3.1.7 Traffic and Transportation

This section discusses potential impacts to transportation and traffic resulting from construction and implementation of the Proposed Project. Although site-specific traffic studies were not performed for the Proposed Project, the analysis is based on the review of existing resources, technical data, and applicable laws, regulations, and guidelines of significance.

Comments received in response to the Notice of Preparation (NOP) included concerns regarding the effects of Project construction traffic on local roadways. These concerns are addressed in this section. A copy of the NOP and comment letters received in response to the NOP is included in Appendix 1-1 of this EIR.

3.1.7.1 Existing Conditions

Primary access to the Jacumba Solar Energy Project site would be provided via an improved access road from Old Highway 80, as shown on Figure 1-3, Project Site Plan. The County's General Plan Mobility Element indicates that the segment of Old Highway 80 in the Project's vicinity (from Laguna Street in Jacumba Hot Springs to the Imperial County line) is classified as a 2.2D Light Collector. This classification of Light Collector road is defined as having a wider right-of-way (ROW) to provide for design and improvement flexibility. This segment of Old Highway 80 is currently developed as a two-lane roadway with a striped median and unimproved shoulder. The posted speed limit is 55 miles per hour. The access road was recently constructed as part of the East County (ECO) Substation project. An additional point of emergency egress/ingress would be provided at the Proposed Project's southwestern point to facilitate U.S. Customs and Border Protection access and to provide an alternate fire access point.

3.1.7.1.1 Regional Overview

Roads that provide access to the Proposed Project site are limited. Two east–west roads provide primary access: Interstate 8 (I-8) and Old Highway 80. In addition, Carrizo Creek Road runs east–west between these two roads, and Carrizo Gorge Road provides a connection south from I-8 to Old Highway 80 west of the Project site. Several local roads and unnamed dirt roads are spread throughout the area. A more detailed road description is provided below for the primary roads that serve the area.

Existing Roadway Characteristics

I-8. This four-lane interstate freeway provides for the majority of east–west Southern California traffic flow through the region, bypassing the rural towns. I-8 provides two lanes in each direction with a posted speed limit of 70 miles per hour (mph). The section of I-8 in southeastern San Diego County is heavily used by recreational vehicles and container trucks, and also as a

transportation route between California and Arizona. In the Project vicinity, local freeway access is provided at the I-8 Carrizo Gorge Road exit (Exit 72) and at the Junction of Old Highway 80 and In-Ko-Pah Park Road (Exit 77 – the final exit in San Diego County). In the vicinity of the Project, the average daily traffic volume on I-8 is approximately 14,000 vehicles (Caltrans 2013).

Old Highway 80. This two-lane predecessor to I-8 runs east–west through the communities of Descanso, Guatay, Pine Valley, La Posta, Live Oak Springs, Boulevard, Bankhead Springs, and Jacumba before reaching the Project site. Old Highway 80 is classified as a light collector with bike lanes by the County Mobility Element and has a Level of Service (LOS) in the range of A–D, indicating that traffic can travel at a "free-flow" rate and is well below capacity (CPUC and BLM 2011). The posted speed limit on Old Highway 80 is 55 mph. Roadways within the Proposed Project Vicinity are listed in Table 3.1.7-1, Roadways within the Proposed Project Area Vicinity.

Transit Facilities

According to the Mountain Empire Subregional Plan Mobility Element, there are no local transit facilities that serve the Project area (County of San Diego 2011a). The San Diego Metropolitan Transit Service (MTS) Bus Route 888 operates on Mondays and Fridays only, and provides service between the Westfield Parkway Shopping Center in El Cajon and the end of the line in Jacumba via I-8 and Old Highway 80 (CPUC and BLM 2011).

Airports and Rail Lines

County-operated Jacumba Airport is located approximately 1.5 miles west of the Proposed Project site. The airport is unattended and unlighted and is used mainly as an operation area for gliders, especially on weekends. Airport hazards are discussed in Section 2.4.3.2 and not further addressed in this section.

San Diego MTS owns and operates the Desert Line that extends north and east from the U.S./Mexico border to Plaster City in Imperial County, where it joins the Union Pacific Railroad Line from El Centro. The line runs north of the Project area; however, currently there is no service on the Desert Line due to concerns associated with the safety of the bridges and overpasses along the rail lines.

Planned Roadway Improvement Projects

During construction of the Proposed Project, planned roadway improvements in the area may occur simultaneously. The San Diego County component of the California Department of Transportation (Caltrans) planned I-8 Pavement Rehabilitation Project would be located between

the intersection of I-8/Crestwood Road and the Imperial County line (approximately 11.75 miles). Construction of the Project is expected to begin in 2016 and end in 2017 (CPUC and BLM 2011).

3.1.7.2 Regulatory Setting

There are no federal transportation and traffic regulations that would be applicable to the Proposed Project; however, the following state and local regulations pertaining to transportation would apply to the Proposed Project.

State Regulations

California Department of Transportation

Caltrans is responsible for planning, designing, building, operating, and maintaining California's $300 billion, 50,000-lane-mile state road system. Caltrans sets standards, policies, and strategic plans that aim to do the following: (1) provide the safest transportation system in the nation for users and workers; (2) maximize transportation system performance and accessibility; (3) efficiently deliver quality transportation projects and services; (4) preserve and enhance California's resources and assets; and (5) promote quality service.

The Proposed Project would be located within Caltrans District 11. Caltrans' *Guide for the Preparation of Traffic Impact Studies* (Caltrans 2002) states that Caltrans' target LOS for state highway facilities is at the transition between LOS "C" and LOS "D." 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 is operating at less than the appropriate target LOS, the existing measure of effectiveness should be maintained.

Caltrans also requires transportation permits for the movement of vehicles or loads exceeding the limitations on the size and weight contained in Division 15, Chapter 5, Article 1, Section 35551, of the California Vehicle Code (1983). Due to the likelihood of heavy truck loads, it is anticipated that the Project would need to obtain transportation permits from Caltrans.

California Streets and Highways Code

The California Streets and Highways Code Division 1, Chapter 1, Article 3, Section 117; Division 1, Chapter 3 (regulations for the Care and Protection of State Highways); Division 2, Chapter 5.5 (regulations for the Care and Protection of County Highways) and Chapter 6 (regulations for the Obstructions and Injuries to County Highways) specify that permits issued by Caltrans be required for any roadway encroachment during truck transportation and delivery, as well as for any load that exceeds Caltrans's weight, length, or width standards for public

roadways. The California Streets and Highway Code also includes regulations for the care and protection of state and county highways and provisions for the issuance of written permits.

Local Regulations

The following local/regional regulations pertaining to transportation and traffic would apply to the Proposed Project.

Mobility Element of the County of San Diego General Plan

The County's General Plan Mobility Element (County of San Diego 2011a) provides a framework for a balanced, multimodal transportation system for the movement of people and goods within the unincorporated areas of the County. The guiding principles focus on a central theme to support a multimodal transportation network that enhances connectivity and supports existing development patterns while retaining community character and maintaining environmental sustainability by reducing gasoline consumption and greenhouse gas (GHG) emissions.

The following policies from Chapter 4, Mobility Element (County of San Diego 2011a), associated with transportation and traffic are applicable to the Proposed Project:

- **Policy Mobility (M)-2.1: Level of Service Criteria.** Require development projects to provide associated road improvements necessary to achieve a level of service of "D" or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to the criteria specifically identified in the accompanying text box (Criteria for Accepting a Road Classification with Level of Service E/F). When development is proposed on roads where a failing level of service has been accepted, require feasible mitigation in the form of road improvements or a fair share contribution to a road improvement program, consistent with the Mobility Element road network.
- **Policy M-2.2: Access to Mobility Element Designated Roads**. Minimize direct access points to Mobility Element roads from driveways and other non-through roads to maintain the capacity and improve traffic operations.
- **Policy M-2.3: Environmentally Sensitive Road Design.** Locate and design public and private roads to minimize impacts to significant biological and other environmental and visual resources. Avoid road alignments through floodplains to minimize impacts on floodplain habitats and limit the need for constructing flood control measures. Design new roads to maintain wildlife movement and retrofit existing roads for that purpose. Utilize fencing to reduce road kill and to direct animals to under crossings.

- **Policy M-3.3: Multiple Ingress and Egress.** Require development to provide multiple ingress/egress routes in conformance with state law and local regulations.
- **Policy M-4.4: Accommodate Emergency Vehicles.** Design and construct public and private roads to allow for necessary access for appropriately-sized fire apparatus and emergency vehicles while accommodating outgoing vehicles from evacuating residents.
- **Policy M-4.5: Context Sensitive Road Design.** Design and construct roads that are compatible with the local terrain and the uses, scale and pattern of the surrounding development. Provide wildlife crossings in road design and construction where it would minimize impacts in wildlife corridors.

County of San Diego Consolidated Fire Code

The County, in collaboration with the local fire protection districts, created the first Consolidated Fire Code (CFC) in 2001. The CFC contains the County's and fire protection districts' amendments to the California Fire Code. Emergency ingress/egress is established by the County's CFC. Ingress/egress is necessary for both citizen evacuation and to provide access for emergency vehicles in the event of a fire or other emergency. Section 902.2 of the CFC dictates minimum design standards for "Fire Apparatus Access Roads" and includes minimum road standards, secondary access requirements, and restrictions for gated roads.

County of San Diego Transportation Impact Fee Ordinance

The County has developed an overall programmatic solution that addresses projected future road deficiencies in the unincorporated portion of the County. This program commits the County to construct additional capacity on identified deficient roadways and includes the adoption of a Transportation Impact Fee (TIF) program to fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. The fees are collected at or before issuance of a development permit (including building permits). The fees are used to fund identified transportation facilities, or portions thereof, that provide increased road capacity necessitated by the cumulative impacts of future development. This program is based on a summary of projections contained in an adopted planning document that evaluates regional or area-wide conditions contributing to cumulative transportation impacts. Although the program does not address every road in the unincorporated County, it is considered to be a broad-based approach to mitigation of cumulative traffic impacts from additional traffic generated by a project or series of projects.

County of San Diego Department of Public Works – Permit Requirements

San Diego County requires an encroachment permit for the placement of any structures on, over, or under County roads. Several roadways owned and maintained by the County would

potentially be affected by Project construction. Encroachment permits are issued by the Department of Public Works (DPW) for the installation of any tower, pole, or structure of any kind within, over, or under a County road ROW.

In addition to encroachment permits, the County's DPW requires a construction permit prior to initiation of any work within the County ROW, and a traffic control permit is typically required in concurrence with an encroachment and/or construction permit to ensure the safe travel of vehicles within a construction work zone.

County of San Diego Department of Public Works – Roadway Standards

The County has adopted roadway standards to establish minimum design and construction requirements for public and private road improvements required as conditions of land development approval in the unincorporated areas of the County. The standards are intended to keep the operating cost of maintaining public facilities at a reasonable level and at the same time provide for the service and protection of the public. The minimum road width required per the County of San Diego Private Road Standards is 24 feet. For access provided by a publicly maintained road, the minimum width required per the County of San Diego Public Road Standards would be 28 feet, which meets the minimum interim public road width (County of San Diego 2012a, 2012b).

County of San Diego Traffic Impact Study Guidance

All discretionary projects and public works projects under County of San Diego jurisdiction are required to be evaluated to determine potential impacts that may result from a project's implementation. As shown in Table 3.1.7-2, San Diego County Criteria to Prepare a Traffic Impact Study (TIS), the County uses average daily trips (ADT) generated to determine whether a TIS is required and what type of TIS is most appropriate for the project in question. If required, the TIS typically would include project-specific trip generation and an evaluation of traffic safety impacts and hazards. Further, the TIS would assess site-specific conditions and would require projects to apply the maximum feasible mitigation, as necessary.

As discussed in Chapter 1, Project Description, grading activities result in the need for the most intense water use and 74 truck deliveries a day. During this period approximately 20 workers would be required on site; the deliveries or removal of dirt would be needed during this time, requiring the use of two haul trucks or equivalent. During the site preparation and grading phase, approximately 278 ADT would be generated (139 round trips). The maximum number of workers (140) would occur during the racks and panels installation, when water deliveries would be considerably reduced, requiring approximately 10 water truck deliveries a day, equipment deliveries would be on going through this phase. The trips generated during this most intense

personnel phase would be approximately 298 ADT[1] (149 round trips), representing the peak period for construction trips. This reflects an assumed 10% reduction in trips for workers associated with carpooling for economic reasons, which result in 126 one way trips or 252 ADT, as well as 10 water trucks each way at 1.5 passenger car equivalent (pce), which equates to 30 ADT, and 2 haulage delivery trucks each way at 4.0 pce, which equates to 16 ADT. The Project would operate as an unstaffed facility, requiring minimal operational trips for maintenance; these operational trips would amount to a maximum of 20 ADT. As the operational Project-generated trips would be below the threshold of 200 ADT or 20 peak-hour trips, which would require a TIS according to the County's Report Format and Content Requirements: Transportation and Traffic, a TIS was not prepared.

3.1.7.3 Analysis of Project Effects and Determination as to Significance

The Proposed Project is located in a relatively remote area of unincorporated San Diego County; therefore, a majority of construction materials and equipment would be brought to the site from long distances and/or personnel would have to travel from surrounding communities or other areas within San Diego County. It is assumed that Project-related traffic would use I-8 for regional travel, and Carrizo Creek Road and Old Highway 80 for primary and secondary site access. The majority of construction-related and future operational employee traffic is anticipated to be from east and west (50/50) of the Project area along I-8 as their primary route to work, exiting at either the Carrizo Gorge Road exit (Exit 72) or the Junction of Old Highway 80 and In-Ko-Pah Park Road (Exit 77). The morning or AM Peak Hour is generally between 7:00 a.m. and 9:00 a.m., while the evening, or PM, Peak Hour is generally between 4:00 p.m. and 6:00 p.m. On-site access roads would be constructed as part of the Proposed Project. It is anticipated that these roadways would be all-weather-compatible dirt or gravel and would be constructed with a minimum width of approximately 24 feet on the perimeter and approximately 20 feet between panel blocks.

LOS data were not available for all roadways identified in the Proposed Project area. Aerial photographs of the area were reviewed to obtain relevant existing conditions information, as well as a review of recent environmental documents prepared for projects in the surrounding area and relevant planning documents including the County of San Diego General Plan Mobility Element and the Mountain Empire Mobility Element Network Map. In addition, the County of San Diego DPW Standards for Public and Private Roads (County of San Diego 2012) was also reviewed for relevant information pertaining to roadway classifications and applicable LOS thresholds as they

[1] County guidance allows for the County to determine whether a Traffic Impact Study (TIS) is appropriate dependent on specific circumstances. In this instance, because the 298 is brief (approximately 6 weeks at peak) for construction purposes only, and the 200 ADT trigger for trip generation is associated with permanent trips, the County determined a TIS was not required of the Project.

relate to ADT, and the Department of Transportation Highway Design Manual (DOT 2006) was reviewed for bikeway facility information.

3.1.7.3.1 Project Trip Generation

Construction of the Proposed Project is anticipated to generate approximately 24,050 total worker, equipment, and delivery vehicle trips (one-way) during the 6-month construction period. This total assumes 26 work days per month (construction would occur Monday through Saturday), giving a total of 156 construction work days, and highest maximum average of approximately 298 ADT per day generated during the most intense construction period. This results from 126 workers and 10 water delivery truck trips, which have a pce of 1.5, and 2 material haul truck trips with a pce of 4.2 Although Project construction would generate a maximum of 298 ADT, or 149 daily round trips, at the most intense worker period of construction activities, trip generation and distribution for workers and delivery trucks would ultimately vary depending on the phase of construction. Typical peak hour commute times when traffic volumes are the highest on freeways and regional roadways are between 7:00 a.m. and 9:00 a.m. (AM Peak Hour) and between 4:00 p.m. and 6:00 p.m. (PM Peak Hour). Therefore, during the most intense phase of construction, it is assumed that there could be approximately 149 Project-generated trips arriving at the Project site during the AM and PM Peak Hours. However, the direction of workers would be generally opposite to that of the flow of commute traffic in San Diego County, and would be split 50% coming from greater San Diego (west) and 50% coming from Imperial Valley (east) because of the approximately equivalent distances to these population centers. During operations, the Proposed Project would be an unstaffed facility that would be monitored remotely. Periodic inspections, washing, and repair or maintenance would generate an anticipated maximum of 20 ADT, should these activities occur simultaneously.

3.1.7.3.2 Roadway Segment Operation Impacts

Guidelines for the Determination of Significance

For the purposes of this EIR, the County's *Guidelines for Determining Significance and Report Format and Content Requirements – Traffic and Transportation* (Traffic Guidelines; County of San Diego 2011b) applies to the direct and indirect impact analysis, as well as the cumulative impact analysis.

[2] 126 (workers) × 2 (each way trips) = 252 Worker ADT. 10 (water trucks) × 2 (each way trips) × 1.5 (pce) = 30 Water ADT. 2 (dirt haul truck) × 2 (each way trips) × 4 (pce) = 16 Delivery ADT. Total = [252+30+16] 298 ADT.

Traffic volume and/or LOS traffic impacts on a road segments are considered significant if:

a. The additional or redistributed Average Daily Trips (ADT) generated by a project would cause an adjacent or nearby County Circulation Element Road or State Highway to operate below LOS C during peak traffic hours;

b. The additional or redistributed ADT generated by the project would cause a residential street to exceed its design capacity; and/or

c. The additional or redistributed ADT generated by the project would significantly increase congestion on a County Circulation Element Road, or State Highway currently operating at LOS E or LOS F.

County Thresholds (a) and (b), above, pertain to potential impacts associated with the addition of Project-generated traffic on County Circulation Element Roads. For County Circulation Element Roads, LOS operations below C signify a significant traffic impact. With regard to Threshold (c), the County Guidelines include a summary table for allowable increases on congested roadway segments and more specifically, for County Circulation Element Roads or State Highways currently operating at LOS E or LOS F. The allowable increases permitted by the County are listed in Table 3.1.7-3, Measure of Significant Project Impacts to Congestion of Road Segments.

According to the Mountain Empire Mobility Element Network Map (County of San Diego 2011), I-8 and Old Highway 80 are classified as Mobility Element Roads. Based on available data, these roads operate at an acceptable LOS (LOS C or better) and more specifically, at LOS A. Therefore, because County Circulation Element Roads or State Highways in the Project area that would be used during construction to access the Project site do not operate at LOS E or F, and the additional trips that would be generated by the Proposed Project will not cause these facilities to operate at LOS E or F, Threshold (c) is not further discussed.

Analysis

Construction

Construction of the Proposed Project would result in a temporary increase in traffic on local roads surrounding the Project site and on local roads utilized by construction personnel to access the site from I-8 and regional highways. Construction-related traffic would include worker vehicles and trucks delivering materials, supplies, and water to the Project site.

As stated in Chapter 1, Project Description, water would be needed for the Proposed Project during the construction and site preparation, operational (ongoing) panel washing, and the decommissioning and dismantling. The solar facility would use water from water sources that include the following: Jacumba Community Service District (Brackish Water Not Distributed by

District) and Padre Dam Municipal Water District (Reclaimed Water Not Distributed by District). These deliveries would involve approximately 74 trucks daily during the most intense construction period, which would be the approximately 2 months of grading.

As indicated in Chapter 1, Project Description, The number of workers expected on the site during construction would vary over the construction period and is expected to average approximately 120 each day, with maximum daily workers of approximately 140. While trip generation and trip distribution for employees and delivery trucks would vary depending on the phase of construction, it is assumed that a majority of the construction workers and delivery trucks would access the site regionally via I-8 and locally along the route previously described in Section 3.1.7.1.3. The segment of I-8 in the vicinity of the Project site is operating at acceptable LOS levels (LOS C or above – see Table 3.1.7-1), and the addition of a maximum of 298 ADT would not cause interstate operations to fall below LOS C. Similarly, the addition of average and/or worst-case Project-generated construction traffic to local Mobility Element Roads (e.g., Old Highway 80) would not cause traffic operations on these roadways to fall below LOS C (see the existing ADT on I-8 and Old Highway 80 in Table 3.1.7-4). In addition, the applicable road classification according to the County of San Diego Mobility Element Road Map and the LOS thresholds for each relevant roadway classification is listed below in Table 3.1.7-4. Lastly, the ADT for LOS D, (i.e. below C) operations for the listed roadways and associated road classifications is indicated in bold for emphasis.

As indicated in Table 3.1.7-4, Mobility Element Roads, included on the anticipated construction access route to the Proposed Project are operating at LOS A and therefore, the addition of 298 ADT during construction would not cause the roadways to operate below LOS C. As such, impacts to County Circulation (Mobility) Element Roads would be **less than significant**.

Although the existing ADT on Carrizo Creek Road and Carrizo Gorge Road is unknown (see Table 3.1.7-1), primary traffic on these roads consists of occasional border patrol vehicles and workers associated with area ranches. Because the road does not carry through traffic and because existing traffic flows consist of local area residents and occasional government operations, existing traffic volumes are assumed to be low. As discussed in Section 3.1.7.3, it is expected that approximately 50% of the construction worker trips would arrive at the Project site from the west, using Carrizo Gorge Road. However, the addition of 298 daily trips (approximately half of which would likely use Carrizo Gorge Road) during the 6-month construction time frame is not anticipated to cause these roads to exceed their assumed design capacity as pertains to acceptable traffic volumes on a Rural Residential Collector (i.e., less than 4,500 ADT – see Table 3.1.7-4). In the region ADTs are generally relatively low with a nearby section of Old Highway 80 recording 990 ADT, in a worst case example if all that traffic travelled to Carrizo Creek Road or Carrizo Gorge Road and the construction traffic was added the total 1,198 ADT would remain well below the design capacity for those roadways of 4,500 ADT. As such, impacts would be **less than significant**.

Operation

The Project would be an unstaffed facility that would be monitored remotely, and would thus not generate any regular vehicle trips. For the purposes of analysis a maximum of 20 ADT during operation was assumed in the event of an inspection, cleaning and maintenance event occurring simultaneously. The addition of these trips would not likely occur during the peak hours, but in the event they do the trips generated are sufficiently below the 200 trips under the County guidance so as to not require analysis. As such, impacts to traffic volumes during operation would be **less than significant**.

3.1.7.3.3 Signalized and Unsignalized Intersection Operation Impacts

Guidelines for the Determination of Significance

For the purposes of this EIR, the County's Traffic Guidelines (County of San Diego 2011b) applies to the direct and indirect impact analysis, as well as the cumulative impact analysis.

The Proposed Project will result in a significant volume and/or level of service traffic impact on a *signalized* intersection if:

a. The additional or redistributed ADT generated by the proposed project would cause a signalized intersection to operate below LOS D; and/or

b. The additional or redistributed ADT generated by the proposed project would significantly increase congestion (as identified in Threshold Matrix 3 of Table 3.1.7-5, Measure of Significant Project Impacts to Congestion on Signalized and Unsignalized Intersections) on a signalized intersection currently operating at LOS E or LOS F.

The Proposed Project is located in a primarily rural area, and regional access to the Project site would be provided via I-8. There are currently no signalized intersections along the roadway segments identified in Section 3.1.7.1.3 that would be used by construction workers or operations and maintenance staff. Intersections that would be encountered by construction traffic in the vicinity of the Proposed Project are directionally stop-controlled; therefore, thresholds (a) and (b) listed above would not be applicable to the Proposed Project and are not further discussed.

A project will result in a significant volume and/or LOS traffic impact on an *unsignalized* intersection if:

a. The additional or redistributed ADT generated by the Proposed Project would add 21 or more Peak Hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate below LOS D;

b. The additional or redistributed ADT generated by the Proposed Project would add 21 or more Peak Hour trips to a critical movement of an unsignalized intersection and the unsignalized intersection currently operates at LOS E;

c. The additional or redistributed ADT generated by the Proposed Project would add six or more Peak Hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at F;

d. The proposed project would add six or more Peak Hour trips to a critical movement of an unsignalized intersection and the unsignalized intersection currently operates at LOS F; or

e. Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance and/or other factors, the project would significantly impact the operations of the intersection.

As stated in Section 3.1.7.3.1, the County uses average ADT generated to determine if a TIS is required and what type of TIS is most appropriate for the project in question. Because the average daily construction trips associated with the Proposed Project (298 average daily trips) would be more than 200 average daily trips and would in turn be over the established County ADT threshold triggering the preparation of a TIS, additional consideration of the existing low levels of traffic, the temporary nature of the additional ADT (i.e. during construction), and the counter direction to commuter flow of construction traffic has been included in concluding that a TIS for the Proposed Project is not warranted. Because a TIS was not prepared and was not warranted, the existing delay and LOS at unsignalized intersections that would be encountered by construction traffic is not known. However, the Project area is primarily rural, the population is low, and local roads are typically traversed by occasional government vehicles and ranch workers. Table 3.1.7-1 provides ADT levels in the area. Because a TIS was not prepared and not warranted, the existing delay and LOS at unsignalized intersections that might be encountered by construction traffic cannot be identified with certainty. Regional travel through the area is provided by Old Highway 80; however, I-8 receives the majority of regional through traffic. Therefore, for purposes of this analysis and due to both the local character of the Project area and the LOS identified on local roadway segments, intersections along the anticipated construction access routes are assumed to be operating at an acceptable level with little delay. Most of the intersections encountered are two-way stop controlled intersections (TWSC) with north–south traffic being stop-controlled and regional east–west traffic on Old Highway 80 not subject to stop signs. According to the Guidelines for Determining Significance and Report Format and Content Requirements- Traffic and Transportation, LOS for a TWSC intersection is determined by estimating the control delay for each minor movement. For purposes of his analysis and based on the LOS on roadway segments in the Project area, the LOS at local area intersections is anticipated to be LOS A (i.e., the existing delay encountered by motorists is less than 10.0

seconds) or LOS B (existing delay of between 10.1 and 15.0 seconds). Therefore, Thresholds (a) through (d) for unsignalized intersections listed above would not be exceeded.

Analysis

Construction

Construction of the Proposed Project would occur Monday through Saturday and would generate approximately 298 average daily trips (149 AM and PM Peak Hour trips) during the peak periods of the 6-month construction schedule. Traffic would be distributed to regional and local roads identified in Section 3.1.7.3.1 and to local area intersections. Intersections that would be encountered by construction traffic include I-8/ Carrizo Gorge Road exit (Exit 72) and to a lesser extent, the I-8 Junction of Old Highway 80 and In-Ko-Pah Park Road (Exit 77). Each of the intersections listed above is TWSC intersection as stated above, and the intersections are assumed to be operating at LOS A or B conditions. Therefore, because existing traffic volumes on Project area roadways are low (LOS A operations on local area roadway segments were identified in Table 3.1.7-1) and because the delay at unsignalized intersections along the identified construction access route is assumed to be between 0 and 15 seconds, the addition of a temporary source of new traffic could affect existing intersection operations and delay. More specifically, the addition of approximately 149 AM and PM Peak Hour trips would increase the delay at unsignalized intersections along the construction access route; however preparation and implementation of the county required traffic control plan and construction notification plan would ensure the safe and efficient movement of traffic through the Project area and that local residents/motorists are properly notified of construction activities that could affect daily travel through the area.

While construction traffic could increase the delay at unsignalized intersections encountered along the construction access route, existing delay is assumed low/acceptable and able to accommodate the anticipated temporary influx in AM and PM Peak Hour traffic. In addition, implementation of the County-required traffic control plan and notification procedures would manage the overall volume of construction worker vehicles present on local roadways during the AM and PM Peak Hour to provide safe and efficient movement of traffic through the Project area. Further, the County-required traffic control plan would include provisions to ensure emergency vehicle passage at all times through the construction zone or along the construction access route. Therefore, Project construction impacts to unsignalized intersections would be **less than significant,** per Thresholds (a) through (e) for unsignalized intersections.

Operation

The Project would be an un-staffed facility that would be monitored remotely, and would thus not generate any regular vehicle trips. Periodic inspections, washing and repair or maintenance

would occur and generate an anticipated maximum of 20 ADT should these activities occur simultaneously. As such, impacts to unsignalized intersections during operation would be **less than significant,** per Thresholds (a) through (e) for unsignalized intersections.

3.1.7.3.4 Traffic Hazards Due to Design Features

Guidelines for the Determination of Significance

For the purposes of this EIR, the County's Traffic Guidelines (County of San Diego 2011b) applies to the direct and indirect impact analysis, as well as the cumulative impact analysis.

A significant traffic hazard will occur if the Proposed Project would:

a. Include a design feature or physical configuration of an access road that may adversely affect the safe transport of vehicles along the roadway;
b. Result in a percentage and/or magnitude of increased traffic on the road that would affect the safety of the roadway;
c. Result in the physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping or other barriers that may result in vehicle conflicts with other vehicles or stationary objects;
d. Not conform to the requirements of the private or public road standards, as applicable.

Analysis

Potential road hazards can occur due to a design feature or physical configuration of existing or proposed access roads that can adversely affect the safe transport of vehicles along a roadway. The Proposed Project includes the construction of an on-site access road and improvements to connect to an existing driveway. The Proposed Project does not alter existing roadway geometry on any roadways that serve the area. A safe and adequate sight distance shall be required at all driveways and intersections to the satisfaction of the Director of the DPW, and all road improvements and access roads would be constructed according to County Private Road standards. The access for the Proposed Project would be via the access road recently constructed for the ECO Substation, for which the County has reviewed and confirmed sight distance to be adequate. In addition, the Proposed Project would not entail the introduction of curves, slopes, walls, landscaping, or other barriers that would create potential conflicts between vehicles or potential conflicts between vehicles and stationary objects. Chain-link fencing would be installed around the perimeter of the Project site; however, proposed fencing would be relatively transparent and would not impair the visibility of motorists on Project area roadways.

As discussed earlier, access to the Project site would require vehicles including trucks coming from I-8. The Proposed Project would not change the geometry or otherwise alter the existing physical configuration of any roadways that serve the site. However, during construction, large flatbed trucks could be used to transport large components to the site and in order to ensure these trucks or any other construction equipment would not create a safety hazard and/or be a temporary inconvenience to travelers along the regional and local roadways, the applicant will prepare a traffic control plan and follow construction notification procedures in accordance with County requirements. The County-required traffic control plan would address the increased traffic anticipated on local area roadways during Project construction. For example, implementation of a traffic control plan would ensure the safe and efficient traffic flow in the area and would contain measures for construction noticing, signage, and policy guidelines. In addition, notification of property owners and tenants at least 24 hours in advance of construction activities (and if required, the provision of alternative access) where construction would obstruct access to property would be implemented following the County's notification procedures. While the traffic control plan would address construction traffic on both regional and local road in the Project area, notifying property owners in accordance with County requirements is local in scale and is intended to address potential conflicts that may arise between construction traffic and day-to-day traffic on local area roadways. Additionally, as indicated in Table 1-6 of Chapter 1, all necessary County ROW permits, including construction permits, excavation permits, and encroachment permits, would be obtained.

All of the Proposed Project components discussed above would ensure that access roads are designed in compliance with County Private Road standards and designed to allow safe passage of construction vehicles, including oversized trucks. The Proposed Project would include dual-purpose fire access roads and service roads; the primary access driveway would be approximately 35 feet wide and be provided off the existing paved ECO Substation driveway. The interior site roads would be constructed as suitable for fire access roads, and would be constructed to a minimum width of approximately 24 feet on the perimeter and approximately 20 feet between panel blocks. Service roads inside the fence would be constructed to a width of approximately 24 feet on the perimeter and approximately 20 feet between panel blocks. All roads would be suitable for supporting heavy emergency and maintenance vehicles. Sharp curves or dangerous intersections are not proposed. The Proposed Project would generate additional traffic on regional and local roads and would likely require the use of oversize construction vehicles. As indicated in Table 1-6 of Chapter 1, Project Description, the Proposed Project would obtain all necessary County ROW permits, including construction permits, excavation permits, and encroachment permits. Additionally, the County-required traffic control plan and notification procedures would be implemented in order to ensure that construction traffic and large construction trucks would not create a safety hazard and/or be a temporary inconvenience to

travelers along the regional and local roadways. Measures in the traffic control plan may include construction signage and demarcation of work areas within the public ROW.

Therefore, construction and implementation of the Proposed Project would not significantly increase hazards due to proposed design features; as such, **impacts would be less than significant** for Thresholds (a) through (d).

3.1.7.4 Cumulative Impact Analysis

Once the Proposed Project is completed, transportation or traffic associated with routine inspection and maintenance activities and operations would be minimal. Therefore, the only opportunity for cumulatively significant transportation and/or traffic impacts to occur would be during the construction phase of the Proposed Project. Construction of the Proposed Project is anticipated to take 6 months to complete. Pursuant to the construction schedules provided in Table 1-7 in Chapter 1, Project Description, this analysis assumes construction of the Proposed Project could occur concurrently with other land use and infrastructure development projects (e.g., wind and solar facilities). Although some of these projects, such as the Rugged Solar and Energia Sierra Juarez gen-tie projects in the area of Boulevard, would use I-8 as the primary regional access road, direct (local) Project access will not use the same routes. Construction of the Energia Sierra Juarez gen-tie project is expected to be completed in late spring 2016, and may overlap with the Proposed Project.

Potential construction-related traffic impacts would mostly result from lane closures and an increase in truck trips on local roadways that would occur within the immediate vicinity of the area. Therefore, the geographic extent for the analysis of cumulative traffic and transportation impacts is defined as the area within a 3-mile vicinity around Proposed Project site. This scope is appropriate because traffic impacts caused by the Proposed Project would be limited to local streets and would be of short duration, and based on the impact analysis presented above, are unlikely to cause substantial delays or traffic congestion.

As mentioned previously, the Proposed Project area is located in a predominantly rural area of unincorporated San Diego County. In addition, numerous local roads and unnamed dirt roads are spread throughout the area. The County of San Diego has developed an overall programmatic solution that addresses projected future road deficiencies in unincorporated San Diego County through creation of a TIF program to proportionally fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. These new projects are based on the San Diego Association of Governments (SANDAG) regional growth and land use forecasts; the SANDAG Regional Transportation Model was used to analyze projected buildout (year 2030) development conditions on the County's existing Mobility Element roadway network throughout unincorporated San Diego County. It is anticipated that

roadways in the Proposed Project area would continue to experience increased levels of traffic congestion as additional future land use developments are approved and population growth occurs. However, this area of the County has limited services and does not anticipate significant growth over the next 20 years. Potential cumulative impacts to the region's freeways have been addressed in SANDAG's Regional Transportation Plan (RTP). This plan, which considers freeway buildout over the next 30 years, will use federal, state, and TransNet funding to improve freeways to projected LOS objectives in the RTP.

This Project will participate in the TIF program by paying into the program based on the projected use and new trips to local and regional roads associated with the Proposed Project.

3.1.7.4.1 Roadway Segment Operation Impacts

None of the cumulative projects from Table 1-7 in Chapter 1, Project Description, are near enough to the Proposed Project that they would potentially use the same local roadway segments. Thus, the potential cumulative traffic effect on Project vicinity roadways (Carrizo Gorge Road and Old Highway 80) resulting from construction of reasonably foreseeable projects in the area would not be considerable, and the addition of construction trips relating to the Proposed Project **would not be cumulatively considerable** as it pertains to roadway segment operations.

3.1.7.4.2 Signalized and Unsignalized Intersection Operation Impacts

As previously described in Section 3.1.7.3.2, construction of the Proposed Project could generate up to approximately 298 ADT during the peak of construction activities. The Proposed Project would be using different local unsignalized intersections than other projects listed on Table 1-7 in Chapter 1. The County-required traffic control plan and notification procedures would ensure the safe and efficient movement of local traffic though the Project area and continued access to adjacent commercial properties along the construction access route. Therefore, intersection operations and construction relating to the Proposed Project **would not be cumulatively considerable** as it relates to signalized and unsignalized intersection operation impacts. ~~the potential cumulative traffic effects resulting from the construction of reasonably foreseeable projects in the area would not be considerable as it relates to established County thresholds for unsignalized intersection operations, and construction of the Proposed Project would not result in cumulative **traffic impact**.~~

3.1.7.4.3 Traffic Hazards Due to Design Features

As previously described, the Proposed Project would require the use of construction trucks to transport equipment and materials during construction activities. Access roads would be designed according to the County's standards to allow safe passage of construction vehicles, including oversized trucks. Sharp curves or dangerous intersections are not proposed. No off-site

improvements to existing access roads are needed or proposed. As indicated in Table 1-6 of Chapter 1, Project Description, the Proposed Project would obtain all necessary County ROW permits, including construction permits, excavation permits, and encroachment permits. These permits, along with the County-required traffic control plan and notification procedures, would ensure the safe travel of vehicles within construction work zones and continued access to adjacent commercial properties.

The reasonably foreseeable cumulative projects in the area, as previously described, would need to obtain grading and building permits from the County that include requirements for safety and design hazards. ~~The reasonably foreseeable cumulative projects in the area, as previously described, would need to control for safety and design hazards for road construction as well as compatibility risks that may be encountered during construction or future Project operation.~~ Therefore, the Proposed Project **would not contribute to a cumulative traffic impact** relative to road safety hazards.

3.1.7.5 Conclusion

This section provides a synopsis of the conclusions reached in each of the above impact analyses, and the level of impact that would occur after mitigation measures, if any, are implemented. The Proposed Project would not require mitigation measures because there were no identified significant impacts relative to traffic.

3.1.7.5.1 Roadway Segment Operations Impacts

Construction and operation of the Proposed Project would not cause operations on a Mobility Element Road to fall below LOS C and would not cause a non-Mobility Element Road to exceed its design capacity as it relates to ADT; therefore, impacts would be **less than significant.**

3.1.7.5.2 Signalized and Unsignalized Intersection Operation Impacts

Given the rural nature and low traffic volumes on the local access roads, and with implementation of the County-required traffic control plan and notification procedures, construction traffic impacts to local intersections would be **less than significant**.

3.1.7.5.3 Traffic Hazards Due to Design Features

With the implementation of the County-required traffic control plan and notification procedures, impacts relative to traffic hazards during construction of the Proposed Project would be **less than significant**. Operation and maintenance of the Proposed Project would not result in traffic hazards.

Table 3.1.7-1
Roadways within the Proposed Project Area Vicinity

Roadway	Jurisdiction	Classification[1]	Lanes[2]	Traffic Volumes		LOS[3]
				Year	*ADT*	
Interstate 8	Caltrans	Freeway	4	2012	14,000[4]	A
Old Highway 80	County of San Diego	Light Collector (2.2E)	2	2010	990[5]	A
Carrizo Creek Road	County of San Diego	Unclassified	2	N/A	N/A	N/A
Carrizo Gorge Road	County of San Diego	Unclassified	1	N/A	N/A	N/A

Sources: CPUC and BLM 2011; LLG 2011; Iberdrola Renewables 2010; SANDAG 2012; Caltrans 2013.
Notes:
1. Roadways identified as "Unclassified" do not appear on the County of San Diego Mobility Element Map.
2. Roadways designated as having one lane do not have any formal lanes, shoulders, medians, or markings. These are dirt roadways.
3. N/A - The County of San Diego does not actively maintain traffic counts for these roadways. LOS per the Public Road Standard Table 1.
4. ADT derived from Caltrans traffic volume data, Caltrans Traffic and Vehicle Data Systems Unit (Caltrans 2013a and 2013b).
5. Average daily traffic (ADT) identified for Old Highway 80 from Ribbonwood Road to McCain Valley Road (LLG 2011).

Table 3.1.7-2
San Diego County Criteria to Prepare a Traffic Impact Study

Project-Generated Traffic	Issue-Specific TIS	Focused TIS	Full TIS Needed	Congestion Management Analysis Needed
Less than 200 Average Daily Trips OR Less than 20 Peak Hour Trips	No[1]	No[2]	No	No
200–500 Average Daily Trips OR 20–50 Peak Hour Trips	Yes	No	No	No
500 Average Daily Trips OR 50 Peak Hour Trips	No	Yes	No	No
1,000 Average Daily Trips OR 100 Peak Hour Trips	No	No	Yes	No
2,400 Average Daily Trips OR 200 Peak Hour Trips	No	No	Yes	Yes

Notes:
1 Other situations could result in a request for an Issue-Specific or Focused TIS. These include, but are not limited to, issues addressed in this report.
2 Analysis of cumulative traffic impacts may require a TIS, even when Project-generated traffic volumes alone do not.

Table 3.1.7-3
Measure of Significant Project Impacts to Congestion of Road Segments: Allowable Increases on Congested Road Segments (Threshold Matrix I)

Level of Service	Two-Lane Road	Four-Lane Road	Six-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

Source: County of San Diego 2011c.
Notes:
1. By adding Proposed Project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes any trips must mitigate a share of the cumulative impacts.
2. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable LOS, for example, when such traffic accounts for a significant amount of the remaining road capacity.

Table 3.1.7-4
Proposed Project Access Route Roadways and Level of Service Thresholds

Road	Traffic Volumes (Year)	LOS	Road Classification	Level of Service[1]				
				A	*B*	*C*	***D***	*E*
Interstate 8[2]	13,575 (2011)	A	Expressway	<30,000	<42,000	<60,000	**<70,000**	<80,000
Old Highway 80[2]	990 (2010)	A	Light Collector (2.2E)	<1,900	<4,100	<7,100	**<10,900**	<16,200
Carrizo Creek Road	Unknown	Unknown	Unclassified	**<4,500[3]**				

Source: County of San Diego 2012..
Notes:
1 LOS thresholds are provided according to ADT.
2 County Circulation (Mobility) Element Road.
3 Although Tierra del Sol Road is an unclassified roadway, the road serves an area with lot sizes of 2 acres or more, and there is no current demand for street parking. In addition, the functionality of the road is to provide access to residential properties and to regional facilities (i.e., State Route 94 and Old Highway 80), and therefore, Tierra del Sol Road functions similar to a Rural Residential Collector.

Table 3.1.7-5
Measure of Significant Project Impacts to Congestion on Signalized and Unsignalized Intersections (Threshold Matrix 3)

Allowable Increases on Congested Intersections - LOS	Signalized	Unsignalized
LOS E	Delay of 2 seconds or less	20 or less Peak Hour trips on a critical movement
LOS F	Either a delay of 1 second, or 5 Peak Hour trips or less on a critical movement	5 or less Peak Hour trips on a critical movement

Source: County of San Diego 2011c.
Notes:
1. A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues, which typically operate at LOS F. Also, if a project adds significant volume to a minor roadway approach, a gap study should be provided that details the headways between vehicles on the major roadway.
2. By adding Proposed Project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact.
3. The County may also determine impacts have occurred on roads even when a project's direct or cumulative impacts do not trigger an unacceptable LOS, when such traffic uses a significant amount of remaining road capacity.
4. For determining significance at signalized intersections with LOS F conditions, the analysis must evaluate both the delay and the number of trips on a critical movement.