3.1.8 Transportation and Traffic

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.

3.1.8.1 Existing Conditions

The Proposed Project includes a total of approximately 1,490 acres within the Mountain Empire Subregional Plan area in unincorporated San Diego County; see Figure 1, Regional Location Map in Chapter 1.0, Project Description. The Proposed Project consists of four solar farms: Tierra del Sol, Rugged, LanEast, and LanWest, all of which are located in the Boulevard Subregional Plan area which consists of a group of small communities located east of Campo and west of Jacumba. Regional access within the Proposed Project area is provided by Interstate 8 (I-8) that traverses the project area to the east and west. A discussion of the roadway network that supports the Proposed Project area is provided below.

3.1.8.1.1 Regional Overview

The County of San Diego (County) Department of Public Works Road Section is responsible for maintaining nearly 2,000 miles of roadways and other transportation facilities within the unincorporated County. Non-County-maintained roadways include private roads (maintained by property owners), public roads (maintained by respective municipalities), and state highways (maintained by the California Department of Transportation (Caltrans)). The County's existing General Plan Mobility Element (County of San Diego 2011a) provides definitions for the roadway classification of County-maintained roads and identifies existing major roadways. Roadways include freeways (also known as state highways), expressways, prime arterials, major roads, collector roads, town collector roads, light collector roads, recreational parkways, rural collector roads, rural light collector roads, and rural mountain roads (County of San Diego 2011a).

Roads that serve the community of Boulevard and provide access to the Proposed Project sites are limited. There are four paved north–south public collector roads in Boulevard, including Tierra del Sol, Ribbonwood Road, Jewel Valley Road, and McCain Valley Road. Tierra del Sol Road would provide access to the proposed Tierra del Sol solar farm to the south. Old Highway 80, Ribbonwood Road, and McCain Valley Road would provide access to the Rugged, LanEast, and LanWest sites. These roads also provide links to Crestwood Road, Church Road, Canebrake Road, and La Posta Truck Trail, BIA 10 (also known as East Indian Road), and BIA 15. Only the paved roads are open to the public. The east–west roads that provide access include I-8, Old Highway 80, State Route 94 (SR-94, also known as Campo Road), and Moon Valley Road. In

addition, numerous 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; see Table 3.1.8-1 for further information (County of San Diego 2011b).

Existing Roadway Characteristics

Interstate 8 (I-8)—This four-lane interstate freeway provides for the majority of east–west Southern California traffic flow through the project area, 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 SR-94/Campo/Boulevard exit. This is the only on–off ramp that serves the community of Boulevard. In the vicinity of the community of Boulevard, the average daily traffic (ADT) 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. Old Highway 80 is classified as a light collector with bike lanes (2.2E) 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.

SR-94/Campo Road—This two-lane east–west state highway connects I-8 and Boulevard to rural communities to the west, including Cameron Corners, Campo, Canyon City, Potrero, Tecate, Dulzura, and Jamul, finally terminating at Old Highway 80 (approximately 0.5 mile west of Ribbonwood Road).

Ribbonwood Road (SR-94)—This road is located between Old Highway 80 and I-8, is classified as a Light Collector 2.2C on the County Mobility Element, and has access ramps for I-8 east and west. It also runs further to the north, beyond I-8, and provides access to ranch lands, residential neighborhoods, and a parcel belonging to the Campo Band Indian tribe. Ribbonwood Road is an unclassified road and is paved for approximately 1.65 miles north of I-8. Beyond this point, Ribbonwood Road is a dirt road providing local access to ranches and rural residential homes.

McCain Valley Road—This road runs north–south (under I-8) and provides access to lands to the north, including the McCain Valley Conservation Camp, several large ranches, and the historic McCain family ranch house. McCain Valley Road is currently built as an unclassified two-lane roadway north of I-8. McCain Valley Road is a paved roadway for approximately 1.8 miles north of I-8; at the entrance to Bureau of Land Management managed lands it becomes a dirt road. The posted speed limit on the paved portion of McCain Valley Road is 35 mph.

Tierra del Sol Road—This road runs north–south and provides access to the Tierra del Sol site. It is a two-lane road unclassified by the County. The posted speed limit is 35 mph.

Transit Facilities

According to the Mountain Empire Subregional Plan Mobility Element, there are no local transit facilities that serve the community of Boulevard (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). Transfer points are provided in Boulevard near the Boulevard Deli at 39335 Old Highway 80 and in Jacumba at the intersection of Old Highway 80 and Campo Street.

Bicycle Facilities

According to the County's General Plan Mountain Empire Mobility Network Map (County of San Diego 2011), Class II Bikeway facilities are located along SR-94 and west of the confluence of Old Highway 80 and SR-94; Old Highway 80 contains Class II Bikeway facilities. East of the confluence point and east of Ribbonwood Road, Old Highway 80 contains Class III Bikeway facilities. Per the definitions contained in the Department of Transportation (DOT) Highway Design Manual (DOT 2006), a Class II Bikeway (Bike Lane) provides a completely separated right–of-way (ROW) for the exclusive use of bicycles and pedestrians, and a Class III Bikeway (Bike Path) provides a striped lane for one-way travel on a street or highway.

Trails and Pathways

According the County's Community Trails Master Plan (CTMP) the area surrounding the Proposed Project sites contain proposed community trails and pathways (County of San Diego 2009). Proposed trails and pathways depict corridors of general alignments and are used to describe the general location of a future trail within a designated corridor. The Proposed Project applicants shall work with the County during the discretionary application review process to determine where trail and pathway easements may be dedicated and/or improved as a part of the major use permits. However, it should be noted that proposed trails and pathways in the Boulevard Community Trails and Pathways Plan are primarily existing unimproved access roads (or are located along roadway ROWs) and traverse private lands. Further, no public ROW has been established to date for proposed trails and pathways, and easements have not been acquired. Therefore, proposed trails and pathways are not considered established recreational facilities and they are not further discussed in this analysis.

Airports and Rail Lines

There are no public airports in the community of Boulevard. County-operated Jacumba Airport is located in the community of Jacumba, approximately 5 to 7 miles southeast 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 3.1.4 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 (UPRR) Line from El Centro. 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. Tierra del Sol Road crosses the rail line at existing grade approximately 0.7 mile north of the Tierra del Sol solar farm .

Planned Roadway Improvement Projects

Construction of both the Tierra del Sol and Rugged solar farms is anticipated to commence by July 2014 and would be completed by November 2015. During construction, planned roadway improvements in the area may occur simultaneously. Only one project was identified that could affect the project if construction was delayed. The San Diego County component of the 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).

Based on a review of the County of San Diego Five-Year Capital Improvement Plan, the only County improvement project planned in the vicinity of the Proposed Project area is the Ribbonwood Road Sightline Improvement Project (County of San Diego 2010c). Located in the community of Boulevard, the Ribbonwood Road Sightline Improvement Project consists of improving the sightline of a section (approximately 270 feet) of Ribbonwood Road featuring a horizontal curve. The improvement, which is expected to be completed by spring 2013, is located north of I-8, approximately 0.25 mile south of Opalocka Road, just west of the Rugged site. It is anticipated this Ribbonwood Road Sightline Improvement Project would be completed before work on the Rugged solar farm begins in July 2014.

3.1.8.1.2 Local Project Access

Tierra del Sol

Primary access to the proposed Tierra del Sol solar farm and operations and maintenance (O&M) facility would be provided by I-8, Ribbonwood Road, Old Highway 80/SR-94, and Tierra del Sol Road. During construction, the western portion of the Tierra del Sol solar farm could be accessed

by Tierra del Sol Road. The Tierra del Sol site is undeveloped and traversed by numerous unnamed and unimproved dirt roads.

Rugged

The Rugged site is located approximately 1.25 miles north of I-8 and extending roughly 2 miles between Ribbonwood Road and approximately 0.5 mile east of McCain Valley Road. Access to the western portion of the Rugged site would be via I-8 to Ribbonwood Road to the north. Access to the eastern portion of the Rugged site would be from I-8 east on Old Highway 80 to McCain Valley Road, north. Primary access to the Rugged site would be from Rough Acres Ranch Road accessed from McCain Valley Road that would be controlled by a security gate or gates for fenced portions of the site. Rough Acres Ranch Road would be improved to be approximately 32 feet wide, paved with asphalt, and extended for approximately 0.5 mile from McCain Valley Road to the eastern edge of the central subarea and continue for an additional 1.5 miles across the site, as shown in Figure 1-8 in Chapter 1.0, Project Description. Similar to the Tierra del Sol site, the Rugged site is also undeveloped and traversed by a number of unnamed and unimproved dirt roads.

LanEast and LanWest

The LanEast and LanWest sites are located adjacent to the south side of I-8, on the east side of the community of Boulevard. Access to the sites would be via I-8 to Old Highway 80 east approximately 2.7 miles to the boundary of the LanWest site. Similar to the Tierra del Sol and Rugged sites, the LanEast and LanWest sites are undeveloped and traversed by a number of unnamed and unimproved dirt roads.

3.1.8.2 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 requires that an encroachment permit be obtained prior to the initiation of any non-transportation activities (including utility construction) occurring within the ROW of the state highway system. Because construction activities would occur within the ROW of the state highway system, the project would obtain necessary encroachment permits from Caltrans. Encroachment permits are obtained from the local Caltrans office (District 11). According to the Caltrans Encroachment Permit Application Guide, utility construction projects are not required to submit or prepare a Traffic Control and Detour Plan. Caltrans "Guidelines for Traffic Control Plans" are located in Section 2-205 of the Caltrans *Construction Manual* (Caltrans 2009, p. 2-2.3). The Caltrans *Construction Manual* also contains provisions for nighttime construction work within the state highway system ROW.

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 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. The California Streets and Highway Code Division 1, Chapter 1, Article 3, Section 117 requires 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.

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.

Boulevard Subregional Plan Area Community Plan

The following goals and policies of the Boulevard Subregional Plan Area Community Plan associated with transportation and traffic are applicable to the Proposed Project.

- **Goal CM 3.1:** Avoid the proliferation of unauthorized access to private property via improperly located, authorized, or secured fire access routes.
    - **Policy CM 3.1.1:** Require secondary fire access/egress routes to connect to a public road, when feasible.

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; County of San Diego 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 project implementation. As shown in Table 3.1.8-2, San Diego County Criteria to Prepare a traffic impact study (TIS), 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. 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 1.0, Project Description, on average approximately 58 trips per day would be generated during project construction of the Tierra del Sol project, and on average 160 daily trips would be generated by construction of the Rugged solar farm. Project details concerning the LanEast and LanWest projects are unknown at this time and therefore, average daily trips anticipated during construction have not been approximated. The average daily construction trips associated with the Tierra del Sol project and the Rugged solar farm would individually be less than 200 average daily trips and would in turn be less than the established County threshold triggering the preparation of a TIS. In addition, the use of similar transportation facilities during construction of the two projects is anticipated to be limited and would consist of I-8, on- and off-ramps for Ribbonwood Road, and an approximate 0.50 mile segment of Ribbonwood Road located between I-8 and Old Highway 80. Lastly, as discussed Chapter 2.2, Air Quality, implementation of a construction worker ridership program that would reduce single-occupancy vehicle trips by 30% would be implemented as a part of the Proposed Project (M-AQ-PP-2) and would reduce the approximate average construction trips per day discussed above for Tierra del Sol and Rugged solar farm projects.

3.1.8.3 Analysis of Project Effects and Determination as to Significance

The Proposed Project consists of four renewable energy solar farms in southeastern San Diego County. The following impact analysis has been separated into discussions for each of the four solar farms: Tierra del Sol, Rugged, LanEast, and LanWest, as well as a combined discussion of the Proposed Project as a whole. For the purposes of this Program EIR, the Tierra del Sol and Rugged solar farms are analyzed at a project level, whereas the LanEast and LanWest solar farms are analyzed at a programmatic level as sufficient project-level data has not been developed at this time.

Methodology and Assumptions

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 McCain Valley Road, Old Highway 80, SR-94, Ribbonwood Road, and Tierra del Sol Road for primary and secondary site access. The majority of construction-related and future operational employee traffic is anticipated to be from east and west of the project area along I-8 as their primary route to work, exiting at the SR-94/Campo/ Boulevard exit (i.e., Exit 65). The morning or AM Peak Hour is generally between 7 a.m. and 9 a.m., while the evening or PM Peak Hour is generally between 5 p.m. and 7 p.m. On-site access roads would be constructed as part of the Proposed Project to provide access within the sites. It is anticipated these roadways

would be either all-weather compatible dirt or gravel and designed to County standards, and some may be abandoned after construction is complete.

As indicated in Chapter 1.0, Project Description, construction-related activities include site preparation, development of staging areas and site access roads, tracker assembly and installation, and construction of electrical transmission facilities. During the peak of construction, a typical day would include the transportation of construction workers to the various Proposed Project site(s), trucks delivering heavy equipment, including the solar trackers, water trucks for dust suppression, and transportation of other materials.

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

The following discusses trip generation for each component of the Proposed Project.

Tierra del Sol

Construction of Tierra del Sol project is anticipated to generate approximately 21,196 total worker, equipment and delivery vehicle trips during the 14-month construction period. Therefore, assuming 26 work days per month (construction would occur Monday through Saturday), a total of 364 construction work days would be required and thus, on average approximately 58 trips per day would be generated during project construction. However, while project construction would generate an average of 58 daily trips throughout the duration of construction activities, trip generation and distribution for workers and delivery trucks would ultimately vary depending on the phase of construction. For example, during the clearing and grubbing phase of site preparation, construction traffic inclusive of construction worker trips, delivery truck trips, and water/concrete truck trips would peak at approximately 163 average trips per day during a 2-month period early in the construction schedule. Typical peak hour commute times when traffic volumes are the highest on freeways and regional roadways are between 7 a.m. and 9 a.m. (AM Peak Hour) and between 4 p.m. and 6 p.m. (PM Peak Hour). Therefore, during the most intense phase of construction, it is assumed that there could be approximately 82 project-generated trips arriving at the project site during the AM Peak Hour. Additional daily trips would also be generated during the peak construction period to

accommodate off-site import of water to the project site from the Jacumba Community Services District (JCSD) and Padre Dam Municipal Water District (PDMWD). Construction activities would occur for an 8-hour period between the days and hours permitted by the County Noise Ordinance (Monday through Saturday, 7 a.m. to 7 p.m.) and therefore, construction traffic associated with the Tierra del Sol project could be distributed on local and regional roadways during the PM Peak Hour time frame.

During operations, 6 to 7 employees would oversee maintenance of the solar farm facility and therefore, regular operations would generate up to 14 daily trips (7 AM and PM Peak Hour trips). Intermittent operational activities would consist of panel washing approximately every 6 weeks (a total of 36 trips per year is assumed for this phase of project operation).

Rugged

Construction of the Rugged solar farm is anticipated to generate approximately 49,773 total worker, equipment, and delivery vehicle trips during the 12-month construction period. Therefore, assuming 26 work days per month (construction would occur Monday through Saturday), a total of 312 construction work days would be required and thus, on average approximately160 trips per day would be generated during project construction. However, while project construction would generate an average of 160 daily trips throughout the duration of construction activities, trip generation and distribution would be dependent on the phase of construction and associated worker demand. For example, during tracker installation, average daily trips (including worker vehicle and heavy-duty truck trips) generated by construction activities could exceed 200 during a 9-month period early in the construction schedule. Therefore, during the most intense phases of construction when average daily trips are anticipated to be highest, it is assumed that there could be over 100 project-generated trips arriving at the project site during the AM Peak Hour. Additional daily trips would also be generated during the peak construction period to accommodate off-site import of water to the project site from the JCSD and Pine Valley Mutual Water Company (PVMWC). Construction activities would occur for an 8-hour period between the days and hours permitted by the County Noise Ordinance (Monday through Saturday, 7 a.m. to 7 p.m.) and therefore, it is anticipated that Rugged solar farm construction traffic could adversely affect PM Peak Hour traffic operations on local and regional roadways.

Following the construction phase, approximately 15 to 20 full-time employees would generate up to 40 daily trips (up to 20 AM and PM Peak Hour trips). As with the Tierra del Sol project, intermittent operational activities would consist of panel washing approximately every 6 weeks (a total of 36 trips per year is assumed for this aspect of project operation).

LanEast and LanWest

Sufficient project-level information for the LanEast and LanWest solar farm sites has not yet been developed and therefore, the anticipated project trip generation in terms of average daily trips during the duration of construction and the approximate AM and PM Peak Hour trips during the most intense phases of construction have not yet been determined. It is anticipated however, that a total of 60 construction workers would be required to construct both solar farms simultaneously and therefore, fewer truck trips would be required to deliver materials and supplies to the sites compared to Tierra del Sol and Rugged. In addition, the LanWest site is the smallest and only proposes to develop 6.5 megawatts (MW) which would require fewer than 300 trackers, compared to over 2,600 trackers required for the 60-megawatt (MW) Tierra del Sol solar farm and over 3,500 trackers for the Rugged solar farm. Therefore, because worker, equipment, and vehicle trip demands associated with construction of the LanEast and LanWest solar farms are assumed to be substantially less than that required by the 60 MW Tierra del Sol solar farm.

During operations, it is assumed that between 4 and 9 employees would be employed to oversee operations of the LanEast and LanWest solar farms and would generate up to 18 daily trips (9 AM and PM Peak Hour trips).

3.1.8.3.1 Roadway Segment Operation Impacts

Guidelines for the Determination of Significance

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

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

a. The additional or redistributed ADT generated by a project would cause an adjacent or nearby County Circulation Element Road or State Highway to operate below LOS D;

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 (as identified in Threshold Matrix I below) 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 and residential streets. For

County Circulation Element Roads, LOS operations below D signify a significant traffic impact; for residential streets, significant traffic impacts are signified by roadway operations in excess of the design capacity as determined by the County of San Diego DPW Public and Private Road Standards – see Table 1 Average Daily Vehicle Trips (County of San Diego 2012). In regards 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 below in Table 3.1.8-3.

According to the Mountain Empire Mobility Element Network Map (County of San Diego 2011), I-8, Ribbonwood Road (south of I-8), SR-94, and Old Highway 80 are classified as Mobility Element Roads. As shown in Table 3.1.8-1 and 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

Tierra del Sol

Construction

Construction of the Tierra del Sol 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 Tierra del Sol site. As stated in Chapter 1.0, Project Description, groundwater from existing wells located on site would be used as permitted by the County; however, additional water sources including the JCSD and PD MWD, would also be used during construction). Construction is anticipated to take approximately 14 months to complete, and construction activities would occur for an 8-hour period, Monday through Saturday between the hours of 7 a.m. to 7 p.m.

As indicated in Chapter 1.0, Project Description, a maximum of 120 construction workers would be required during the peak construction period and as stated above in Section 3.1.8.3.1, on average approximately 58 trips per day would be generated during project construction. Additional truck trips would be generated to accommodate an increase in off-site water imports from JCSD and PDMWD. 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 3.1.8.1.3. The segment of I-8 in the vicinity of the Tierra del Sol site is operating at acceptable LOS levels (LOS C or above – see Table 3.1.8-1) and the addition of an average of 58 trips per day (and up to 163 trips per day during the most intense period of construction) would not cause interstate operations to fall below LOS D. Also, off-site water imports from JCSD and PDMWD would be concentrated during the 60-day period peak construction demand and the increased daily trips associated with water deliveries would not cause interstate operations to fall below LOS D. Similarly, the addition of average and/or worst-case project-generated construction traffic to local Mobility Element Roads (i.e., Ribbonwood Road south of I-8, Old Highway 80, and SR-94) would not cause traffic operations on these roadways to fall below LOS D. To illustrate this point, the existing ADT on I-8, Ribbonwood Road (south of I-8), Old Highway 80, and SR-94 (Mobility Element Roads included on the anticipated regional and local construction access route to the project site) is listed below in Table 3.1.8-4. 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 3.1.8-4. Lastly, the ADT for LOS D operations for the listed roadways and associated road classifications is indicated in bold for emphasis.

Although not a Mobility Element Road, Tierra del Sol Road is also listed in Table 3.1.8-4 as it would also be utilized by construction traffic to access the Tierra del Sol site.

As indicated in Table 3.1.8-4 above, Mobility Element Roads included on the anticipated construction access route to the Tierra del Sol project are operating at LOS A and therefore, the addition of 58 ADT during construction (or up to 163 daily trips during the most intense periods of construction) and increased daily trips associated with off-site water deliveries during the 60-day period of peak demand would not cause the roadways to operate below LOS D. As such, impacts to County Circulation (Mobility) Element Roads would be **less than significant**. In addition, construction traffic would be reduced with implementation of M-AQ-PP-2 which would promote implementation of a construction worker ridership program that would have a goal of decreasing single-occupancy vehicle trips by 30%.

While the existing ADT on Tierra del Sol Road is unknown (see Table 3.1.8-4), primary traffic on the road consists of residential motorists, occasional border patrol vehicles and workers associated with area ranches and equestrian facilities. 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. Therefore, the addition of 58 daily trips (and up to 163 daily trips during the most intense periods of construction) and increased daily trips associated with off-site water deliveries during the 60-day period of peak demand during the 14-month construction time frame is not anticipated to cause Tierra del Sol Road to exceed its assumed design capacity as it pertains to acceptable traffic volumes on a

Rural Residential Collector (i.e., less than 4,500 ADT – see Table 3.1.8-4). As such, impacts would be **less than significant**. In addition, implementation of M-AQ-PP-2 would help reduce average daily trips associated with construction through promotion of a construction worker ridership program that would have a goal of decreasing single-occupancy vehicle trips by 30%.

Operation

The operation of Tierra del Sol would require between six to seven full-time employees accessing the site on a daily basis to clean and maintain the facilities. Therefore, it is assumed that up to 14 daily trips and 7 AM and PM Peak Hour trips would be generated by project operations. Further, it is also assumed that project employees would access the site via a similar regional and local access route as used by construction workers. In addition to employee vehicle trips, operation phase trips would be generated by gen-tie maintenance activities (i.e., pole/structure brushing, herbicide application, and equipment repair); however, these activities would be relatively infrequent and would primarily occur on an as-needed basis. As such, trips associated with gen-tie maintenance activities are not assumed to occur on a daily basis and are thus not considered in the operational daily trip assumptions. Therefore, the negligible increase in trips associated with operation of the Tierra del Sol solar farm (14 daily trips and 7 AM and PM Peak Hour trips) would not cause traffic operations on County Circulation Element Road or Tierra del Sol Road to fall below LOS D. As shown in Table 3.1.8-4, the addition of up to 14 daily trips to existing traffic volumes on regional and local roadways would not be substantial and would not degrade LOS operations. Impacts would be **less than significant.**

Rugged

Construction

Similar to the Tierra del Sol project, construction of the Rugged solar farm would generate increased traffic volumes of local and regional roads utilized by construction personnel to access the project site. Construction traffic would include worker vehicles and trucks delivering materials, supplies, and water to the Rugged site. As stated in Chapter 1.0 Project Description, construction activities would take approximately 12 months to complete and would occur for an 8-hour period, Monday through Saturday between the hours of 7 a.m. and 7 p.m. As stated in Section 3.1.8.3.1 above, on average approximately 160 trips per day would be generated during project construction and the majority of construction workers and delivery trucks would access the site regionally via I-8 and locally via Ribbonwood Road, Old Highway 80, and McCain Valley Road. Additional truck trips would be generated to accommodate an increase in off-site water imports from JCSD and PVMWC. Roadway traffic volumes, road classifications, and applicable LOS traffic volume thresholds for roads anticipated to be used during construction area presented below in Table 3.1.8-5.

According to available information presented in Table 3.1.8-4, Mobility Element Roads included on the anticipated construction access route to Rugged solar farm site (i.e., I-8, Ribbonwood Road (south of I-8), and Old Highway 80) are operating at LOS A. Therefore, the addition of 160 average trips per day (or over 200 daily trips during a 9-month period when construction traffic generation would be greatest) would not cause roadway operations to fall below LOS D. Also, off-site water imports from JCSD and PVMWC would be concentrated during the 60-day period peak construction demand and the increased daily trips associated with water deliveries would not cause roadway operations to fall below LOS D. In addition, non-Mobility Element Roads used by construction are operating at an acceptable LOS and the addition of 160 average daily trips (and/or over 200 daily trips during a 9-month period when construction traffic generation would be greatest) and increased daily trips associated with off-site water deliveries during the 60-day period of peak demand would not cause Ribbonwood Road (north of I-8) or McCain Valley Road to exceed their assumed design capacity as it pertains to acceptable traffic volumes on a Rural Residential Collectors (i.e., less than 4,500 ADT – see Table 3.1.8-5). As such, construction traffic impacts to non-Mobility Element Roads would be **less than significant.** Also, construction traffic on Mobility Element and non-Mobility Element Roads would be reduced with implementation of M-AQ-PP-2, which would implement a construction worker ridership program having a goal of decreasing single-occupancy vehicle trips by 30%.

Operation

Following the construction phase, the O&M building would provide a base of operations and maintenance for approximately 15 to 20 full-time employees that would generate up to 40 daily trips (up to 20 AM and PM Peak Hour trips). Existing LOS on Mobility Element and non-Mobility Element Roads likely to be used by full-time staff members (the same roads used during construction would be used during operations) is acceptable in terms of existing traffic volumes and volume-to-capacity ratio. Based on available information, roadways identified in Table 3.1.8-5 are operating at LOS A and therefore, the addition of up to 40 daily trips would not cause operations to fall below LOS D (on Mobility Element Roads) or cause roads to exceed their assumed design capacity as it pertains to acceptable traffic volumes (on Ribbonwood Road (north of I-8) or McCain Valley Road). Therefore, operational traffic impacts would be **less than significant**.

LanEast and LanWest

Construction

The LanEast and LanWest sites are located immediately adjacent to each other just east of the community of Boulevard along Old Highway 80. Project level information has not yet been

developed for these two solar farms; therefore, certain assumptions are made relative to construction and traffic (see Section 3.1.8.3.1). As stated in Section 3.1.8.3.1, approximately 60 construction workers would be required to construct both solar farms simultaneously, and therefore, fewer truck trips would be required to deliver materials and supplies to the site compared to the Tierra del Sol project and the Rugged solar farm. Therefore, as worker, equipment, and vehicle trip demands associated with construction of the LanEast and LanWest projects are assumed to be substantially less than that required by the 60 MW Tierra del Sol solar farm, project construction impacts to Mobility Element and non-Mobility Element Roads would be less than those described above for both the Tierra del Sol project and the Rugged solar farm. More specifically, the addition of construction traffic associated with the LanEast and LanWest projects to the regional and local roadway network would not cause operations on Mobility Element Roads to fall below LOS D and would not cause non-Mobility Element Roads to exceed their assumed design capacity as it pertains to acceptable traffic volumes. With the exception Ribbonwood Road (north of I-8), the same roads used during construction of the Rugged solar farm would be used during construction of LanEast and LanWest, and therefore, information presented in Table 3.1.8-5 would also apply to LanEast and LanWest. Because the temporary increase in construction-related trips would not exceed the County's LOS or design capacity thresholds, impacts would be **less than significant**.

Operation

Operation of both the LanEast and LanWest solar farms would only require four to nine employees accessing the sites to do routine maintenance and to oversee the facilities. Therefore, during operations, up to 18 daily trips (9 AM and PM Peak Hour trips) would be generated. The addition of 18 daily trips to regional and local roads would not cause roadway operations to fall below LOS D (for Mobility Element Roads) or cause roads exceed their assumed design capacity as it pertains to acceptable traffic volumes (for McCain Valley Road) (see Table 3.1.8-5 for applicable ADT volumes for LOS D and for McCain Valley Road). As such, impacts would be **less than significant**.

Proposed Project

Construction

Construction of the Proposed Project would require construction workers accessing the sites from I-8 via the SR-94/Boulevard Campo exit and traveling along SR-94, Old Highway 80, and other local roads. Pursuant to the construction schedules provided in Section 1.0, Project Description, this analysis assumes construction of the Tierra del Sol and Rugged solar farms would overlap during some months. However, during the most intense phases of construction (site grading and clearing), the schedules would not overlap. Also, the LanEast and LanWest

solar farms would not begin construction until after the Tierra del Sol and Rugged solar farms are completed, and therefore, traffic generated by construction of LanEast and LanWest would not traverse regional and local roadways during the same time frame as Tierra del Sol and Rugged construction traffic.

As stated previously, construction of the Tierra del Sol solar farm would generate an average of approximately 58 trips per day over 14 months and up to 163 trips per day during the most intense phases of activity (i.e., clearing and grading). In comparison, construction of the Rugged solar farm would generate an average of 160 trips per day over 12 months and up to 232 trips per day during clearing, grading, and tracker installation. Based on the aggregate average number of daily trips generated by construction of the Tierra del Sol and Rugged solar farms, this analysis assumes that an average of up to 220 daily trips would be distributed on the regional and local roadways used by construction crews of both the Tierra del Sol and Rugged solar farms. Additional truck trips would be generated to accommodate an increase in off-site water imports from JCSD and PDMWD (for the Tierra del Sol solar farm) and JCSD and PVMWC (for the Rugged solar farm). As previously discussed, roadway facilities anticipated to be used by both construction crews are limited to I-8 and Ribbonwood Road (south of I-8), both of which are County Circulation (Mobility) Element Roads. At the intersection of Ribbonwood Road and Old Highway 80, construction workers for Tierra del Sol would head west on Old Highway 80 and SR-94 to access Tierra del Sol Road and the project site, and Rugged construction crews would head east along Old Highway 80 to McCain Valley Road and access the project site (Rugged site access would also be available from Ribbonwood Road north of I-8). Based on the information presented in Tables 3.1.8-4 and 3.1.8-5 above, both I-8 and Ribbonwood Road (south of I-8) are operating at LOS A, and the addition of 220 daily trips during construction would not cause operations to fall below LOS D. As such, the aggregate average daily trips generated by construction of the Tierra del Sol and Rugged solar farms would not cause a County Circulation (Mobility) Element Road to operate below LOS D, and therefore, impacts would be **less than significant**. In addition, average daily trips generated by construction activities would be reduced through implementation of M-AQ-PP-2 that would promote voluntary implementation of a construction worker ridership program that would have a goal of decreasing single-occupancy vehicle usage by 30%.

This analysis also assumes that during the most intense phases of construction for the Tierra del Sol and Rugged solar farms, there would be approximately 163 trips from Tierra del Sol and 232 trips from Rugged during the AM Peak Hour exiting I-8 at the SR-94/Boulevard Campo exit and traveling south along Ribbonwood Road to Old Highway 80. Based on current project schedules, the most intense phases of construction for the two projects would not overlap. Based on available information both I-8 and Ribbonwood Road (south of I-8) are operating at LOS A (see Tables 3.1.8-4 and 2.13-5) and the addition of up 163 and 232 AM Peak Hour trips along the

identified roadway segments would not cause operations to fall below LOS D. Therefore, because the anticipated Peak Hour trips generated by construction of the Tierra del Sol and Rugged solar farms would not cause a County Circulation (Mobility) Element Road to operate below LOS D, impacts would be **less than significant**. Further, as stated above, implementation of M-AQ-PP-2 would help decrease anticipated aggregate AM Peak Hour trips on shared segments of construction access routes.

Operation

Once the Proposed Project is operational, the average number of full-time employees accessing the solar farm sites would range from between approximately 30 to 36 on any given day. Therefore, assuming a worst-case scenario of 36 full-time employees, regular operation of the Proposed Project would generate 72 daily trips and 36 AM and PM Peak Hour trips. Additional trips such as deliveries and maintenance would occur intermittently and are not assumed to necessitate daily trips. As indicated in Tables 3.1.8-4 and 3.1.8-5, none of the roadways serving the Proposed Project sites currently operate at an unacceptable LOS. Based on available information, all identified regional and local roads anticipated to be used by operations staff operate at LOS A, and the addition of 72 average daily trips and/or 36 peak hour trips would not cause operations on a County Circulation (Mobility) Element Road to fall below LOS D. Also, the addition of 72 average daily trips and/or 36 Peak Hour trips would not cause a non-Circulation (Mobility) Element Road (i.e., Ribbonwood Road north of I-8, Tierra del Sol Road, and McCain Valley Road) to exceed their assumed design capacity as it pertains to acceptable traffic volumes. As such, impacts would be **less than significant**.

3.1.8.3.2 Signalized and Unsignalized Intersection Operation Impacts

Guidelines for the Determination of Significance

For the purposes of this Program EIR, the County's *Guidelines for Determining Significance and Report Format and Content Requirements- Traffic and Transportation* (County of San Diego 2011c) 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 3.1.8-6, below) 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 individual project sites would be provided via I-8. There are currently no signalized intersections along the roadway segments identified in Section 3.1.8.1.3 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 (i.e., in the Boulevard area) are directionally stop-controlled and therefore, Thresholds a and b listed above would not be applicable to the Proposed Project and are not further discussed.

As stated in Table 3.1.8-6, 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 3.1.8.3.1, 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 Tierra del Sol project (58 average daily trips) and the Rugged solar farm (160 average daily trips) would be individually be less than 200 average daily trips and would in turn be less than the established County ADT threshold triggering the preparation of a TIS, a TIS for the Proposed Project was not prepared. 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 in character; the population is low; and local roads are typically traversed by residents, occasional government vehicles, and equestrian farm and ranch workers. Regional travel through the area is provided by SR-94 and 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 SR-94 and 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 this 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

Tierra del Sol

Construction

Construction of the Tierra del Sol project would occur Monday through Saturday and would generate approximately 58 average daily trips (29 AM Peak Hour trips) during the duration of the 14-month construction schedule. During the most intense phase of activities, construction would generate up to 163 average daily trips (82 AM Peak Hour trips) over an approximate 2-month period. Traffic would be distributed to regional and local roads identified in Section 3.1.8.3.1 and to local area intersections. Intersections that would be encountered by construction traffic include I-8/Ribbonwood Road ramps, Ribbonwood Road/Old Highway 80, and SR-94/Tierra del Sol Road. 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 3.1.8-1) and because the delay at unsignalized intersections along the identified construction access route is assumed to be between 0 and 15.0 seconds, the addition of a temporary source of new traffic could affect existing intersection operations and delay. More specifically, the addition of approximately 29 AM Peak Hour trips (or 82 AM Peak Hour trips) would increase the delay at unsignalized intersections along the construction access route; however **PDF-TR-1** (preparation and implementation of a Traffic Control Plan, preparation of a construction notification plan, and notification of property owners and provision of access) has been provided to 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. **PDF-TR-1** is listed in Table 1-10 of Chapter 1.0 and below for reference.

PDF-TR-1 **Prepare Traffic Control Plan.** Pursuant to the County of San Diego Code of Regulatory Ordinances, Sections 71.602, 71.603 and 71.605, the project applicant or construction contractor shall obtain a traffic control permit and prepare a traffic control plan for each project to ensure safe and efficient traffic flow in the area and on the project sites during construction activities. The traffic control plan shall specifically address construction traffic within the County's public rights-of-way satisfactory to the Department of Public Works at least forty-five days prior to construction. The traffic control plan shall contain project-specific measures to be implemented during construction for noticing, signage, policy guidelines, and the limitation of lane closures to off-peak hours (although it is noted that no requirement for roadway or lane closures has been identified). The traffic control plan shall include provisions for construction times, and control plans for allowance of bicyclists, pedestrians, and bus access throughout construction. The traffic control plan shall also include provisions to ensure emergency vehicle passage at all times.

The traffic control plan shall include a construction notification plan, which shall identify the procedures that would be used to inform property owners of the location and duration of construction, identify approvals that would be needed prior to posting or publication of construction notices, and include text of proposed public notices and advertisements. The construction notification plan would address at a minimum the two following components:

- **Public notice mailer**. A public notice mailer would be prepared and mailed no fewer than 15 days prior to construction. The notice would identify construction activities that would restrict, block, remove parking, or require a detour to access existing residential properties, and would provide alternative access, if required. The notice would state the type of construction activities that would be conducted and the location and duration of construction, including all helicopter activities. The project applicant or construction contractor would mail the notice to all residents or property owners within 1,000 feet of project components. If construction delays of more than 7 days occur, an additional notice would be prepared and distributed.
- **Public liaison person and toll-free information hotline**. The project applicant or construction contractor would identify and provide a public liaison person before and during construction to respond to concerns of

neighboring property owners about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person would be included in notices distributed to the public. The project applicants would also establish a toll-free telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures for handling and responding to calls would be addressed in the construction notification plan.

To facilitate access to properties that might be obstructed by construction activities, the project applicant or construction contractor would notify property owners and tenants at least 24 hours in advance of construction activities and would provide alternative access if required.

While construction traffic would 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 Peak Hour traffic. In addition, implementation of **PDF-TR-1** would ensure the safe and efficient movement of traffic through the project area. Further, PDF-TR-1 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 intersections would be **less than significant**. Furthermore, as previously stated, M-AQ-PP-2 has been provided and would reduce overall single-occupancy construction vehicle usage by up to 30% through promotion of a construction worker ridership program.

Operation

Six to seven full-time employees would run the day-to-day operations of the solar farm and therefore, project operations would generate up to 14 daily trips or 7 AM Peak Hour and 7 PM Peak Hour trips assuming carpooling does not occur. The addition of seven vehicle trips to future AM and PM Peak Hour traffic flows could result in increased delays at local area intersections; however, future intersection operations are anticipated to be acceptable given the current development pattern of the area. In addition, the increased delay associated with seven new trips would not be overly substantial in terms of the movement of traffic through the area, and it is unlikely that each employee would traverse the local road network at the same time during the AM and PM Peak Hours given the varying responsibilities and routines of each individual staff member. Therefore, traffic generated by operation of the Tierra del Sol project would not substantially affect the operations of local unsignalized intersections and impacts would be **less than significant**.

Rugged

Construction

Construction of the Rugged solar farm would generate approximately 160 average daily trips (80 AM Peak Hour trips) during the duration of the 12-month construction schedule. During the most intense phase of activities, construction would generate up to 232 average daily trips (116 AM Peak Hour trips) over an approximate 9-month period. In addition to regional and local roads, construction traffic would be distributed to local area intersections. Intersections that would be encountered by construction traffic include I-8/Ribbonwood Road Ramps, Ribbonwood Road/Old Highway 80, and Old Highway 80/McCain Valley Road. With the exception of McCain Valley Road, each of the intersections listed above is a TWSC intersection (McCain Valley Road is one-way stop controlled with through traffic on Old Highway 80 provided free flow conditions). As stated previously, the intersections anticipated to be used by construction traffic are assumed to be operating at LOS A or B conditions due to existing low traffic volumes (and LOS A operating conditions) on local roads and the prevalence of rural residential land uses in the Boulevard area. While the delay at unsignalized intersections along the Rugged construction access route is assumed to be between 0 and 15.0 seconds (LOS A or B operating conditions), the addition of a temporary source of new traffic could affect existing intersection operations and delay. More specifically, the addition of approximately 80 AM Peak Hour trips throughout the duration of construction or 116 AM Peak Hour trips during the most intense phases of construction would increase the delay at unsignalized intersections in the project area, however, as previously stated, **PDF-TR-1** (Traffic Control Plan, Construction Notification Plan), and Notification and Provision of Access to Property) has been provided and would ensure the safe, timely movement of traffic through the project area. Therefore, with implementation of the above referenced PDF, construction traffic impacts to identified unsignalized intersections in the Boulevard area from the Rugged solar farm would be **less than significant.** Furthermore, as previously stated, M-AQ-PP-2 has been provided and would reduce overall single-occupancy construction vehicle usage by up to 30% through promotion of a construction worker ridership program.

Operation

Up to 20 full-time employees would run the day-to-day operations of the solar farm, and therefore, project operations would generate up to 40 daily trips and 20 AM Peak Hour and 20 PM Peak Hour trips. While the addition of 20 vehicle trips to future AM and PM Peak Hour traffic flows could trigger increased delays at local area intersections, future intersection operations are anticipated to be acceptable given the current development pattern of the Boulevard area. In addition, the increased delay caused by 20 new trips distributed on local roads during the AM Peak Hour (i.e., between 7 a.m. and 9 a.m.) and the PM Peak Hour (4 p.m. and 6

p.m.) would not be substantial in terms of impairing the movement of traffic through the area. Further, it is unlikely that each employee would traverse the local road network at the same time during the AM and PM Peak Hours given the varying responsibilities and routines of each individual staff member. Therefore, operation of the Rugged solar farm would not generate traffic that would substantially affect the operations of local unsignalized intersections. As such, impacts would be **less than significant**.

LanEast and LanWest

Construction

While project level information has not yet been developed for the LanEast and LanWest solar farm projects, it is estimated that approximately 60 construction workers would be needed to simultaneously construct the solar farms. Therefore, less overall worker, delivery truck, and water truck trips would be required when compared to traffic generated by construction of the Tierra del Sol and Rugged solar farms. With the exception of Ribbonwood Road (north of I-8), construction vehicles would access the LanEast and LanWest project sites along a similar access route as previously identified for construction of the Rugged solar farm. As previously stated, the construction schedules for the Tierra del Sol and Rugged solar farms would not overlap with construction of the LanEast and LanWest solar farms, and therefore, construction traffic generated by all four projects would not combine and would not be distributed along local area roads at the same time. Therefore, while the addition of construction worker vehicles, delivery trucks, and water/cement trucks to unsignalized intersections along the construction access route would increase intersection delay, local intersections are estimated to be operating at LOS A or B conditions and would likely be able to accommodate the temporary increase in traffic. In addition, a Traffic Control Plan, Construction Notification Plan, and Notification and Provision of Access to Property**PDF-TR-1**) would be implemented to ensure the safe and efficient movement of traffic through the area during construction, to ensure that local residents are aware of construction activities, and to ensure that access for property owners and tenants along the construction route is maintained during construction activities. Therefore, with implementation of **PDF-TR-1**, construction traffic impacts to local intersections would be **less than significant**. Furthermore, overall construction vehicles distributed along the construction access route and at local intersections would be reduced with implementation of M-AQ-PP-2 that promotes implementation of a construction worker ridership program with a goal of reducing single-occupancy vehicle usage by 30%.

Operation

Operation of the LanEast and LanWest solar farms would necessitate a full-time staff of up to 9 workers that would in turn generate 18 average daily trips and 9 AM and 9 PM Peak Hour trips.

While the addition of up to 9 AM and PM Peak Hour trips could increase intersection delay if all trips were to arrive at the same time, the increased delay would be brief and would not substantially affect the operations of local intersections given the existing low-volume of traffic on project area roadways. Intersections would be able to accommodate the addition of 9 vehicle trips distributed during the AM and PM Peak Hour time frames (i.e. 7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.) and would not require new measures to address increased delay that could occur during the operations phase. Therefore, operation of the LanEast and LanWest solar farms would not generate traffic that would substantially affect the operations of local intersections of area roadways. As such, impacts would be **less than significant**.

Proposed Project

Construction

This analysis anticipates that construction of the LanEast and LanWest solar farms would occur after construction of both the Tierra del Sol and Rugged solar farms is completed, and therefore, the construction traffic associated with development of all four solar farms would not be distributed on local area roads during the same time frame. As previously discussed, construction of the Tierra del Sol project is anticipated to generate approximately 57 average daily trips (29 AM Peak Hour trips) over the 14-month duration of construction and is anticipated to generate up to 163 daily trips (82 AM Peak Hour) during the most intense phase of construction. In addition, construction of the Rugged solar farm is anticipated to generate approximately 160 average daily trips (80 AM Peak Hour trips) during the 12-month duration of construction and up to 232 average daily trips (116 AM Peak Trips) during the during the most intense phase of construction. Therefore, during an approximate 2-month time frame when the most intense phases of construction for both solar farms would occur simultaneously, construction activities could generate up to 398 average daily trips (199 AM Peak Hour Trips). In addition to local roadway segments, daily construction trips would be distributed to local intersections of which I-8/Ribbonwood Road ramps and Ribbonwood Road/Old Highway (both unsignalized intersections) would both be encountered by construction traffic associated with Tierra del Sol and Rugged. While intersections are estimated to be operating at LOS A or B, the addition of up to 199 trips to AM Peak Hour traffic flows at the I-8/Ribbonwood Road Ramp and Ribbonwood Road/Old Highway intersections could substantially increase delay and generate long queues into the Boulevard area. Construction activities would occur for an 8-hour period between the hours of 7 a.m. and 7 p.m. Monday through Saturday, and while the most intense phases of construction would not overlap, local area residents and workers could be inconvenienced by traffic delays during the AM Peak Hour. As previously discussed, **PDF-TR-1** has been provided to ensure the safe, efficient movement of traffic through the project area during construction, as well as to ensure that local residents are aware of construction activities and any nuisance construction traffic may have on local

traffic movement. **PDF-TR-1** would also ensure that access for property owners and tenants along the construction route is maintained during construction activities. Given the low traffic volumes on local roads and the prevalence of rural residential development in the area, it is assumed that most of the motorists on local roads and intersections are residents of the Boulevard area. Therefore, the notification design features listed below would notify motorists in the area of construction activities that could affect travel on local roads.

Because the most intense phases of construction of the Tierra del Sol and Rugged solar farm projects is not anticipated to overlap, and with implementation of **PDF-TR-1**, construction traffic impacts to local intersections would be **less than significant.** Furthermore, overall construction traffic volumes during the AM Peak Hour may be reduced through implementation of M-AQ-PP-2 that would promote a construction worker ridership program with a goal of achieving a 30% reduction in single-occupancy vehicle usage.

Operation

Operation of the proposed project would require up to 36 full-time employees which would generate 72 average daily trips (36 AM and 36 PM Peak Hour trips). Intersections in the Boulevard area that would be encountered by operations staff include I-8/Ribbonwood Road ramps and Ribbonwood Road/Old Highway 80 (Tierra del Sol, Rugged, LanEast, and LanWest) and Old Highway 80/McCain Valley Road (Rugged, LanEast, and LanWest). While combined operations traffic generated by the Proposed Project could increase delay at the three intersections listed above, existing operations are estimated to be LOS A and LOS B and would be able to accommodate project-generated traffic over the 2-hour AM and PM Peak Hour duration. Further, it is unlikely that employees at each of the solar farms would traverse the local road network at the same time during the AM and PM Peak Hours given the varying responsibilities and routines of each individual staff member. Therefore, because existing intersection operations in the project area are acceptable and given the distributed nature of employee traffic patterns (i.e., Proposed Project-generated AM and PM Peak Hour trips would not all arrive at shared intersections at the same time), operation traffic impacts to local intersections would be **less than significant.**

3.1.8.3.3 Traffic Hazards Due to Design Feature

Guidelines for the Determination of Significance

For the purposes of this Program EIR, the County's *Guidelines for Determining Significance and Report Format and Content Requirements- Traffic and Transportation* (County of San Diego 2011c) 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.

In addition to the County traffic hazard thresholds listed above, project-generated glare and potential effects on motorists must also be considered as the Proposed Project entails the construction and operation of solar farms in relative close proximity to I-8 and local highways and roads. This analysis has been conducted in the Aesthetics chapter of this Program EIR. Please see Sections 2.1.3.3, 2.1.4.3, and 2.1.6.3 of this Program EIR.

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 on-site access roads and improvements to a few existing roadways. However, the Proposed Project does not significantly alter existing roadway geometry on any roadways that serve the area. The Project proposes new driveways off of County maintained roads and a safe and adequate sight distance shall be required at all driveways and intersections in accordance with DPW Public Road Standards and to the satisfaction of the Director of the DPW. All road improvements and access roads would be constructed according to County Private Road standards. 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 individual project sites; however, proposed fencing would be relatively transparent and would not impair the visibility of motorists on project area roadways.

Tierra del Sol

The Tierra del Sol solar farm includes construction of on-site roads to be used during construction and, in some cases, for ongoing operations and maintenance. An eastern access road would be constructed to provide unobstructed travel from north to south starting about 100 feet from the westerly turn-off from Tierra del Sol Road and commencing due south to the U.S. government 60-foot easement at the international border with Mexico. A western access road

would provide unobstructed travel from the westerly turn off at Tierra del Sol Road and commencing due south to the U.S. government 60-foot easement. These access points and roads can be viewed in Figure 1-6, Tierra del Sol Site Plan.

All new roads would be designed in compliance with the County's Private Road standards. As discussed earlier, access to the Tierra del Sol site would require vehicles including trucks coming from I-8 to exit at the SR-94/Campo/Boulevard exit (Exit 65) heading west along SR-94 connecting to Old Highway 80 west for a short distance to the turnoff for Tierra del Sol Road heading south. The Tierra del Sol solar farm would not change the geometry or otherwise alter the existing physical configuration of any roadways that serve the site including Tierra del Sol Road. However, during construction, large flatbed trucks would be used to transport the CPV tracker 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, **PDF-TR-1** has been provided. **PDF-TR-1** would address the increased traffic anticipated on local area roadways during project construction. For example, implementation of a traffic control plan (**PDF-TR-1**) for each of the four solar farms would ensure the safe and efficient traffic flow in the area and would contain project-specific measures for construction noticing, signage, policy guidelines, and the limitation of lane closures to off-peak hours. Implementation of **PDF-TR-1** would also ensure local residents/motorists are informed about any construction activities that would restrict, block, remove parking, or require a detour to access existing residential properties as well the type of construction activities that would be conducted and the location and duration of construction. Lastly, implementation of **PDF-TR-1** requires 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. **PDF-TR-1** would address construction traffic on both regional and local road in the project area, and would address potential conflicts that may arise between construction traffic and day-to-day traffic on local area roadways. Additionally, as indicated in Table 1-11 of Section 1.0, Project Description, all necessary County ROW permits, including construction permits, excavation permits, and encroachment permits, would be obtained.

As stated in Section 3.1.8.1.2 Tierra del Sol Road crosses at rail line at grade approximately 0.7 mile north of the proposed solar farm site. A long queue of construction worker vehicles, delivery trucks and water/cement trucks at the solar farm access point off Tierra del Sol Road could potentially result in vehicles backing up to the railroad tracks; however, as stated previously, there is currently no service on the rail line (i.e., passenger or cargo rail operations do not occur).

Based on the analysis presented above, construction and operation of the Tierra del Sol solar farm would not significantly increase hazards due to design features, and impacts would be **less**

than significant.

Rugged

The Rugged solar farm includes construction of on-site roads to be used during construction and, in some cases, for ongoing operations and maintenance. Access to this site for vehicles and trucks would be from I-8 to the SR-94/Campo/Boulevard exit heading north on Ribbonwood Road to the western portion of the site or heading south on SR-94 to Old Highway 80 east connecting to McCain Valley Road north to access the eastern portion of the site. Primary access into the Rugged site would be from Rough Acres Ranch Road accessed from McCain Valley Road. The Rugged solar farm would improve Rough Acres Ranch Road to meet County standards for private roads. The Rugged solar farm would not change the geometry of any roadways that serve the site including McCain Valley Road. However, similar to the Tierra del Sol solar farm, the Rugged solar farm would result in temporary increased traffic flows on local roads during construction and would require large flatbed trucks to transport CPV tracker components to the site. In order to ensure that the anticipated increased traffic flows and the presence of large trucks would not create a safety hazard and or be a temporary inconvenience to travelers along the regional and local roadways, **PDF-TR-1** would be implemented. Additionally, as indicated in Table 1-11 of Section 1.0, Project Description, all necessary County ROW permits, including construction permits, excavation permits, and encroachment permits, would be obtained.

Therefore, construction and implementation of the Rugged solar farm would not significantly increase hazards due to design features and impacts would be **less-than-significant impact.**

LanEast and LanWest

Access to the LanEast site for construction vehicles would be via the SR-94/Campo/Boulevard exit off of I-8 heading south on SR-94 to the intersection with Old Highway 80. The LanWest solar farm is proposed immediately adjacent to the LanEast site and would share the same access roads. At this time it is not known if any new roadways would be constructed as part of the LanEast and LanWest solar farms, but as noted above, any new roadways would be designed and constructed in accordance with County roadway specifications. It is not anticipated that the LanEast and LanWest solar farms would require changes to the geometry of Old Highway 80 or SR-94 to accommodate construction vehicles. Potential hazards associated with construction traffic (including increased traffic flows) would be addressed through implementation of **PDF-TR-1.** These measures would require the project's construction contractor to prepare a Traffic Control Plan and a Construction Notification Plan, and to adhere to notification procedures to address construction-related issues including any safety concerns associated with the transport of any large equipment or machinery. As discussed in Section 1.0, Project Description, all

necessary County ROW permits, including construction permits, excavation permits, and encroachment permits, would be obtained prior to construction.

Therefore, construction and implementation of the LanEast and LanWest solar farms would not significantly increase hazards due to proposed design features, and impacts would be **less than significant**.

Proposed Project

All of the Proposed Project components discussed above would ensure access roads are designed in compliance with County Private Road standards and designed to allow safe passage of construction vehicles, including oversized trucks. 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 1-11 of Section 1.0, Project Description, the Proposed Project would obtain all necessary County ROW permits, including construction permits, excavation permits, and encroachment permits. Additionally, in order to ensure 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, **PDF-TR-1** would be implemented. Therefore, construction and implementation of the Proposed Project would not significantly increase hazards due to proposed design features and as such, impacts would be **less than significant**.

3.1.8.4 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 Tierra del Sol is anticipated to take 14 months to complete, and construction of the Rugged solar farm is estimated to take 12 months. Construction of the LanEast and LanWest solar farms is estimated to take between 10 to 12 months. Pursuant to the construction schedules provided in Section 1.0, Project Description, this analysis assumes construction of the Tierra del Sol and Rugged solar farms would overlap during some months. However, during the most intense phases of construction (site grading and clearing) the schedules would not overlap. The LanEast and LanWest solar farms would not begin construction until after the Tierra del Sol and Rugged solar farms are completed.

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 sites. 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. The Proposed Project would be located in close proximity to regional and local transportation facilities including I-8, SR-94, and Old Highway 80. 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 Government's (SANDAG's) 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 TransNet, state, and federal 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 upon the projected use and new trips to local and regional roads associated with the Proposed Project (power generation plant) by the County of San Diego

3.1.8.4.1 Roadway Segment Operation Impacts

The cumulative projects from Table 1-12 and shown on Figure 1-12 in Chapter 1.0, Project Description, that are nearest to the Proposed Project solar farm sites and could potentially use the same roadway segments include approved and pending minor residential subdivisions and the proposed Rough Acres Foundation Campground Facility. Additionally, the Tule Wind, Manzanita Wind, and Jewel Valley (Jordan) Wind energy projects are located near the Rugged solar farm site, and the Jewel Valley (Jordan) Wind site is located near the Tierra del Sol solar farm site and gen-tie line.

According to the information presented in Table 1-12, all identified residential subdivisions in the project area, except for Star Ranch, were approved prior to 2009 or have been placed on idle status, and therefore, for purposes of this analysis these projects are assumed to already be constructed. A second major pre-application meeting was held for the Rough Acres Foundation Campground Facility project in December 2011, and the project has been idle ever since. Therefore, for purposes of this analysis, the construction of Star Ranch and the Rough Acres Foundation Campground Facility could potentially overlap with the construction of the Proposed Project.

As of November 2013, the Manzanita Wind energy project was identified as pending. On December 18, 2014, the BLM approved an amendment to Tule Wind LLC's Right of Way (ROW) granting Tule Wind LLC a one-year extension on the deadline for submitting a NTP. The amended ROW requires Tule Wind LLC to obtain a NTP from BLM by December 31, 2015, and construction must begin within 90 days of issuance of the NTP, or by March 31, 2016. Therefore, for purposes of this analysis, the construction of these projects could potentially overlap with the construction of the Proposed Project. The Jewel Valley (Jordan) Wind energy project is still in the early meteorological testing phase and not anticipated to start construction until sometime after the Tierra del Sol gen-tie line construction is complete.

The traffic generated during construction of Star Ranch and the Rough Acres Foundation Campground Facility would be subject to the same County standards discussed above for the Proposed Project and are not expected to violate these standards. Additionally, construction of the campground is not expected to generate substantial amounts of construction traffic or extend over a long period of time. Construction of the Tule Wind project would be subject to the standards of the Bureau of Land Management and the County of San Diego. Construction and operation of the Manzanita Wind Energy project would be subject to tribal and/or Bureau of Indian Affairs standards. Construction of the Tule Wind project is anticipated to take two years to complete. The construction schedule of the Manzanita Wind energy project is unknown at this time.

With the exception of the identified wind energy projects, none of the cumulative projects located in the vicinity of the Proposed Project that may have overlapping construction schedules are substantial in size such that they would contribute to a cumulatively considerable increase in area traffic trips. As stated in the Final EIR/EIS for the East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Project, the Tule Wind project is anticipated to generate 1,250 average daily trips during the 2-year construction phase. Therefore, if the construction schedules of, the Tierra del Sol or Rugged solar farms overlapped with the Tule Wind project, approximately 1,413 to 1,482 average daily trips would be added to the regional and local roadway network. In this scenario, road segments that could be shared by construction traffic would consist of I-8, Ribbonwood Road (north and south of I-8), Old Highway 80, and McCain Valley Road. While the addition of cumulative construction traffic to the regional and local road network would increase the ADT and would be noticeable to local area motorists, the added traffic would not cause operations on a County Mobility Element Road to fall below LOS D and would not cause a non-Mobility Element Road to exceed its design capacity as it relates to ADT (see Tables 3.1.8-4 and 3.1.8-5 for LOS thresholds as they relate to acceptable ADT). Thus, the potential cumulative traffic effect resulting from construction of reasonably foreseeable projects in the area would not be considerable, and construction of the Proposed Project **would not result in cumulative traffic impact** as it pertains to roadway segment operations.

During operations, the Proposed Project would generate approximately 72 average daily trips on local area roads. Operation of the Tule Wind project would require 12 full time workers and would generate up to 24 average daily trips during normal operations, and based on available information, up to 20 full time employees (up to 40 average daily trips) would be required to operate and maintain the proposed Rough Acres Foundation Campground Facility. Further, the new Boulevard Border Patrol station was constructed to accommodate the assignment of an additional 50 agents to the Boulevard area, and therefore, the station would generate an additional 100 average daily trips on local roads. Operational traffic associated with other projects considered in the cumulative scenario would either be low (i.e., for rural residential subdivisions) or intermittent (i.e., for other energy projects) and would not generate a substantial volume of additional traffic trips in the project area. Similar to construction traffic, operational traffic associated with projects in the cumulative scenario would not would not cause operations on a County Mobility Element Road to fall below LOS D and would not cause a non-Mobility Element Road to exceed its design capacity as it relates to ADT. Therefore, the potential cumulative traffic effect resulting from the operation of reasonably foreseeable projects in the area would not be considerable as it relates to established County thresholds applicable to roadway segment operations, and construction of the Proposed Project **would not result in cumulative traffic impact.**

3.1.8.4.2 Signalized and Unsignalized Intersection Operation Impacts

As previously described in Section 3.1.8.3.2, construction of the Proposed Project could generate up to approximately 232 average daily trips (116 AM Peak Hour Trips) during the duration of construction activities. In addition, operation of the proposed solar farms would generate approximate 72 average daily trips (36 AM and 36 PM Peak Hour trips). According to the Final EIR/EIS for the ECO Substation/Tule Wind/ESJ Gen-Tie Project, construction of the Tule Wind Project is anticipated to generate approximately 1,250 average daily trips during the 2-year construction phase, and therefore, it is assumed that up to 625 AM Peak Hour trips could be generated during construction workdays. While the presence of cumulative traffic to the local road network and intersections would be relatively short-term, the addition of construction traffic to local unsignalized intersections including I-8/ Ribbonwood Road Ramps, Ribbonwood Road/Old Highway 80, and Old Highway 80/McCain Valley would be noticeable to local area motorists and would result in increased delay at unsignalized intersections in the Boulevard area. In addition the Proposed Project has provided **PDF-TR-1** to ensure the safe and efficient movement of local traffic though the project area and continued access to adjacent residential and commercial properties along the construction access route. While the Final EIR/EIS for the ECO Substation/Tule Wind/ESJ Gen-Tie Project determined that the construction traffic generated by the Tule Wind project would result in significant impacts to traffic due to temporary access restrictions and lane closures (the widening of existing roads would also be required to accommodate large construction trucks delivering wind turbine components to the project site), with implementation of the above referenced project design features, temporary impacts to local unsignalized intersections resulting from construction of the Proposed Project would be less than significant. Therefore, 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**. Furthermore, implementation of **M-AQ-PP-2,** would reduce single-occupancy vehicle usage by up to 30% through implementation of a construction worker ridership program.

The operational traffic assumptions as they relate to the cumulative project scenario are presented above in Section 3.1.8.4.2. While the addition of traffic associated with projects identified in the cumulative scenario could potentially increase delay at shared intersections in the Boulevard area, the shared intersections are estimated to be operating at LOS A or B conditions (i.e., delay of 15 seconds or less) and would be able to accommodate the additional forecasted traffic flows. Further, existing traffic volumes on project area roadways are low, and operational traffic would be distributed throughout the associated AM and PM Peak Hour time frame. Therefore, the potential cumulative traffic effect resulting from the operation of reasonably foreseeable projects in the area would not be considerable as it relates to established County thresholds for unsignalized intersection operations. As such, the Proposed Project would **not result in cumulative traffic impact** during operations.

3.1.8.4.3 Traffic Hazards Due to Design Feature

As previously described, the Proposed Project would require the use of construction trucks in order to transport project 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. As indicated in Table 1-11 of Section 1.0, 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 implementation of **PDF-TR-1**, would ensure the safe travel of vehicles within construction work zones and continued access to adjacent residential and commercial properties.

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.

3.1.8.5 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.

3.1.8.5.1 Roadway Segment Operations Impacts

Construction and operation of the Proposed Project would not cause operations on a Mobility Element Road to fall below LOS D 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.**

3.1.8.5.2 Signalized and Unsignalized Intersection Operation Impacts

Because overlap of the most intense phases of construction of the Tierra del Sol and Rugged solar farms is not anticipated, and with implementation of **PDF-TR-1**, construction traffic impacts to local intersections would be **less than significant**. Construction of the LanEast and LanWest solar farms would occur after the completion of construction of the Tierra del Sol and Rugged solar farms and would also implement **PDF-TR-1** to ensure that impacts to local intersections would be **less than significant**. Existing intersection operations in the project area are acceptable, and given the distributed nature of employee traffic patterns (i.e., Proposed Project-generated AM and PM Peak Hour trips would not all arrive at shared intersections at the same time), operational traffic impacts to local intersections would be

less than significant. Furthermore, implementation of **M-AQ-PP-2** would reduce single-occupancy vehicle usage by up to 30% through implementation of a construction worker ridership program,

3.1.8.5.3 Traffic Hazards Due to Design Feature

With the implementation of **PDF-TR-1**, 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 3.1.8-1
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
SR-94	Caltrans	Community Collector (2.1D)	2	2011	1200[4]	A
Ribbonwood Road	County of San Diego	unclassified (north of I-8)	2	2010	270	A
Ribbonwood Road/SR-94	County of San Diego	Light Collector (2.2C) (I-8 to Old Highway 80)	2	2010	1,230	A
McCain Valley Road	County of San Diego	Unclassified	2	2010	110	A
Tierra del Sol Road	County of San Diego	Unclassified	2	N/A	N/A	N/A
Moon Valley Road	County of San Diego	Unclassified	1	N/A	N/A	N/A
Church Road	County of San Diego	Unclassified	1	N/A	N/A	N/A
Tierra Real Road	County of San Diego	Unclassified	1	N/A	N/A	N/A
Tierra Estrella	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 3.1.8-2
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:
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. Analysis of cumulative traffic impacts may require a TIS, even when project-generated traffic volumes alone do not.

Table 3.1.8-3
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 2011b.
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 3.1.8-4
Tierra del Sol Solar Farm Construction 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
Ribbonwood Road (south of I-8)[2]	1,230 (2010)	A	Light Collector (2.2C)	<3,000	<6,000	<9,500	**<13,500**	<19,000
Old Highway 80[2]	990 (2010)	A	Light Collector (2.2E)	<1,900	<4,100	<7,100	**<10,900**	<16,200
SR-94[2]	960 (2011)	A	Community Collector (2.1D)	<3,000	<6,000	<9,500	**<13,500**	<19,000
Tierra del Sol 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., SR-94 and Old Highway 80), and therefore, Tierra del Sol Road functions similar to a Rural Residential Collector.

Table 3.1.8-5
Rugged Solar Farm Construction 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
Ribbonwood Road (north of I-8)	270 (2010)	A	Unclassified	**<4,500[2]**				
McCain Valley Road	110 (2010)	A	Unclassified	**<4,500[3]**				
Ribbonwood Road (south of I-8)[2]	1,230 (2010)	A	Light Collector (2.2C)	<3,000	<6,000	<9,500	**<13,500**	<19,000
Old Highway 80[2]	990 (2010)	A	Light Collector (2.2E)	<1,900	<4,100	<7,100	**<10,900**	<16,200

Source: County of San Diego 2012.
Notes:
1 LOS thresholds are provided according to ADT.
2 County Circulation (Mobility) Element Road
3 Although Ribbonwood Road (north of I-8) and McCain Valley Road are unclassified roadways, both roads serve areas 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., SR-94 and Old Highway 80), and therefore, the roads are assumed to function similar to a Rural Residential Collector. The level of service ADT presented for these roads above is applicable to Rural Residential Collectors.

Table 3.1.8-6
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 2011b.
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.

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