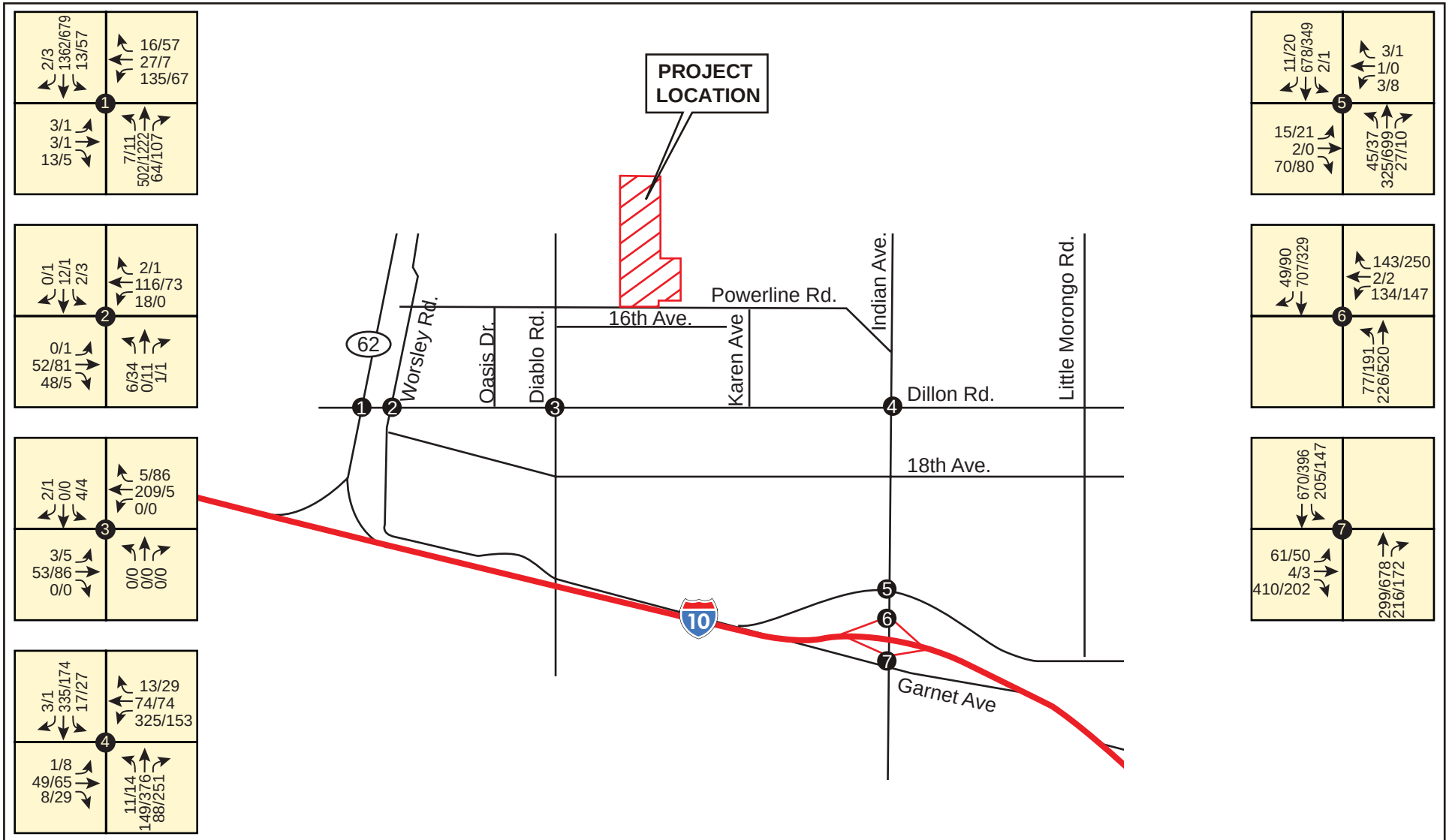

YEAR 2010 NO PROJECT A.M./P.M.
PEAK-HOUR TURNING MOVEMENT VOLUMES

CPV Sentinel Energy Project
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FIGURE 7.10-11

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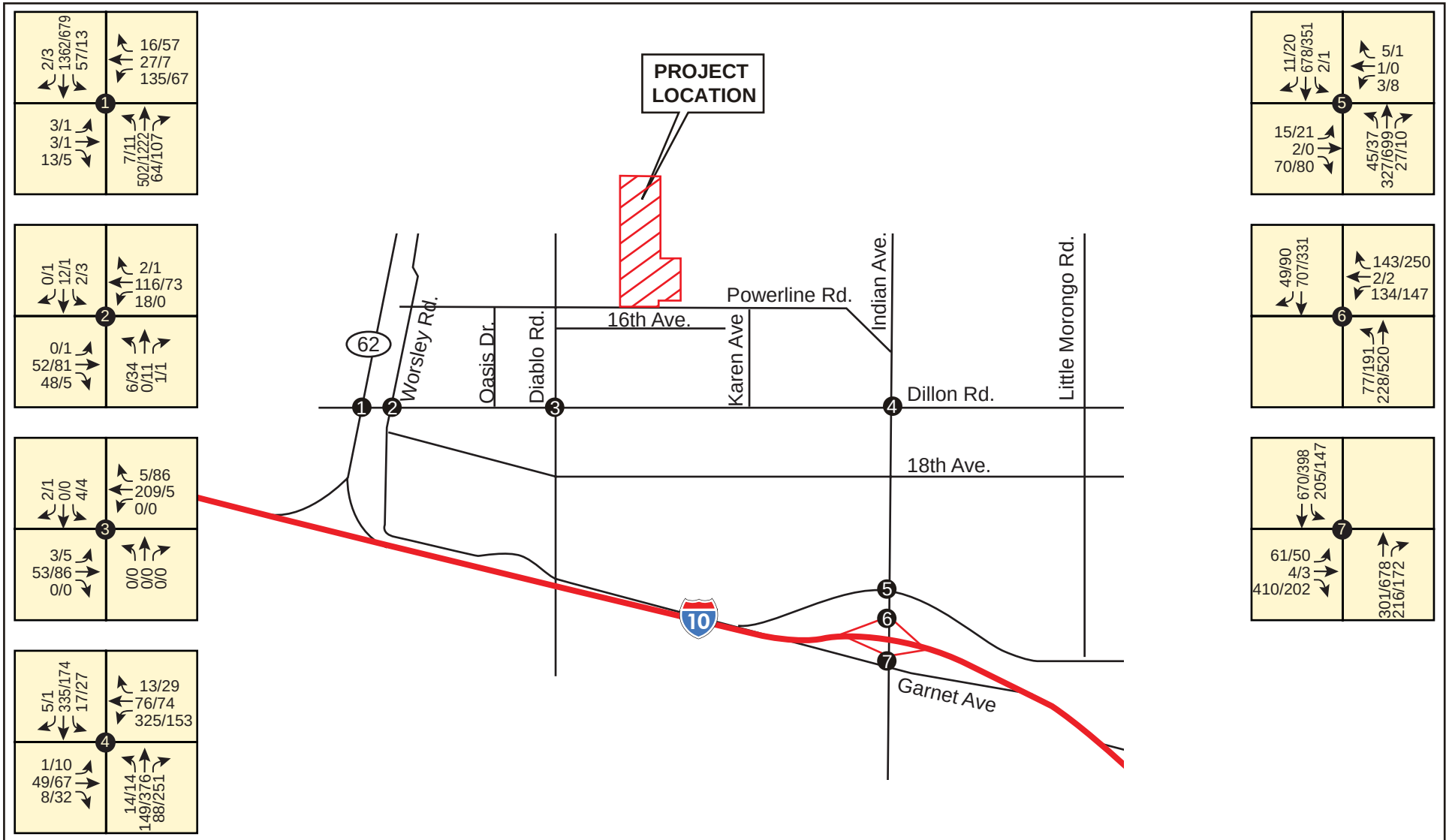

YEAR 2010 PROJECT OPERATIONS A.M./P.M. PEAK-HOUR TURNING MOVEMENT VOLUMES

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28067168 — Riverside County, California

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FIGURE 7.10-12

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