

2.8 Traffic and Transportation

This section discusses potential impacts to traffic and transportation resulting from construction and operation of the Campo Wind Project with Boulder Brush Facilities (Project). This analysis is based on review of existing roadway conditions; technical data; applicable laws, regulations, and guidelines; and the following technical report prepared for the Project:

- Transportation Impact Analysis for Campo Wind Project with Boulder Brush Facilities prepared by Linscott Law and Greenspan Engineers (LLG), July 2019 (included as Appendix H)

Comments received in response to the Notice of Preparation included concerns regarding vehicle travel and equipment movement on unpaved roads, sufficient improvement of local roads, increased traffic on local roads, sufficient notification of any planned road closures or traffic delays, and roadway safety. These concerns were considered in the preparation of this section. A copy of the Notice of Preparation and comment letters received in response to the Notice of Preparation are included in Appendix A of this Environmental Impact Report (EIR).

2.8.1 Existing Conditions

The approximately 2,520-acre Project Site is located in southeastern San Diego County, California (see Figure 1-1, Project Location, and Figure 1-2, Project Area, in Chapter 1, Project Description, Location, and Environmental Setting). The Project would consist of both the Campo Wind Facilities that would be located on Campo Band of Diegueño Mission Indians Reservation (Reservation) land within the Reservation Boundary under the jurisdiction of the Bureau of Indian Affairs (BIA), and the Boulder Brush Facilities that would be located on adjacent private lands under the land use and permitting jurisdiction of the County of San Diego (County) within the Boulder Brush Boundary.

The Campo Wind Facilities would be located within the approximately 2,200-acre Campo Corridor inside the Reservation Boundary. The BIA is the lead agency for the Project under the National Environmental Policy Act (NEPA) and has prepared an Environmental Impact Statement (EIS) for the Project (BIA 2019).

The Boulder Brush Facilities would be located within the approximately 320-acre Boulder Brush Corridor inside the Boulder Brush Boundary. Collectively, the Campo Corridor and the Boulder Brush Corridor comprise the approximately 2,520-acre Project Site.

Existing Freeway and Roadway Conditions

The Traffic Study Area is depicted in Figure 2.8.1, Regional Location and Study Area.

Regional access to the Project Site would be provided by Interstate (I) 8. Local access to the Campo Wind Facilities would be provided by Crestwood Road, Church Road, Old Highway 80, Highway 94/Campo Road, and Live Oak Trail. Local access to the Boulder Brush Facilities would be provided by Ribbonwood Road, as shown in Figure 2.8-2, Existing Roadways and Intersection Conditions. Following is a description of the existing street system in the Traffic Study Area.

Freeway

Interstate 8. I-8 is currently built as a four-lane east/west freeway connecting the San Diego area to the California/Arizona border and beyond. It provides two lanes in each direction in the Project Area. The I-8 posted speed limit is 70 miles per hour, and an interchange is provided at Crestwood Road and Ribbonwood Road in the Traffic Study Area. Project traffic would access the Traffic Study Area via I-8 and its interchange at Crestwood Road and the interchange at Ribbonwood Road. The Crestwood Road interchange provides access to the Reservation Boundary and the Ribbonwood Road interchange provides access to the Boulder Brush Boundary.

Roadways

Crestwood Road. Crestwood Road is an unclassified roadway in the Mountain Empire Mobility Network (County of San Diego 2016) and is currently built as a two-lane roadway in the Traffic Study Area. South of I-8, Crestwood Road turns into Old Highway 80. Parking is prohibited on Crestwood Road. Crestwood Road provides access to the Campo Wind Facilities.

Old Highway 80. Old Highway 80 is classified as a 2.2E Light Collector from the southern boundary of the Central Mountain Subregion to State Route (SR) 94 on the County's Mobility and Infrastructure Element. Within the Traffic Study Area, Old Highway 80 is a two-lane undivided roadway. Bike lanes are provided in both directions.

Church Road. Church Road is an unclassified roadway on the Mountain Empire Mobility Network (County of San Diego 2016) and is currently built as a two-lane roadway in the Traffic Study Area. Parking is prohibited on Church Road.

Ribbonwood Road. Ribbonwood Road between Old Highway 80 to the I-8 interchange is classified as a 2.2C Light Collector (Intermittent Turn Lanes) in the County General Plan Mobility Element Network – Mountain Empire Subregion (County of San Diego 2016). In the Traffic Study Area, Ribbonwood Road is an unclassified roadway and is currently constructed as a two-lane roadway. Ribbonwood Road is paved for approximately 1.5 miles north of I-8, then becomes a graded dirt road north of Opalocka Road. Ribbonwood Road provides access to the Boulder Brush Boundary.

Campo Road/State Route 94. SR-94 is classified as a 2.1D Community Collector (Improvement Options on passing lanes) on the County's Mobility and Infrastructure Element. Within the Traffic Study Area, SR-94 is a two-lane undivided roadway. Bike lanes are provided in both directions.

Transit Facilities

The San Diego Metropolitan Transit System provides passenger bus service between and within the rural communities of San Diego County. The transit system offers intercity service and local and regional transit service. Currently, there are four bus stops located in the Traffic Study Area served by bus route 888, which operates on Mondays and Fridays only. Route 888 provides service between the Westfield Parkway Plaza in El Cajon and the end of the line in Jacumba Hot Springs/Old Highway 80 and Campo Street (Metropolitan Transit System 2017).

Airports and Rail Lines

Jacumba Airport, operated by the County, is located approximately 10 miles southeast of the Project Site. The airport is unattended and unlighted and is used mainly as an operation area for gliders, especially on weekends (County of San Diego 2018). Airport hazards are discussed in Section 2.5, Hazards and Hazardous Materials, of this EIR, and are not further addressed in this section.

San Diego Metropolitan Transit Service owns and operates the Desert Line railway that extends north and east from the U.S./Mexico border to Plaster City in Imperial County, where it joins the Union Pacific Railroad Line from El Centro. The rail line runs south of the Project Site. In 2016, an agreement was reached between Pacific Imperial Railroad and Baja California Railroad to reconstruct and operate the 70-mile Desert Line railway.

Planned Roadway Improvement Projects

Road improvements associated with the Campo Wind Facilities within the Campo Corridor on the Reservation would include construction of access roads between turbines, On-Reservation gen-tie line pole structures, and other facilities. It would also include improvements to existing On-Reservation unpaved roads to accommodate construction activities and provide access and circulation within the Campo Corridor. New permanent access roads would incorporate applicable federal standards regarding road design and circulation, particularly those provisions related to emergency vehicle access.

Road improvements associated with the Boulder Brush Facilities would include a new approximately 3.5-mile paved access road (up to 30 feet in width) from the Boulder Brush Facilities site entrance to the high-voltage substation and switchyard. In addition, an approximately 1-mile segment of Ribbonwood Road would be improved up to 30 feet wide and paved from the Boulder Brush Facilities site entrance to the intersection of Opalocka and Ribbonwood Road. The

remaining access roads within the Boulder Brush Corridor would be compacted decomposed granite and 16 feet in width. New permanent access roads would incorporate applicable federal and local standards regarding internal road design and circulation.

Study Intersections

The following are the study intersections analyzed for the Project:

- Crestwood Road/I-8 westbound ramps (California Department of Transportation [Caltrans])
- Crestwood Road/I-8 eastbound ramps (Caltrans)
- Crestwood Road/Old Highway 80 (Reservation)
- Old Highway 80/Church Road-Golden Acorn Casino (Reservation)
- Campo Road (SR-94)/Church Road (BIA RT 10) (Caltrans/Reservation)
- Ribbonwood Road-SR-94/I-8 westbound ramps (Caltrans)
- Ribbonwood Road-SR-94/I-8 eastbound ramps (Caltrans)

Study Roadway Segments

The following are the Traffic Study Area roadway segments analyzed for the Project:

- Crestwood Road, I-8 westbound to eastbound ramps (Caltrans)
- Crestwood Road, Old Highway 80 to Church Road (Reservation)
- Old Highway 80, Church Road to Live Oak Trail (Reservation)
- Old Highway 80, Live Oak Springs Road to Campo Road (SR-94) (County)
- Church Road (BIA RT 10), Old Highway 80 to Campo Road (SR-94) (Reservation)
- Ribbonwood Road, north of I-8 (County)
- Campo Road (SR-94), BIA RT 15 to Church Road (Caltrans)

Study Freeway Segments

- I-8, Cameron Road to Crestwood Road-Old Hwy 80 (Caltrans)
- I-8, Crestwood Road-Old Hwy 80 to Ribbonwood Road-SR-94 (Caltrans)
- I-8, Ribbonwood Road-SR-94 to Carrizo Gorge (Caltrans)

All of the above-identified transportation facilities are on lands under the jurisdiction of either the County or Caltrans, or are on the Reservation.

Existing Traffic Volumes

Existing peak-hour counts and average daily traffic (ADT) counts at the study intersections and roadway segments were conducted in September 2018 during a typical non-holiday week. The ADT count along Ribbonwood Road was conducted in January 2019. The peak-hour counts were conducted from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. Detailed vehicle axle classification was also collected to calculate heavy-vehicle percentages. Existing annual average daily traffic and peak-hour volumes for freeway segments were obtained from the Caltrans Traffic Census Program webpage for 2017 (most recent available). These values were then adjusted via K and D factors located in the 2017 Peak Hour Volume Data Report for the nearest freeway segment, thereby calculating peak-hour volumes for the freeway analysis. Figure 2.8-3, Existing Traffic Volumes, shows existing weekday AM and PM peak-hour traffic volumes and ADT.

2.8.2 Approach and Methodology

Level of Service

Level of service (LOS) is commonly used as a qualitative description of roadway segment and intersection operations, and is based on the capacity and volume of traffic using the roadway segment or intersection. LOS takes into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS designations are reported differently for unsignalized intersections, signalized intersections, roadway segments, and freeway mainline segments.

Unsignalized Intersections

The County and Caltrans use the Highway Capacity Manual (HCM) intersection analysis methodology to analyze the operation of signalized and unsignalized intersections. All Traffic Study Area intersections are currently unsignalized. The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions) based on the corresponding control delay experienced per vehicle for unsignalized intersections. Table 2.8-1, Level of Service for Intersections using HCM Methodology, shows the LOS for unsignalized and signalized intersections under the HCM methodology (delay).

At unsignalized intersections and all Caltrans Traffic Study Area intersections, LOS was calculated using the HCM 6th methodology. The Synchro 10 LOS software was used to determine intersection LOS for all scenarios. Synchro is consistent with the HCM methodology (TRB 2016). Table 2.8-2, Existing Weekday Peak-Hour Intersection Level of Service, shows peak-hour intersection LOS for the Traffic Study Area intersections. All of the Traffic Study Area intersections are currently operating at LOS B or better under existing conditions during both peak-hour periods.

Roadway Segments

Roadway segment analysis is based on the comparison of daily traffic volumes to the County's Public Road Standards, March 2012, Average Daily Vehicle Trips (see Table 1 of the Public Road Standards). Table 1 of that document provides LOS thresholds for different street classifications, based on traffic volumes and travel lanes. For San Diego Traffic Engineers Council/Institute of Traffic Engineers (SANTEC/ITE) guidelines, the roadway segments use volume-to-capacity ratio as the measure of effectiveness to determine impact on roadways (SANTEC/ITE 2000). Table 2.8-3, County of San Diego Daily Roadway Segment LOS Thresholds, presents the relevant roadway segment LOS thresholds by facility type in the Project Traffic Study Area per the County's Public Road Standards.

Table 2.8-4, Existing Daily Roadway Segment Level of Service, summarizes the existing roadway segment operations. As shown, all the roadway segments are calculated to currently operate at LOS C or better.

Freeway Segments

All freeway mainline segments analyzed are under the jurisdiction of Caltrans. Per Caltrans requirements, freeway segments were analyzed using the HCM methodology with Highway Capacity Software 7.5. Table 2.8-5, Levels of Service for Freeway Segments using HCM Methodology, presents the freeway segment criteria based on the service measure of density.

Table 2.8-6, Existing Freeway Mainline Segment Level of Service, summarizes the existing freeway segment operations. As shown, the freeway mainline segment is calculated to currently operate at LOS B or better.

2.8.3 Regulatory Setting

The following federal regulations would apply to the Project (both the Campo Wind Facilities and Boulder Brush Facilities). State and local regulations would apply only to the Boulder Brush Facilities, which is under the County's jurisdiction.

Federal

The federal Transportation Research Board prepared the HCM, which was a collaborative multi-agency effort between the Transportation Research Board, Federal Highway Administration, and American Association of State Highway and Transportation Officials. The HCM contains information for computing the capacity and quality of service of various transportation facilities, and the effects of transit, pedestrians, and bicycles on system performance (TRB 2016).

Code of Federal Regulations Title 23

Code of Federal Regulations (CFR) Section 450.220 of Title 23 requires each state to carry out a continuing, comprehensive, and intermodal statewide transportation planning process. This process must include development of a statewide transportation plan and transportation improvement program that facilitates the efficient, economical movement of people and goods in all areas of the state.

State Regulations

State regulations are applicable only to the Boulder Brush Facilities, which would be located on private lands under the land use jurisdiction of the County. State regulations are not applicable on the Reservation.

California Department of Transportation

Caltrans is responsible for planning, designing, building, operating, and maintaining California's state road system. Caltrans sets standards, policies, and strategic plans that aim to provide the safest transportation system in the nation for users and workers; maximize transportation system performance and accessibility; deliver quality transportation projects and services; preserve and enhance California's resources and assets; and promote quality service (Caltrans 2002).

A portion of the Project Site is located within Caltrans District 11. The Caltrans Guide for the Preparation of Traffic Impact Studies 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 (Caltrans 2002). Project-specific traffic impact thresholds are typically identified by local Caltrans staff.

Caltrans 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. Section 35250 of the California Vehicle Code suggests that the maximum height of a vehicle cannot exceed 14 feet without requiring pilot cars, which typically provide overhead height warning devices, to ensure that oversized loads do not exceed undercrossing height limits. Due to the likelihood of heavy truck loads and use of vehicles that may exceed 14 feet in height, it is anticipated that the Project would need to obtain transportation permits for oversize/overweight vehicles 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 are required for any roadway encroachment during truck transportation and delivery, and for any load that exceeds Caltrans' 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.

California Senate Bill 743

On September 27, 2013, Senate Bill 743 was signed into law, which creates a process to change the way that transportation impacts are analyzed under the California Environmental Quality Act (CEQA). Senate Bill 743 required the Governor's Office of Planning and Research to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts. Under the new transportation guidelines, LOS, or automobile delay, will no longer be considered an environmental impact under CEQA.

The updates to the CEQA Guidelines required under Senate Bill 743 were approved on December 28, 2018. Under the new guidelines, vehicle miles traveled (VMT) has been adopted as the most appropriate measure of transportation impacts under CEQA. The Governor's Office of Planning and Research's regulatory text indicates that a public agency may immediately commence implementation of the new transportation impact guidelines, and that the guidelines must be implemented statewide by January 1, 2020. Since VMT is not yet required to be used as the metric for transportation impacts under CEQA, the traffic analysis in this section primarily relies on LOS; however, the revised CEQA checklist has been used to analyze the Project's impacts related to transportation and traffic.

Local Regulations

Local transportation policies and regulations are applicable only to the Boulder Brush Facilities. Local regulations are not applicable on the Reservation.

Mobility Element of the County of San Diego General Plan

The County General Plan Mobility Element (County of San Diego 2011) 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 transportation network that enhances connectivity and supports existing development patterns while retaining community character and encouraging environmental sustainability by reducing gasoline consumption and greenhouse gas emissions.

The following policies from the County General Plan Mobility Element associated with transportation and traffic are applicable to the Project (County of San Diego 2011):

- **Policy Mobility (M)-2.1: Level of Service Criteria.** Require development projects to provide associated road improvements necessary to achieve a level of service of “D” or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to the criteria specifically identified in the accompanying text box (Criteria for Accepting a Road Classification with Level of Service E/F). When development is proposed on roads where a failing level of service has been accepted, require feasible mitigation in the form of road improvements or a fair share contribution to a road improvement program, consistent with the Mobility Element road network.
- **Policy M-2.2: Access to Mobility Element Designated Roads.** Minimize direct access points to Mobility Element roads from driveways and other non-through roads to maintain the capacity and improve traffic operations.
- **Policy M-2.3: Environmentally Sensitive Road Design.** Locate and design public and private roads to minimize impacts to significant biological and other environmental and visual resources. Avoid road alignments through floodplains to minimize impacts on floodplain habitats and limit the need for constructing flood control measures. Design new roads to maintain wildlife movement and retrofit existing roads for that purpose. Utilize fencing to reduce road kill and to direct animals to under crossings.
- **Policy M-3.3: Multiple Ingress and Egress.** Require development to provide multiple ingress/egress routes in conformance with state law and local regulations.
- **Policy M-4.4: Accommodate Emergency Vehicles.** Design and construct public and private roads to allow for necessary access for appropriately-sized fire apparatus and emergency vehicles while accommodating outgoing vehicles from evacuating residents.
- **Policy M-4.5: Context Sensitive Road Design.** Design and construct roads that are compatible with the local terrain and the uses, scale and pattern of the surrounding development. Provide wildlife crossings in road design and construction where it would minimize impacts in wildlife corridors.

County of San Diego Consolidated Fire Code

The County, in collaboration with the local fire protection districts, created the first Consolidated Fire Code in 2001, which was last updated in 2017. The Consolidated Fire Code contains the County’s and fire protection districts’ amendments to the California Fire Code. Emergency ingress/egress is established by the County’s Consolidated Fire Code. 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 503 of the Consolidated Fire Code 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 2017).

County of San Diego Transportation Impact Fee Ordinance

The Boulder Brush Facilities would be located in a predominantly rural area of unincorporated San Diego County, and numerous local roads and unnamed dirt roads are spread throughout the area. The County developed a 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 program to fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. The new projects are based on San Diego Association of Governments (SANDAG) regional growth and land use forecasts; SANDAG’s Transportation Modeling was used to analyze projected buildout (year 2030) development conditions on the County’s existing Mobility Element roadway network throughout unincorporated San Diego County (SANDAG 2018). It is anticipated that roadways in the Project vicinity would continue to experience increased levels of traffic congestion as 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. This plan, which considers freeway buildout over the next 30 years, will use federal, state, and TransNet funding to improve freeways to projected LOS objectives provided in the Regional Transportation Plan (SANDAG 2011).

Transportation Impact Fee 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 2012a).

Subsequent to adoption of the County’s Transportation Guidelines in June 2020, the County is currently not implementing the local Transportation Impact Fee program and is currently not collecting fees for mitigation of projects analyzed using VMT. The existing program was based on Level of Service impacts, which are no longer analyzed under CEQA in accordance with Senate Bill 743.

The County requires an encroachment permit for the placement of any structures on, over, or under County roads. Roadways owned and maintained by the County could potentially be affected by Project construction. Encroachment permits are issued by the Department of Public Works for the installation of any tower, pole, or structure of any kind within, over, or under a County road right-of-way (ROW).

In addition to encroachment permits, the County's Department of Public Works 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 also provide for the service and protection of the public. The minimum road width required per the County Private Road Standards is 24 feet. For access provided by a publicly maintained road, the minimum width required per the County Public Road Standards is 28 feet, which meets the minimum interim public road width (County of San Diego 2012b, 2012c). Based on input from the local fire protection district, community planning and/or sponsor groups, and the public, and upon approval of the Director of Public Works, for roads that do not require dedication and are forecast to carry less than 2,500 trips per day (with minimum 15 miles per hour vertical design speed and a 60-foot horizontal radius), the minimum road width may be reduced.

2.8.4 Analysis of Project Effects and Determination as to Significance

The Project Site is located in a relatively remote area of unincorporated San Diego County. It is anticipated that a majority of construction materials and equipment would be brought to the Project Site from downtown San Diego (i.e., the Port of San Diego) or from El Centro in Imperial County, and personnel would have to travel from surrounding communities or other areas within the County. In addition, some construction personnel may use local recreational vehicle (RV) facilities in the area such as the Sacred Rock RV Park, south of the Project Site. It is assumed that Project-related traffic would use I-8 for regional travel and Crestwood Road, Old Highway 80, Church Road, Ribbonwood Road, and Live Oak Trail locally. Construction would involve transportation of component parts (some of which are large and constitute oversized loads); movement of heavy equipment for turbine construction; and use of dump trucks, concrete trucks, water trucks, and worker vehicles.

Although the County as Lead Agency is analyzing the Project as a whole, the County's land use jurisdiction for the Project is limited to the Boulder Brush Facilities. The BIA has jurisdiction over the Campo Wind Facilities, and has prepared an EIS to evaluate Project effects under NEPA (BIA 2019). This analysis hereby adopts and incorporates by reference the EIS, which finds that there would be no significant direct impact during the peak construction of the Project at any intersection, roadway segment, or freeway segment analyzed in the Traffic Study Area. In addition, this section provides an analysis of Project impacts, both on the Reservation and on private lands, pursuant to the requirements of CEQA and consistent with the County's guidelines.

CEQA Guidelines

Guidelines to address the significance of transportation impacts are contained in Appendix G of the CEQA Guidelines. Based on those guidelines, a project would have a significant environmental impact if it would:

1. Conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
2. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1).
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves, or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.

County of San Diego Guidelines for Determining Significance

For the purposes of this EIR, the identified significance thresholds are based on criteria provided in Appendix G of the CEQA Guidelines and the County Guidelines for Determining Significance and Report Format and Content Requirement – Transportation and Traffic (County Guidelines for Transportation and Traffic) (County of San Diego 2006).

Unsignalized Intersection Impacts

For the purposes of this EIR, the County Guidelines for Transportation and Traffic (County of San Diego 2006) applies to the direct and indirect impact analysis, as well as the cumulative analysis.

The Project would not include any signalized intersections. Intersections that would be encountered by construction traffic are directionally stop controlled; therefore, signalized intersections are not applicable to the Project and are not further discussed.

The Project would result in a significant volume and/or LOS traffic impact on unsignalized intersections if:

- a. The additional or redistributed ADT generated by the project would add 21 or more peak-hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D;
- b. The additional or redistributed ADT generated by the 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 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 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 on an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance, or other factors, the project would significantly impact the operations of the intersection.

For Caltrans facilities, LOS D or better is considered acceptable in the San Diego region (Caltrans 2002). The SANTEC/ITE traffic impact significance thresholds (shown in Table 2.8-8, Measures of Significant Project Impacts) were used to determine the significance of impacts for the ramp intersections of Crestwood Road and Ribbonwood Road at I-8.

Roadway Segment Operation Impacts

The Mobility Element of the San Diego County General Plan sets standards for LOS on Mobility Element roadways (County of San Diego 2011). Local public roads are County-maintained and feed traffic onto Mobility Element roads but are not adopted in the General Plan. Private roads, including their ROWs, are not maintained by the County and generally are not available for public use. The County Guidelines for Transportation and Traffic (County of San Diego 2006) was also referenced.

Per the County's Mobility Element (page 4-13), development projects are required to provide associated road improvements necessary to achieve an LOS D or higher on all Mobility Element roads except for those where a failing LOS has been accepted by the County pursuant to the criteria specifically identified. When development is proposed on roads where a failing LOS has been accepted, it is required to provide 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 (County of San Diego 2011).

A significant impact would occur with implementation of a project if the above threshold is exceeded (County of San Diego 2011).

The allowable increases shown in the County of San Diego Guidelines for Transportation and Traffic are listed in Table 2.8-7.

Freeway Segment Operation Impacts

Caltrans significance criteria were used to determine significance, since all the freeway segments and four intersections in the Traffic Study Area are within Caltrans jurisdiction. The Caltrans Guide for the Preparation of Traffic Impact Studies outlines recommended procedures for traffic study contents but does not identify specific traffic impact thresholds (Caltrans 2002). Caltrans staff has indicated that there is a desire to maintain facility operations between LOS C and D levels, but Caltrans acknowledges that this may not always be feasible (Appendix H). Specific traffic impact thresholds are typically identified by local Caltrans staff. For the San Diego region, LOS D or better is considered acceptable (Appendix H), and the SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region (SANTEC/ITE 2000) was used to determine the significance of impacts for Caltrans-maintained facilities.

The defined thresholds for freeway segment operations are provided in Table 2.8-8.

Traffic Hazards Due to Design Features

For the purposes of this EIR, the County Guidelines for Transportation and Traffic (County of San Diego 2006) applies to the direct and indirect impact analysis, as well as the cumulative impact analysis.

A significant traffic hazard would occur if the project would:

- a. Include a design feature/physical configuration of an access road that may adversely affect the safe movement of all users along the roadway;
- b. Result in a percentage and/or magnitude of increased traffic on the road due to the proposed project 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.

Impacts Analysis

- a) *Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (CEQA Guidelines Appendix G)*

Impacts to Roadway Facilities

Project

The Project would generate traffic in two distinct periods: temporary trips during construction, and on-going post-construction operation and maintenance (O&M) trips. The 14-month construction period would involve construction worker (personnel) trips in passenger vehicles/light trucks, and equipment, material, and water delivery trips made in heavy vehicles (trucks). Post-construction, the Project is expected to be supported by 10 to 12 permanent full-time employees who would be present during normal business hours for O&M purposes. As such, construction traffic, although temporary, presents the greater amount of generated trips on local roadways, and is the focus of analysis in this EIR.

Construction Phases

Daily and peak-hour trip generation rates and in/out splits were calculated on a site-specific basis for the peak construction period using detailed data developed for analysis of the Project's emissions impacts.

Ten phases for Campo Wind Facilities construction were evaluated:

1. Clearing and grading
2. Construction of access roads
3. On-Reservation gen-tie line foundation construction and pole erection
4. Wind turbine foundation construction
5. On-Reservation gen-tie line stringing and pulling
6. Construction of underground electrical collection and communication system
7. Wind turbine erection
8. O&M facility
9. Collector substation
10. Meteorological towers (up to six temporary and three permanent)

The following phases for Boulder Brush Facilities construction were evaluated:

11. Clearing and grading
12. High-voltage substation
13. Construction of access roads
14. Off-Reservation gen-tie line foundation construction and pole erection
15. Off-Reservation gen-tie line stringing and pulling
16. Paving of switchyard access road

The length of each phase over the estimated 14-month construction period was evaluated to determine which phases could occur concurrently, since traffic during these overlapping phases would be additive. For each phase, the number of daily construction loads/deliveries and personnel were reviewed to establish the peak-hour and daily traffic demands of each.

Overlap of Phases 2, 4, 6, 7, 8, 9, 12, 15, and 16 during Project construction is estimated to generate peak worker and truck traffic (i.e., 561 workers, 29 vendor trucks, and 29 haul trucks) per day. Construction of the Boulder Brush Facilities is estimated to require approximately 144 workers, 14 vendor trucks, and 2 haul trucks per day during its peak construction phase. Construction of the Campo Wind Facilities is estimated to require approximately 420 workers, 20 vendor trucks, and 27 haul trucks per day during its peak construction phase. The peak construction period for the Project traffic analysis is identified as the overlap of Phases 2, 4, 6, 7, 8, and 9 (i.e., 420 workers, 20 vendor trucks, and 27 haul trucks) of the Campo Wind Facilities construction with Phases 12, 15, and 16 (includes 141 workers, 9 vendor trucks, and 2 haul trucks) of Boulder Brush Facilities construction.

Construction Hours

Construction of the Boulder Brush Facilities would occur during the County's allowable hours of operation (i.e., 7:00 a.m. to 7:00 p.m.). Generally, all employees would arrive prior the morning peak commute period (7:00 a.m. to 9:00 a.m.) and depart within the evening peak period (4:00 p.m. to 6:00 p.m.). Delivery truck trips are anticipated to be evenly distributed assuming a 9-hour workday, since there may be some peak-hour restrictions to transport. Construction of the Campo Wind Facilities would also occur 7:00 a.m. to 7:00 p.m.

Project Trip Generation

Estimated total daily and peak-hour Project trip generation rates are shown in Table 2.8-9, Estimated Project Trip Generation, herein, and in Figure 7-4, Project Trip Assignment – Workers and Trucks, in Appendix H. It is expected that some carpooling or ridesharing

would occur, but a percentage cannot be readily quantified, so no vehicle occupancy (carpool) credits were taken, which provides for a conservative analysis.

As shown in Table 2.8-9, the Project construction is estimated to generate approximately 1,238 total daily trips, with 293 AM peak-hour trips (287 inbound and 6 outbound) and 573 PM peak-hour trips (6 inbound and 567 outbound). With the application of passenger car equivalent (PCE) factors to truck trips, Project construction is estimated to generate approximately 1,412 total PCE daily trips, with 311 PCE trips during the AM peak hour (297 inbound and 14 outbound) and 591 PCE trips during the PM peak hour (14 inbound and 577 outbound).

Boulder Brush Facilities

As shown in Table 2.8-10, Estimated Trip Generation for Boulder Brush Facilities, construction of the Boulder Brush Facilities is estimated generate approximately 288 total daily trips, with 76 AM peak-hour trips (74 inbound and 2 outbound) and 146 PM peak-hour trips (2 inbound and 144 outbound). With the application of PCE factors to truck trips, construction of the Boulder Brush Facilities is estimated to generate approximately 368 total PCE daily trips, with 82 PCE trips during the AM peak hour (77 inbound and 5 outbound) and 154 PCE trips during the PM peak hour (5 inbound and 149 outbound).

Campo Wind Facilities

As shown in Table 2.8-11, Estimated Trip Generation for Campo Wind Facilities, construction of the Campo Wind Facilities is estimated to generate approximately 934 total daily trips, with 220 AM peak-hour trips (215 inbound and 5 outbound) and 430 PM peak-hour trips (5 inbound and 425 outbound). With the application of PCE factors to truck trips, construction of the Campo Wind Facilities is estimated to generate approximately 1,075 total PCE daily trips, with 235 PCE trips during the AM peak hour (223 inbound and 12 outbound) and 445 PCE trips during the PM peak hour (12 inbound and 433 outbound).

Existing Plus Project Conditions Analysis

Impacts to Traffic Study Area intersections, roadway segments, and freeway segments related to construction traffic under Existing Plus Project (construction phase) conditions per County and Caltrans significance criteria are described below.

Intersection Operation Analysis

Project

Activities during O&M of the Project would generate substantially fewer peak-hour trips compared to the construction period. Approximately 20 daily trips (10 AM and 10 PM peak-hour trips) would be generated by the Project's 10 permanent full-time employees during O&M activities.

All intersections in the vicinity of the Project Site operate at LOS B or better under existing conditions. Table 2.8-12, Existing Plus Project (Peak Construction) Peak-Hour Intersection Level of Service, illustrates that, with the addition of Project construction traffic (which includes traffic generated by all portions of the Project, no matter where they are located), all the intersections are calculated to operate at LOS C or better.

As shown in Table 2.8-12, all intersections are forecast to operate at LOS C or better with the addition of peak construction Project traffic. Therefore, the Project would not cause intersections to operate below LOS D, and impacts would be **less than significant**.

Although mitigation is not warranted to improve LOS at any of the intersections during construction of the Project, Mitigation Measure (M-)TRA-1 (Use of Traffic Flagger during the PM Peak Hour) is included in the EIS prepared for the Project (BIA 2019). Therefore, **Impact TR-A** and Mitigation Measure (M-)TR-A are included in this EIR.

Boulder Brush Facilities

As shown in Table 2.8-13, Existing Plus Boulder Brush Facilities (Peak Construction) Peak-Hour Intersection Level of Service, during construction of the Boulder Brush Facilities, all the intersections are calculated to operate at LOS C or better. Therefore, the Boulder Brush Facilities would not cause intersections to operate below LOS D, and impacts would be **less than significant**.

Campo Wind Facilities

The peak phase of Campo Wind Facilities construction is included in the peak phase of Project construction. As shown in Table 2.8-14, Existing Plus Project (Peak Construction) Roadway Segment Level of Service, all intersections would operate at an acceptable LOS C or better. Therefore, the Campo Wind Facilities would not cause intersections to operate below LOS D, and impacts would be **less than significant**.

Roadway Segment Operation Analysis

Project

Construction of the Project would result in a temporary increase in traffic from construction personnel accessing the Project Site. Construction-related traffic would include worker vehicles and trucks delivering materials, supplies, and water to the Project Site.

As shown in Table 2.8-9, the Project is anticipated to have a daily peak of 561 workers present at the Project Site, and approximately 56 daily truck deliveries during peak construction (overlap of Phases 2, 4, 6, 7, 8, 9, 12, 15, and 16). Table 2.8-14, herein, and Figure 7-5, Existing plus Project (Peak Construction) Traffic Volumes, in Appendix H, illustrate that, with the addition of Project traffic, all roadway segments are forecast to continue to operate at LOS C or better. The addition of peak construction-related Project traffic would not cause traffic operations on the roadway segment to change LOS or to operate at LOS E or F. Since the Existing Conditions and Existing Plus Project Conditions would not be LOS E or F, County and SANTEC/ITE traffic impact significance thresholds would not apply.

Activities during O&M of the Project would generate substantially fewer average daily trips (approximately 2 ADT per permanent employee, or 20 ADT for 10 employees) compared to the construction period, and would not cause traffic operations on the roadway segments to change LOS. Therefore, the Project would not cause roadway segments to operate below LOS D, and impacts would be **less than significant**.

Boulder Brush Facilities

As shown in Table 2.8-15, Existing Plus Boulder Brush Facilities (Peak Construction) Roadway Segment Level of Service, all roadway segments would operate at LOS C or better under Existing Plus Boulder Brush Peak Construction Conditions. Therefore, the Boulder Brush Facilities would not cause roadway segments to operate below LOS D, and impacts would be **less than significant**.

Campo Wind Facilities

The peak phase of Campo Wind Facilities construction is included in the peak phase of Project construction. Therefore, as shown in Table 2.8-14, all roadway segments would operate at an acceptable LOS C or better. Therefore, the Campo Wind Facilities would not cause roadway segments to operate below LOS D, and impacts would be **less than significant**.

Freeway Segment Operation Impacts

Project

Table 2.8-16, Existing Plus (Peak Construction) Project Freeway Segment Operations, herein, and Figure 7-5, Existing Plus Project (Peak Construction) Traffic Volumes, in Appendix H, illustrate freeway segment LOS and peak-hour freeway volumes, respectively. With the addition of Project traffic, all Traffic Study Area freeway segments would continue to operate at LOS B or better. Since the Existing Plus Project conditions would not be LOS D, E, or F, Caltrans and/or SANTEC/ITE traffic impact significance thresholds would not apply. Therefore, the Project would not cause freeway segments to operate below LOS D, and impacts would be **less than significant**.

Boulder Brush Facilities

As shown in Table 2.8-17, Existing Plus Boulder Brush Facilities (Peak Construction) Freeway Segment Level of Service, all freeway segments would operate at LOS C or better under Existing Plus Boulder Brush Peak Construction Conditions. Therefore, the Boulder Brush Facilities would not cause freeway segments to operate below LOS D, and impacts would be **less than significant**.

Campo Wind Facilities

The peak phase of Campo Wind Facilities construction is included in the peak phase of Project construction. Therefore, as shown in Table 2.8-13, all freeway segments would operate at an acceptable LOS B. Therefore, the Campo Wind Facilities would not cause freeway segments to operate below LOS D, and impacts would be **less than significant**.

Impacts to Transit, Bicycle, and Pedestrian Facilities

Project

The construction and future decommissioning phases of the Project would generate temporary traffic in the Traffic Study Area (until both phases are completed), as discussed above. The O&M phase would generate low and occasional traffic. During Project construction and future decommissioning phases, construction workers would be temporarily commuting from distant areas to temporary staging areas spread throughout the Project Site, and would not be using transit service or commuting to the Project Site via bicycle or pedestrian travel modes. Therefore, the Project would not impact local public transit (San Diego Metropolitan Transit System) or bicycle or pedestrian facilities in the Traffic Study Area.

There are no designated bicycle or pedestrian facilities in the Traffic Study Area; however, during the construction and future decommissioning phases, there may be some construction work or construction-related traffic occurring that could temporarily impede movement of bicyclists and/or pedestrians along Crestwood Road, Ribbonwood Road, Old Highway 80, Church Road, and/or Campo Road. Therefore, impacts would be **potentially significant (Impact TR-C)**.

Boulder Brush Facilities

As described above, although the Project would not impact local public transit or bicycle or pedestrian facilities in the Traffic Study Area, during the construction and future decommissioning phases, there may be some construction work or construction-related traffic occurring as a result of the Boulder Brush Facilities that could temporarily impede movement of bicyclists and/or pedestrians along Ribbonwood Road. Therefore, impacts would be **potentially significant (Impact TR-C)**.

Campo Wind Facilities

As described above, although the Project would not impact local public transit, bicycle, or pedestrian facilities in the Traffic Study Area, during the construction and future decommissioning phases, there may be some construction work or construction-related traffic occurring as a result of the Campo Wind Facilities that could temporarily impede movement of bicyclists and/or pedestrians along Crestwood Road, Ribbonwood Road, Old Highway 80, Church Road, and/or Campo Road. Therefore, impacts would be **potentially significant (Impact TR-C)**.

b) *Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1)? (CEQA Guidelines Appendix G)*

CEQA Guidelines Section 15064.3(b) focuses on newly adopted criteria (VMT) for determining the significance of transportation impacts. The VMT provisions of Section 15064.3 are not applicable to this Project ~~until~~ because this EIR was circulated for public review prior to July 1, 2020 (CEQA Guidelines §§15007(c), 15064.3(c)). VMT is discussed here for informational purposes only. Section 15064.3(b) is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. The Project would involve construction that would generate temporary construction-related traffic for approximately 14 months and nominal O&M traffic; these would be categorized under Section 15064.3(b)(3), qualitative analysis. Section 15064.3(b)(3) recognizes that lead agencies may not be able to quantitatively

estimate VMT for every project type. For many projects, a qualitative analysis of construction traffic may be appropriate.

Project

Impacts related to increase in vehicle-trip generation (for workers and trucks) as a result of Project construction have been analyzed under Threshold a, Impacts to Roadway Facilities. These trips would generate VMT, but once construction is completed, construction-related traffic would cease and VMT would return to pre-construction conditions. Therefore, VMT generated from construction traffic would be temporary and short term. The high-voltage substation and 500-kilovolt (kV) switchyard would be un-staffed, and O&M of these facilities would generate a nominal amount of traffic. Therefore, the Project would not conflict or be inconsistent with CEQA Guidelines Sections 15064.3(b)(1) and 15064.3(b)(3), and impacts would be **less than significant**.

Boulder Brush Facilities

Impacts related to increase in vehicle-trip generation (for workers and trucks) as a result of Boulder Brush Facilities construction have been analyzed under Threshold a, Impacts to Roadway Facilities. These trips would generate VMT. However, once construction is completed, construction-related traffic would cease and VMT would return to pre-construction conditions. Therefore, VMT generated from construction traffic would be temporary and short term. The high-voltage substation and 500 kV switchyard would be un-staffed, and O&M of these facilities would generate a nominal amount of traffic. Therefore, the Boulder Brush Facilities would not conflict or be inconsistent with CEQA Guidelines Sections 15064.3(b)(1) and 15064.3(b)(3), and impacts would be **less than significant**.

Campo Wind Facilities

Impacts related to increase in vehicle-trip generation (for workers and trucks) as a result of Campo Wind Facilities construction have been analyzed under Threshold a, Impacts to Roadway Facilities. These trips would generate VMT, but once construction is completed, construction-related traffic would cease and VMT would return to pre-construction conditions. Therefore, VMT generated from construction traffic would be temporary and short term. O&M of the facility would require approximately 10 to 12 personnel and would generate a nominal amount of vehicle miles. Therefore, the Campo Wind Facilities would not conflict or be inconsistent with CEQA Guidelines Sections 15064.3(b)(1) or 15064.3(b)(3), and impacts would be **less than significant**.

- c) *Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (CEQA Guidelines Appendix G)*

Please refer to the analysis in response to threshold (d) below.

- d) *Would the Project result in inadequate emergency access? (CEQA Guidelines Appendix G)*

The analysis herein addresses both threshold c) and d).

Project

The Boulder Brush Facilities would be accessed from Ribbonwood Road. As described below in detail, during construction of Boulder Brush Facilities, the County-required construction Traffic Control Plan and notification procedures would be implemented to ensure that construction traffic and large construction trucks would not create a safety hazard and/or be a temporary inconvenience to travelers along the regional and local roadways. Access roads would be designed according to the County's standards. The Developer would obtain all necessary County ROW permits, including construction permits, excavation permits, and encroachment permits. These permits, along with the construction Traffic Control Plan and notification procedures, would ensure the safe travel of vehicles within construction work zones. Impacts due to Boulder Brush Facilities would be **less than significant**.

As part of the Traffic Control Plan, the Developer would establish procedures for coordinating with local emergency response agencies to ensure dissemination of information regarding emergency response vehicle routes affected by construction activities. This would ensure that the Project would not result in inadequate emergency access; therefore, impacts would be **less than significant**.

As described in the Project's EIS (BIA 2019) and below, the Campo Wind Facilities would be accessed from a combination of existing public roads and newly constructed dirt roads. Damage to existing roadways by construction vehicles and equipment (e.g., oversized trucks used for wind turbine component delivery, concrete trucks) could occur from vehicles entering and exiting roadways during construction. Further, depending on the exact route for the turbine deliveries, the varying widths of lanes and shoulder clearance on public roads, and the slow speeds at which these trucks travel would represent a potential hazard to motorists without appropriate warning. Therefore, the Project as a whole would increase potential traffic hazards due to design features or result in inadequate emergency

access, and impacts would be **potentially significant (Impact TR-B and Impact TR-C)**. The Project's impacts for Thresholds c and d are described in detail below for both the Boulder Brush Facilities and Campo Wind Facilities.

Boulder Brush Facilities

The Boulder Brush Facilities would be accessed from Ribbonwood Road. Damage to existing roadways by construction vehicles and equipment (e.g., oversized trucks and concrete trucks) could occur from vehicles entering and leaving roadways during construction. Compliance with County haul route requirements would ensure construction-related damages to existing roads are adequately repaired.

Potential road hazards can occur due to a design feature or physical configuration of existing or proposed roads that can adversely affect the safe transport of vehicles along a roadway. The Boulder Brush Facilities would involve construction of access roads, and improvements to provide access and circulation within the Boulder Brush Corridor, including a new paved permanent road (up to 30 feet in width) to access the high-voltage substation and 500 kV switchyard. This new permanent access road would incorporate applicable standards regarding internal road design and circulation, particularly those provisions related to emergency vehicle access.

A safe and adequate sight distance would be required at all new roadways to the satisfaction of the County Director of the Department of Public Works, and all improvements would be constructed according to County private road standards (County of San Diego 2012b). In addition, the Boulder Brush Facilities 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. Proposed temporary and permanent fencing would be relatively transparent and would not impair the visibility of motorists on nearby roadways.

During construction, large flatbed trucks or specialty transportation equipment could be used to transport large components to the Boulder Brush Corridor. To ensure that these trucks, or any other construction equipment, would not create a safety hazard and/or be a temporary inconvenience to travelers along regional and local roadways, the Boulder Brush Developer would, prior to construction, prepare a construction Traffic Control Plan (**PDF-TR-1**) and follow construction notification procedures in accordance with County requirements and coordination with Caltrans. The construction Traffic Control Plan would address the increased traffic anticipated on local area roadways during construction. For example, implementation of a construction Traffic Control Plan would ensure the safe and efficient traffic flow in the area, and would contain measures for construction noticing, signage, and policy guidelines. In addition, notification of property owners and tenants at

least 24 hours in advance of construction activities (and, if required, the provision of alternative access) where construction would obstruct access to property would be implemented, following the County's notification procedures. The County's Traffic Control Permits notification procedures require that whenever construction activity will disrupt or impede access to any residence and business, the contractor must inform each affected property owner by written notice about the nature and expected duration of the disruptive construction activity. Such written notice would be delivered to each affected residence and business a minimum of 5 business days prior to the start of the disruptive construction activity. The Boulder Brush Developer would be required to comply with the County's Traffic Control Permits notification procedures.

The construction Traffic Control Plan would address construction traffic on regional and local roads in the Project vicinity, but notifying property owners in accordance with County requirements is a local requirement and is intended to address potential conflicts that may arise between construction traffic and day-to-day traffic on local area roadways.

A typical construction day during construction of Boulder Brush Facilities would generate approximately 16 trucks, which would include the transportation of facilities component parts, and use of dump trucks, concrete trucks, water trucks, and subcontractor trucks. These trucks are expected to use Ribbonwood Road. Field surveys were conducted for a previous wind project (Tule Wind) to determine the height of the Ribbonwood Road undercrossing on I-8 to determine the maximum height of the trucks that can possibly use the undercrossing. For the Tule Wind study, LLG coordinated with Caltrans and obtained as-builts of the undercrossing to determine the vertical clearances. Based on the as-builts, the Ribbonwood Road undercrossing has a minimum vertical clearance of 19 feet and 1 inch.

The California Vehicle Code (Section 35250) suggests that the maximum height of a vehicle cannot exceed 14 feet. Per the Caltrans Encroachment Permit process, the Boulder Brush Facilities would be required to coordinate with Caltrans and obtain special permits for oversized vehicles that exceed 14 feet in height.

Access roads associated with the Boulder Brush Facilities would be designed in compliance with County private road standards and to allow safe passage of construction vehicles, including oversized trucks. Furthermore, the Boulder Brush Facilities would comply with fire protection measures defined in the Consolidated Fire Code.

The primary access road to the Boulder Brush Facilities would be a paved road up to 30 feet in width. Additional interior access roads to gen-tie line poles would be layered with compacted decomposed granite and be 16 feet in width. All roads would be constructed as suitable for fire access roads. A minimum of 20-foot-wide fuel modification zone would

be maintained along both sides of access roads located within the Boulder Brush Corridor. Subject to County approval, the width of the fuel modification zone along either side of the portion of the access road outside of the Boulder Brush Boundary (between Opalocka Road and the Boulder Brush Boundary) would depend upon the final width of the improved, paved access road and its placement relative to the access easements that it will reside within. All roads would be suitable for supporting heavy emergency and maintenance vehicles. Sharp curves or dangerous intersections are not proposed.

The Boulder Brush Facilities would generate additional traffic on regional and local roads and would likely require the use of oversize construction vehicles. The County-required construction Traffic Control Plan and notification procedures would be implemented to ensure that construction traffic and large construction trucks would not create a safety hazard and/or be a temporary inconvenience to travelers along the regional and local roadways. Measures in the construction Traffic Control Plan may include construction signage and demarcation of work areas within the public ROW. Access roads on Boulder Brush Facilities 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, the Boulder Brush Developer would obtain all necessary County ROW permits, including construction permits and encroachment permits. These permits, along with the construction Traffic Control Plan and notification procedures, would ensure the safe travel of vehicles within construction work zones. The Boulder Brush Developer would need to contact Caltrans and obtain special permits for oversized vehicles and consider the need to use pilot car services to provide safe over-the-road operations and overhead height warnings, if necessary.

As part of the Traffic Control Plan, the Boulder Brush Developer would establish procedures for coordinating with local emergency response agencies to ensure dissemination of information regarding emergency response vehicle routes affected by construction activities. This would ensure that the Boulder Brush Facilities would not result in inadequate emergency access.

Implementation of the above-mentioned procedures and plans would result in **less-than-significant** impacts from the Boulder Brush Facilities related to geometric design features and emergency access.

Campo Wind Facilities

The Campo Wind Facilities would be accessed from a combination of existing public roads and newly constructed dirt roads. Construction would include construction of new dirt roads and modification of some existing roads within the Reservation. Damage to existing roadways by construction vehicles and equipment (e.g., oversized trucks used for

wind turbine component delivery, concrete trucks) could occur from vehicles entering and exiting roadways during construction. As such, impacts would be **potentially significant (Impact TR-B)**.

Construction activities would involve the use of public roads by trucks for transportation of turbine components and construction materials and movement of heavy equipment for turbine construction. In addition, dump trucks, concrete trucks, water trucks, and subcontractor trucks would all use public roads. All of these trucks are expected to use Crestwood Road. Field surveys were conducted for a previous wind project (Tule Wind) to determine the height of the Crestwood Road undercrossing on I-8 to determine the maximum height of the trucks that can possibly use the undercrossing. For the Tule Wind study, LLG coordinated with Caltrans and obtained as-builts of the undercrossing to determine the vertical clearances. Based on the as-builts, the Crestwood Road undercrossing has a minimum vertical clearance of 16 feet, 11 inches. To use I-8/Crestwood Road undercrossing, the Developer would be required to coordinate with Caltrans and obtain special permits for oversized vehicles that exceed 14 feet in height.

Large wind turbine components may be delivered on specialized trucks of up to 180 feet in length when loaded, with steering capabilities on rear axles to maneuver around corners. As part of the Caltrans permit process, any vehicles with excessive height and length are expected to require pilot cars, which typically provide overhead height warning devices to ensure oversized loads do not exceed undercrossing height limits. Modifications to proposed roads to provide sufficient turn radii and pavement within the Reservation to accommodate the delivery of wind turbine components may be required. The turn radius for these specialized trucks would require use of the entire available pavement, requiring all other traffic to be stopped to ensure safe conditions. Additionally, construction of the Campo Wind Facilities would include temporary closure of I-8 at a time to be determined by Caltrans for the On-Reservation gen-tie line to cross over I-8 within the Reservation. Depending on the exact route for the turbines, the varying widths of lanes and shoulder clearance on public roads and the slow speeds at which these trucks travel would represent a potential hazard to motorists without appropriate warning. These are potential traffic hazards to motorists and, therefore, impacts would be **potentially significant (Impact TR-C)**.

Although operation of the Campo Wind Facilities would not involve substantial trips or an anticipated need for oversized vehicles, there is the potential for wind turbine component failure. In such an event, the delivery of a replacement component or components would result in the same potential hazard as described for the delivery of wind turbine components during construction. As such, impacts would be **potentially significant (Impact TR-C)**. As discussed above under the Project analysis, as part of traffic construction management, the Developer

would establish procedures for coordinating with local emergency response agencies to ensure dissemination of information regarding emergency response vehicle routes affected by construction activities. This would ensure that the Campo Wind Facilities would not result in inadequate emergency access, and impact would be **less than significant**.

2.8.5 Cumulative Impact Analysis

Once the Project is complete, traffic would be limited to that generated by 10 to 12 employees commuting each day. As such, the opportunity for cumulatively considerable transportation and traffic impacts to occur is substantially limited to the construction phase. Construction of the Project is anticipated to take up to 14 months. Pursuant to the construction schedule, this analysis assumes that construction of the Project could occur concurrently with other land use and infrastructure development projects (e.g., wind and solar facilities). Approximately 25 cumulative projects in the region were identified and reviewed. Based on review of the characteristics, status, and locations of cumulative projects, four projects were identified that would likely add traffic in the Traffic Study Area roadway segments and intersections. These are the Freedom Ranch, Rough Acres Foundation Campground Facility, Torrey Wind, and Rugged Solar projects that could be under construction at the same time as the Project. Additionally, cumulative traffic volumes for the roadway segments and intersections were estimated by applying an annual ambient growth rate of 1% per year for a period of 2 years, plus the addition of traffic from cumulative projects, to the existing traffic volumes, and the freeway volumes were estimated by applying a conservative growth factor of 10% to account for any cumulative traffic impact (Appendix H). Cumulative traffic analysis is provided in the Transportation Impact Analysis (Appendix H) under Existing Plus Project plus Cumulative Projects Conditions.

Impacts on Traffic Study Area intersections, roadway segments, and freeway segments related to construction traffic under Existing Plus Project (construction phase) conditions per County and Caltrans significance criteria are described below.

Intersection Operation Impacts

Project

Table 2.8-12, Existing Plus Project (Peak Construction) Peak-Hour Intersection Level of Service, in this EIR, and Figure 9-3, Existing Plus Project (Peak Construction) Plus Cumulative Projects Traffic Volumes, in Appendix H, illustrate peak-hour intersection LOS and peak-hour traffic volumes, respectively. All the intersections would continue to operate at LOS C or better under Existing Plus Project Plus Cumulative Project conditions. Therefore, the Project would not cause intersections to operate below LOS D, and impacts would be **less than significant**.

Boulder Brush Facilities

Table 2.8-13, Existing Plus Boulder Brush Facilities (Peak Construction) Peak-Hour Intersection Level of Service, in this EIR, and Figure 11-3, Existing plus Boulder Brush Peak Construction plus Cumulative Traffic Volumes, in Appendix H, illustrate peak-hour intersection LOS and peak-hour traffic volumes, respectively. All the intersections would continue to operate at LOS C or better under Existing Plus Boulder Brush Peak Construction Plus Cumulative Projects conditions. Therefore, the Boulder Brush Facilities would not cause intersections to operate below LOS D, and impacts would be **less than significant**.

Campo Wind Facilities

The peak phase of Campo Wind Facilities construction is included in the peak phase of Project construction. Therefore, as shown in Table 2.8-12, all intersections would operate at an acceptable LOS C, and the Campo Wind Facilities would not have an impact under existing plus cumulative conditions. Campo Wind Facilities would not cause intersections to operate below LOS D, and impacts would be **less than significant**.

Roadway Segment Operation Impacts

Project

Table 2.8-14, Existing Plus Project (Peak Construction) Roadway Segment Level of Service, in this EIR, and Figure 9-3, Existing Plus Project (Peak Construction) Plus Cumulative Projects Traffic Volumes, in Appendix H, illustrate roadway segment LOS and average daily traffic volumes, respectively. With the addition of cumulative project traffic, all Traffic Study Area roadway segments would continue to operate at LOS C or better. Since the Existing Plus Project Plus Cumulative conditions would not result in LOS E or F, County and/or SANTEC/ITE traffic impact significance thresholds would not apply. Therefore, the Project would not cause roadway segments to operate below LOS D, and impacts would be **less than significant**.

Boulder Brush Facilities

Table 2.8-15, Existing Plus Boulder Brush Facilities (Peak Construction) Roadway Segment Level of Service, in this EIR, and Figure 11-3, Existing plus Boulder Brush Peak Construction plus Cumulative Projects Traffic Volumes, in Appendix H, illustrate daily segment LOS and average daily traffic volumes, respectively. All roadway segments would operate at LOS C or better under Existing Plus Boulder Brush Peak Construction Plus Cumulative Conditions. Therefore, the Boulder Brush Facilities would not cause roadway segments to operate below LOS D, and impacts would be **less than significant**.

Campo Wind Facilities

The peak phase of Campo Wind Facilities construction is included in the peak phase of Project construction. Therefore, as shown in Table 2.8-14, all roadway segments would operate at an acceptable LOS C and the Campo Wind Facilities would not have an impact under existing plus cumulative projects conditions. Therefore, the Campo Wind Facilities would not cause roadway segments to operate below LOS D, and impacts would be **less than significant**.

Freeway Segment Operation Impacts

Project

Table 2.8-16, Existing Plus Project (Peak Construction) Freeway Segment Operations, in this EIR, and Figure 9-3, Existing Plus Project (Peak Construction) Plus Cumulative Projects Traffic Volumes, in Appendix H illustrate freeway segment LOS. With the addition of cumulative project traffic, all the Traffic Study Area freeway segments would continue to operate at LOS B or better. Since the Existing Plus Project Plus Cumulative conditions would not result in LOS D, E, or F, Caltrans and/or SANTEC/ITE traffic impact significance thresholds would not apply. Therefore, the Project would not cause freeway segments to operate below LOS D, and impacts would be **less than significant**.

Boulder Brush Facilities

As shown in Table 2.8-17, all freeway segments would operate at LOS B or better under Existing Plus Boulder Brush Peak Construction Conditions. Therefore, the Boulder Brush Facilities would not cause freeway segments to operate below LOS D, and impacts would be **less than significant**.

Campo Wind Facilities

The peak phase of Campo Wind Facilities construction is included in the peak phase of Project construction. Therefore, as shown in Table 2.8-13, all freeway segments would operate at an acceptable LOS B. Therefore, the Campo Wind Facilities would not cause freeway segments to operate below LOS D, and impacts would be **less than significant**.

Traffic Hazards Due to Design Features

Project

As previously described, the Project would require the use of construction trucks to transport equipment and materials during construction activities. Access roads on Boulder Brush Facilities 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 Chapter 1, Project Description, Location, and Environmental Setting, the Project

would obtain all necessary County ROW permits, including construction permits and encroachment permits. These permits, along with the construction Traffic Control Plan and notification procedures, would ensure the safe travel of vehicles within construction work zones and continued access to adjacent commercial properties. The Developer and the Boulder Brush Developer would contact Caltrans and obtain special permits for vehicles that exceed 14 feet in height. Also, any excessive height/length vehicles would consider the need to use pilot car services to provide safe over-the-road operations and overhead height warnings.

The reasonably foreseeable cumulative projects in the area would individually need to comply with County permit requirements, provide for traffic control and safety, and address design hazards for road construction.

With implementation of **M-TR-B** and **M-TR-C**, the Project would not result in an increase in hazards due to design features or result in inadequate emergency access; as such, cumulative impacts would be **less than significant**.

Boulder Brush Facilities

As discussed above, access roads on Boulder Brush Facilities 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. The Project would obtain all necessary County ROW permits, including construction permits and encroachment permits. These permits, along with the construction Traffic Control Plan and notification procedures, would ensure the safe travel of vehicles within construction work zones and continued access to adjacent commercial properties. The reasonably foreseeable cumulative projects in the area would individually need to comply with County permit requirements, provide for traffic control and safety, and address design hazards for road construction. With implementation of **PDF-TR-1** outlined in Chapter 1 of this EIR, the Boulder Brush Facilities would not result in an increase in hazards due to design features or result in inadequate emergency access; as such, cumulative impacts would be **less than significant**.

Campo Wind Facilities

As discussed above, the Project would obtain all necessary Caltrans and County ROW permits, including construction permits and encroachment permits. These permits, along with the construction Traffic Control Plan and notification procedures, would ensure the safe travel of vehicles within construction work zones and continued access to adjacent commercial properties. The reasonably foreseeable cumulative projects in the area would individually need to comply with County permit requirements, provide for traffic control and safety, and address design hazards for road construction. With implementation of **M-TR-B** and **M-TR-C**, the Campo Wind Facilities

would not result in an increase in hazards due to design features or result in inadequate emergency access; as such, cumulative impacts would be **less than significant**.

2.8.6 Significance of Impacts Prior to Mitigation

The Project would result in **potentially significant** impacts related to traffic and transportation (**Impact TR-A, Impact TR-B, and Impact TR-C**).

2.8.7 Mitigation Measures

Boulder Brush Facilities

With the implementation of **PDF-TR-1**, all impacts associated with construction of the Boulder Brush Facilities would be less than significant, and no mitigation is proposed for the Boulder Brush Facilities.

PDF-TR-1 Traffic Control Plan. Prior to obtaining a grading permit from the County of San Diego for the Boulder Brush Facilities, the Boulder Brush Developer shall implement a construction Traffic Control Plan. The Boulder Brush Developer would participate in the Transportation Impact Fee program by paying into the program based on the projected use and new trips generated by the development of the Boulder Brush Facilities on local and regional roads.

Campo Wind Facilities

The mitigation measures below are provided to reduce impacts associated with traffic and transportation to the extent feasible related to the Campo Wind Facilities. The County has no ability to require mitigation for impacts occurring on the Reservation, but refers the reader to the BIA's EIS for the Project (BIA 2019), which contains traffic mitigation measures M-TR-A, M-TR-B, and M-TR-C, which are also listed below. These measures are the recommended mitigation measures included in the EIS for the Campo Wind Facilities subject to the BIA's Record of Decision. With these mitigation measures, traffic impacts will be reduced to a level of less than significant.

M-TR-A Use of Traffic Flagger during PM Peak Hour. As set forth in the Project's Environmental Impact Statement (EIS), the Developer shall use a trained and qualified traffic flagger for the duration of construction at the Project driveways at the end of the day shift (PM peak hour) to stagger outbound Project traffic to minimize delays at the intersection of Crestwood Road/Interstate 8 westbound ramps. Although this mitigation is not warranted, it corresponds to M-TRA-1 (Use of Traffic Flagger during the PM Peak Hour) included in the Bureau of Indian Affairs' EIS for the Project.

M-TR-B Repair and Restoration of Roads. Prior to obtaining a certificate of occupancy or operation from the Bureau of Indian Affairs (BIA), the Developer shall, based on requirements imposed by the BIA and the Campo Band of Diegueño Mission Indians (Tribe) described in the Project's Environmental Impact Statement (EIS), repair roadways damaged by construction activities. BIA streets shall be repaired, resurfaced, and restriped by the contractor prior to release of Project. Although this mitigation is not warranted, it corresponds to M-TRA-2 (Repair and Restoration of Roads) included in the BIA's EIS for the Project.

M-TR-C Traffic Control and Management Plan. Prior to obtaining a certificate of occupancy or operation from the Bureau of Indian Affairs (BIA), the Developer shall implement a traffic control and management plan including following measures:

- Temporary traffic control devices in accordance with the California Department of Transportation's (Caltrans) California Manual on Uniform Traffic Control Device to identify locations/sections where construction is ongoing. This may include slow-moving-vehicle warning signs, signage to warn of merging trucks, barriers for separating construction and non-construction traffic, use of traffic control flaggers, and any additional measures required for the sole convenience of safely passing non-construction traffic (including transit, bicyclists and pedestrians) through and around construction areas.
- Coordination with Caltrans to secure the necessary encroachment and trip permits necessary for specialized haul trucks. Also, any excessive height/length vehicles should use pilot car services to provide safe over-the-road operations and overhead height warnings, if necessary.
- Coordination with Caltrans and California Highway Patrol to secure necessary encroachment permit for overnight highway closure along Interstate 8 to string the On-Reservation gen-tie line across the freeway.
- Notification of the California Highway Patrol, if necessary, to facilitate slowing freeway traffic to ensure safe access for motorists.
- Coordination with Caltrans, California Highway Patrol, and County officials, including the Sheriff's department.
- Employment of a contract transport company that would be responsible for surveying the route to determine how turns on existing roads would be accomplished and ensuring that is reflected in the Traffic Control and Management Plan.
- Establishment of procedures for coordinating with local emergency response

agencies to ensure dissemination of information regarding emergency response vehicle routes affected by construction activities.

- Encouragement of carpooling among workers to reduce worker commuter trips entering and exiting the Project Area.

2.8.8 Conclusion

This section provides a synopsis of the conclusions reached in each of the above impact analyses.

Unsignalized Intersection Operation Impacts

Neither construction of the Project as a whole nor construction of the Boulder Brush Facilities or the Campo Wind Facilities would cause intersections in the Traffic Study Area to fall below LOS D; therefore, impacts would be **less than significant**.

M-TRA-A (Use of Traffic Flagger during PM Peak Hour) was included in the Project's EIS (BIA 2019). It stipulated that the Project would use a trained and qualified traffic flagger for the duration of construction at the Project driveways at the end of the day shift (PM peak hour) to stagger outbound Project traffic to minimize delays at the intersection of Crestwood Road/I-8 westbound ramps. However, the Crestwood Road/I-8 westbound ramp intersection would operate at an acceptable LOS during Project construction; therefore, this mitigation measure is not required.

Roadway Segment Operations Impacts

Neither construction of the Project as a whole nor construction of the Boulder Brush Facilities or Campo Wind Facilities would cause operations of the roadway segments in the Traffic Study Area to fall below LOS D; therefore, impacts would be **less than significant**.

Freeway Segment Operations Impacts

Construction of the Project would not cause operations in the freeway segments in the Traffic Study Area to fall below LOS D; therefore, impacts would be **less than significant**.

Traffic Hazards Due to Design Features

With the implementation of **M-TR-B** and **M-TR-C**, impacts relative to traffic hazards during construction and operation of the Campo Wind Facilities would be **less than significant**.

Table 2.8-1
Level of Service for Intersections using HCM Methodology

Level of Service	Unsignalized Intersections Control Delay (in seconds/vehicle)	Signalized Intersections Control Delay (in seconds)
A	0-10	< 10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50.0	> 80.0

Source: HCM 2016

Table 2.8-2
Existing Weekday Peak-Hour Intersection Level of Service

Intersection	Peak Hour	LOS Method	Critical Movement	Delay ^a	LOS
Crestwood Rd/I-8 WB Ramps	AM	HCM	WBL	10.2	B
	PM	HCM	WBL	10.6	B
Crestwood Rd/I-8 EB Ramps	AM	HCM	EBL	9.4	A
	PM	HCM	EBL	9.8	A
Crestwood Rd/Old Hwy 80	AM	HCM	EBL	9.4	A
	PM	HCM	EBL	9.4	A
Old Hwy 80/Church Rd–Golden Acorn Casino	AM	HCM	EBL	11	B
	PM	HCM	EBL	12.6	B
Old Hwy 80/Live Oak Trail	AM	HCM	WBL	9.1	A
	PM	HCM	WBL	9.3	A
Campo Rd (SR-94)/Church Rd–BIA Route 10	AM	HCM	SBL	9.3	A
	PM	HCM	SBL	9.1	A
Ribbonwood Rd–SR-94/I-8 WB Ramps	AM	HCM	WBL	9.3	A
	PM	HCM	WBL	9.0	A
Ribbonwood Rd–SR-94/I-8 EB Ramps	AM	HCM	EBL	9.1	A
	PM	HCM	EBL	8.9	A

Source: LLG 2019.

Notes: LOS = level of service; WB = westbound; HCM = Highway Capacity Manual; WBL = westbound lanes; EB = eastbound; EBL = eastbound lanes; BIA = Bureau of Indian Affairs; SBL = southbound lanes.

All intersections are two-way stop-controlled intersections. Minor street left-turn delay is reported. See “Unsignalized” table for LOS definitions for delay at unsignalized intersections.

^a Average delay expressed in seconds per vehicle.

UNSIGNALIZED	
Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

Table 2.8-3
County of San Diego Daily Roadway Segment LOS Thresholds

Roadway Classification	No. of Travel Lanes	Levels of Service				
		LOS A	LOS B	LOS C	LOS D	LOS E
Community Collector (w/Passing Lane 2.1 D)	2	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector (No Median 2.2E)	2	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Residential Collector	2	-	-	<4,500	-	-

Source: County of San Diego Public Road Standards, Average Daily Vehicle Trips Table 1

Table 2.8-4
Existing Daily Roadway Segment Level of Service

Roadway Segment	Classification	Capacity at LOS E ^a	ADT	V/C	LOS
<i>Crestwood Road</i>					
I-8 WB to I-8 EB ramps	2 lane undivided	16,200	2,212	0.140	B
Old Hwy 80 to Church Rd	2 lane undivided	16,200	4,132	0.260	C
<i>Old Highway 80</i>					
Church Rd to Live Oak Tr	2 lane undivided	16,200	1,646	0.100	A
Live Oak Tr to Campo Rd (SR-94)	2 lane undivided	16,200	1,411	0.090	A
<i>Church Road</i>					
Old Highway 80 to Campo Rd	2 lane undivided	16,200	677	0.040	A
<i>Ribbonwood Road</i>					
N/O I-8	2 lane undivided	4,500	579	0.130	<C
<i>Campo Road (SR-94)</i>					
Buckman Springs Rd to Live Oak Springs Rd	2 lane undivided	19,000	1,900	0.100	A

Source: Appendix H.

Notes: LOS = level of service; ADT = average daily traffic; V/C = volume over capacity; WB = westbound; EB = eastbound.

^a Capacities based on Table 4-2 of Appendix H.

Table 2.8-5
Levels of Service for Freeway Segments using HCM Methodology

Level of Service	Density Range (in pc/mi/ln)
A	0–11
B	> 11–18
C	> 18–26
D	> 26–35
E	> 35–45
F	> 45

Source: HCM 2016

pc/mi/ln = passenger car per mile per lane

Table 2.8-6
Existing Freeway Mainline Segment Level of Service

Freeway Segment	Dir.	Mainline Lanes ^a	Average Daily Traffic ^b	Peak Hour Volume ^c		V/C ^d		Density (pc/ln/mi)		LOS	
				AM	PM	AM	PM	AM	PM	AM	PM
<i>Interstate 8</i>											
Cameron Rd to Crestwood Rd (Old Hwy 80)	EB	2	18,000	656	1,089	0.20	0.34	6.7	11.1	A	B
	WB	2		1,177	1,247	0.37	0.39	12.0	12.7	B	B
Crestwood Rd-Old Hwy 80 to Ribbonwood Rd (SR-94)	EB	2	17,100	656	1,089	0.20	0.34	6.7	11.1	A	B
	WB	2		1,177	1,247	0.37	0.39	12.0	12.7	B	B
Ribbonwood Rd (SR-94) to Carrizo Gorge	EB	2	16,100	617	1,025	0.19	0.32	6.3	10.5	A	A
	WB	2		1,109	1,174	0.35	0.37	11.3	11.9	B	B

Source: Appendix H.

Notes: V/C = volume over capacity; pc/ln/mi = passenger cars per lane per mile; LOS = level of service; EB = eastbound; WB = westbound. LOS based on HCM methodology, analyzed in the 2016 Highway Capacity Software (HCS).

^a Lane geometry taken from PeMS lane configurations at corresponding postmile.

^b Existing ADT volumes from most recent Caltrans Traffic Census Program (2017).

^c Peak-hour volumes calculated from Caltrans Traffic Census Program Peak Hour Volume Data (2017).

^d V/C = (Peak Hour Volume/Hourly Capacity).

Table 2.8-7
Measure of Significant Project Impacts to Congestion of Road Segments:
Allowable Increases on Congested Road Segments

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 2006.

Notes: LOS = level of service; ADT = average daily traffic.

By adding 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.

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 2.8-8
Measures of Significant Project Impacts

LOS with Project	Allowable Change due to Project Impacts					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (seconds)	Delay (minutes)
D, E, and F	0.01	1	0.02	1	2	2

Source: SANTEC/ITE 2000.

Notes: V/C = volume to capacity ratio; speed = arterial speed measured in miles per hour; mph = miles per hour; delay = average stopped delay per vehicle measured in seconds for intersections.

All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis (using Table 2 Roadway Classifications, LOS and ADT based on City of San Diego standards from SANTEC/ITE 2000 or a similar LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The Developer shall then identify feasible mitigations (within the Traffic Impact Study [TIS] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the Project becomes unacceptable (see note above), the Developer shall be responsible for mitigating significant impact changes.

Table 2.8-9
Estimated Trip Generation for Project

Vehicle Type	Number	Daily Trips	PCE	Trips With PCE	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Workers	561	1,122	1	1,122	281	0	281	0	561	561
Vendor Trucks	29	58	2.5	145	3 (8)	3 (7)	6 (15)	3 (7)	3 (8)	6 (15)
Haul Trucks	29	58	2.5	145	3 (8)	3 (7)	6 (15)	3 (7)	3 (8)	6 (15)
Total		1,238		(1,412)	287 (297)	6 (14)	293 (311)	6 (14)	567 (577)	573 (591)

Source: LLG 2019.

Notes: PCE = passenger car equivalent.

Values in parentheses are PCE trips.

A PCE factor of 1 was used for worker passenger cars and 2.5 was used for vendor and haul trucks.

Table 2.8-10
Estimated Trip Generation for Boulder Brush Facilities

Vehicle Type	Number	Daily Trips	PCE	Trips With PCE	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Workers	144	288	1	288	72	0	72	0	144	144
Vendor Trucks	14	28	2.5	70	2 (5)	2 (5)	5 (10)	2 (5)	2 (5)	5 (10)
Haul Trucks	2	4	2.5	10	0	0	0	0	0	0
Total		320		(368)	74 (77)	2 (5)	76 (82)	(2) 5	144 (149)	146 (154)

Source: Appendix H.

Notes: PCE = passenger car equivalent.

Values in parentheses are PCE trips.

A PCE factor of 1 was used for worker passenger cars and 2.5 was used for vendor and haul trucks.

Table 2.8-11
Estimated Trip Generation for Campo Wind Facilities

Vehicle Type	Number	Daily Trips	PCE	Trips With PCE	AM Peak Hour			PM Peak Hour		
					<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Workers	420	840	1	840	210	0	210	0	420	420
Vendor Trucks	20	40	2.5	100	2 (5)	2 (5)	4 (10)	2 (5)	2 (5)	4 (10)
Haul Trucks	27	54	2.5	135	3 (8)	3 (7)	6 (15)	3 (7)	3 (8)	6 (15)
Total	934	934		(1,075)	215 (223)	5 (12)	220 (235)	5 (12)	425 (433)	430 (445)

Source: Appendix H.

Notes: PCE = passenger car equivalent.

Values in parentheses are PCE trips.

A PCE factor of 1 was used for worker passenger cars and 2.5 was used for vendor and haul trucks.

Table 2.8-12
Existing Plus Project (Peak Construction) Peak-Hour Intersection Level of Service

Intersection	Peak Hour	LOS Method	Critical Movement	Existing		Existing + Project		Existing + Project + Cumulative Projects		Δ^a Delay	Significant Impact?
				Delay ^b	LOS	Delay ^b	LOS	Delay ^a	LOS		
Crestwood Rd/ I-8 WB Ramps	AM	HCM	WBL	10.2	B	10.6	B	10.6	B	0.4	No
	PM	HCM	WBL	10.6	B	21.8	C	22.1	C	11.5	No
Crestwood Road/ I-8 EB Ramps	AM	HCM	EBL	9.4	A	9.6	A	9.6	A	0.2	No
	PM	HCM	EBL	9.8	A	12.0	B	12.1	B	2.3	No
Crestwood Rd/ Old Hwy 80	AM	HCM	EBL	9.4	A	10.1	B	10.2	B	0.8	No
	PM	HCM	EBL	9.4	A	9.9	A	10.0	B	0.6	No
Old Hwy 80/Church Rd- Golden Acorn Casino	AM	HCM	EBL	11	B	12.3	B	12.4	B	1.4	No
	PM	HCM	EBL	12.6	B	20.6	C	21.1	C	8.5	No
Old Hwy 80/ Live Oak Trail	AM	HCM	WBL	9.1	A	9.3	A	9.3	A	0.2	No
	PM	HCM	WBL	9.3	A	9.5	A	9.5	A	0.2	No
Campo Rd (SR-94)/ Church Rd-BIA Rte 10	AM	HCM	SBL	9.3	A	12.3	B	12.3	B	3.0	No
	PM	HCM	SBL	9.1	A	12.1	B	12.1	B	3.0	No
Ribbonwood Rd-SR-94/ I-8 WB Ramps	AM	HCM	WBL	9.3	A	9.9	A	14.2	B	4.9	No
	PM	HCM	WBL	9	A	9.9	A	13.2	B	4.2	No
Ribbonwood Rd-SR-94/ I-8 EB Ramps	AM	HCM	EBL	9.1	A	9.5	A	16.1	C	7.0	No
	PM	HCM	EBL	8.9	A	9.3	A	11.3	B	2.4	No

Source: LLG, 2019.

Notes: LOS = level of service; WB = westbound; HCM = Highway Capacity Manual; WBL = westbound lanes; EB = eastbound; EBL = eastbound lanes; BIA = Bureau of Indian Affairs; SBL = southbound lanes.

^a Increase in delay due to Project traffic.

^b Average delay expressed in seconds per vehicle.

All intersections are two-way stop-controlled intersections. Minor street left-turn delay is reported. See "Unsignalized" table for LOS definitions for delay at unsignalized intersections.

UNSIGNALIZED	
Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

**Table 2.8-13
Existing Plus Boulder Brush Facilities (Peak Construction) Peak-Hour Intersection Level of Service**

Intersection	Peak Hour	LOS Method	Critical Movement	Existing		Existing + Boulder Brush Peak Construction		Existing + Boulder Brush Peak Construction + Cumulative Projects		Δ ^a Delay	Significant Impact?
				Delay ^b	LOS	Delay ^b	LOS	Delay ^b	LOS		
Crestwood Rd/ I-8 WB Ramps	AM	HCM	WBL	10.2	B	10.5	B	10.5	B	0.3	No
	PM	HCM	WBL	10.6	B	12.3	B	12.3	B	1.7	No
Crestwood Road/ I-8 EB Ramps	AM	HCM	EBL	9.4	A	9.5	A	9.5	A	0.1	No
	PM	HCM	EBL	9.8	A	10.3	B	10.4	B	0.6	No
Crestwood Rd/ Old Hwy 80	AM	HCM	EBL	9.4	A	9.6	A	9.6	A	0.2	No
	PM	HCM	EBL	9.4	A	9.6	A	9.6	A	0.2	No
Old Hwy 80/Church Rd- Golden Acorn Casino	AM	HCM	EBL	11.0	B	11.8	B	11.9	B	0.9	No
	PM	HCM	EBL	12.6	B	14.1	B	14.3	B	1.7	No
Old Hwy 80/ Live Oak Trail	AM	HCM	WBL	9.1	A	9.2	A	9.2	A	0.1	No
	PM	HCM	WBL	9.3	A	9.3	A	9.3	A	0.0	No
Campo Rd (SR-94)/ Church Rd-BIA Rte 10	AM	HCM	SBL	9.3	A	10.7	B	10.4	B	1.1	No
	PM	HCM	SBL	9.1	A	9.7	A	9.7	A	0.6	No
Ribbonwood Rd-SR-94/ I-8 WB Ramps	AM	HCM	WBL	9.3	A	9.9	A	14.2	B	4.9	No
	PM	HCM	WBL	9.0	A	9.8	A	13.1	B	4.1	No
Ribbonwood Rd-SR-94/ I-8 EB Ramps	AM	HCM	EBL	9.1	A	9.5	A	16.1	C	7.0	No
	PM	HCM	EBL	8.9	A	9.4	A	11.3	B	2.4	No

Source: Appendix H.

Notes: LOS = level of service; WB = westbound; HCM = Highway Capacity Manual; WBL = westbound lanes; EB = eastbound; EBL = eastbound lanes; BIA = Bureau of Indian Affairs; SBL = southbound lanes.

All intersections are Two-Way Stop Controlled intersections. Minor street left turn delay is reported. See "Unsignalized" table for LOS definitions for delay at unsignalized intersections.

^a Increase in delay due to Project traffic.

^b Average delay expressed in seconds per vehicle.

UNSIGNALIZED	
Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

**Table 2.8-14
Existing Plus Project (Peak Construction) Roadway Segment Level of Service**

Roadway Segment	LOS "E" ADT ^a	Existing			Existing Plus Project (Peak Construction)			Δ^b ADT	Existing Plus Project (Peak Construction) Plus Cumulative Projects			Δ^b ADT
		ADT	V/C	LOS	ADT	V/C	LOS		ADT	V/C	LOS	
<i>Crestwood Road</i>												
I-8 WB to I-8 EB ramps	16,200	2,212	0.14	B	2,525	0.16	B	313	2,663	0.16	B	313
Old Hwy 80 to Church Rd	16,200	4,132	0.26	C	4,644	0.29	C	512	4,812	0.30	C	512
<i>Old Highway 80</i>												
Church Rd to Live Oak Tr	16,200	1,646	0.10	A	1,714	0.11	A	68	1,748	0.11	A	68
Live Oak Tr to Campo Rd (SR-94)	16,200	1,411	0.09	A	1,457	0.09	A	46	1,486	0.09	A	46
<i>Church Road</i>												
Old Highway 80 to Campo Rd	16,200	677	0.04	A	1,121	0.07	A	444	1,134	0.07	A	444
<i>Ribbonwood Road</i>												
N/O I-8	4,500	579	0.13	<C	909	0.20	<C	330	1,907	0.36	<C	330
<i>Campo Road (SR-94)</i>												
Buckman Springs Rd to Live Oak Springs Rd	19,000	1,900	0.10	A	2,230	0.12	A	330	2,330	0.13	A	330

Source: Appendix H.

Notes: LOS = level of service; ADT = average daily traffic; V/C = volume over capacity; EB = eastbound.

^a Capacities based on Table 4-2 of Appendix H.

^b Increase in ADT due to Project traffic.

**Table 2.8-15
Existing Plus Boulder Brush Facilities (Peak Construction) Roadway Segment Level of Service**

Roadway Segment	LOS "E" Capacity ^a	Existing			Existing Plus Boulder Brush Peak Construction			Δ^b ADT	Existing Plus Boulder Brush Peak Construction Plus Cumulative Projects			Δ^b ADT
		ADT	V/C	LOS	ADT	V/C	LOS		ADT	V/C	LOS	
<i>Crestwood Road</i>												
I-8 WB to I-8 EB ramps	16,200	2,212	0.14	B	2,329	0.14	B	117	2,467	0.15	B	117
Old Hwy 80 to Church Rd	16,200	4,132	0.26	C	4,326	0.27	C	194	4,494	0.28	C	194
<i>Old Highway 80</i>												
Church Rd to Live Oak Tr	16,200	1,646	0.10	A	1,674	0.10	A	28	1,708	0.11	A	28
Live Oak Tr to Campo Rd (SR-94)	16,200	1,411	0.09	A	1,421	0.09	A	10	1,450	0.09	A	10
<i>Church Road</i>												
Old Highway 80 to Campo Rd	16,200	677	0.04	A	843	0.05	A	166	856	0.05	A	166
<i>Ribbonwood Road</i>												
N/O I-8	4,500	579	0.13	<C	939	0.21	<C	360	1,937	0.43	<C	360
<i>Campo Road (SR-94)</i>												
Buckman Springs Rd to Live Oak Springs Rd	19,000	1,900	0.10	A	1,984	0.10	A	84	2,084	0.11	A	84

Source: Appendix H.

Notes: LOS = level of service; ADT = average daily traffic; V/C = volume over capacity; EB = eastbound.

^a Capacities based on Table 4-2 of Appendix H.

^b Increase in ADT due to Project traffic.

**Table 2.8-16
Existing Plus Project (Peak Construction) Freeway Segment Operations**

Freeway Segment	Dir.	Mainline Lanes ^a	Existing plus Project (Peak Construction)								Existing plus Project (Peak Construction) plus Cumulative Projects								Δ V/C ^f		Sig? ^g	
			Volume ^b		V/C ^c		Density ^d		LOS ^e		Volume		V/C		Density		LOS ⁵					
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
<i>Interstate 8</i>																						
Cameron Rd to Crestwood Rd-Old Hwy 80	EB	2	813	1,092	0.25	0.34	8.3	11.1	A	B	878	1,201	0.27	0.38	8.9	12.2	A	B	0.02	0.04	No	
	WB	2	1,180	1,557	0.37	0.49	12.0	15.8	B	B	1,298	1,682	0.41	0.53	13.2	17.2	B	B	0.04	0.04	No	
Crestwood Rd-Old Hwy 80 to Ribbonwood Rd-SR-94	EB	2	700	1091	0.22	0.34	7.1	11.1	A	B	765	1,200	0.24	0.37	7.8	12.2	A	B	0.02	0.03	No	
	WB	2	1,179	1,333	0.37	0.42	12.0	13.6	B	B	1,297	1,458	0.41	0.46	13.2	14.8	B	B	0.04	0.04	No	
Ribbonwood Rd-SR-94 to Carrizo Gorge	EB	2	617	1025	0.19	0.32	6.3	10.5	A	A	679	1,128	0.21	0.35	6.9	11.5	A	B	0.02	0.03	No	
	WB	2	1,109	1,174	0.35	0.37	11.3	12.0	B	B	1,219	1,292	0.38	0.41	12.5	13.2	B	B	0.03	0.04	No	

^a Lane geometry from PeMS lane configurations at corresponding postmile.

^b Peak-hour volumes calculated from Caltrans Traffic Census Program Peak Hour Volume Data (2017).

^c V/C = Peak Hour Volume/Hourly Capacity

^d Density is presented in "passenger cars per lane per mile."

^e LOS = Level of Service

^f Increase in V/C ratio due to Project traffic.

^g Sig? - Significant Impact?

General Notes:

LOS based on HCM methodology, analyzed in the 2010 Highway Capacity Software (HCS).

**Table 2.8-17
Existing Plus Boulder Brush Facilities (Peak Construction) Freeway Segment Operations**

Freeway Segment	Dir.	Mainline Lanes ^a	Existing plus Boulder Brush Peak Construction								Existing plus Boulder Brush Peak Construction plus Cumulative Projects								Δ V/C ^b		Sig?	
			Volume		V/C ^c		Density ^d		LOS		Volume		V/C		Density		LOS					
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
<i>Interstate 8</i>																						
Cameron Rd to Crestwood Rd–Old Hwy 80	EB	2	725	1,093	0.23	0.34	7.4	11.1	A	B	790	1,202	0.25	0.38	8.1	12.2	A	B	0.02	0.04	No	
	WB	2	1,181	1,383	0.37	0.43	12.0	14.1	B	B	1,299	1,508	0.41	0.47	13.2	15.3	B	B	0.04	0.04	No	
Crestwood Rd–Old Hwy 80 to Ribbonwood Rd–SR-94	EB	2	699	1092	0.22	0.34	7.1	11.1	A	B	764	1,201	0.24	0.38	7.8	12.2	A	B	0.02	0.04	No	
	WB	2	1,180	1,331	0.37	0.42	12.0	13.5	B	B	1,298	1,456	0.41	0.45	13.2	14.8	B	B	0.04	0.03	No	
Ribbonwood Rd–SR-94 to Carrizo Gorge	EB	2	620	1027	0.19	0.32	6.3	10.5	A	A	682	1,130	0.21	0.35	7.0	11.6	A	B	0.02	0.03	No	
	WB	2	1,112	1,176	0.35	0.37	11.4	12.0	B	B	1,222	1,294	0.38	0.41	12.5	13.2	B	B	0.03	0.04	No	

Source: Appendix H.

Notes: V/C = volume over capacity; Sig? - Significant Impact?; LOS = level of service; EB = eastbound; WB = westbound.

LOS based on HCM methodology, analyzed in the 2010 Highway Capacity Software (HCS).

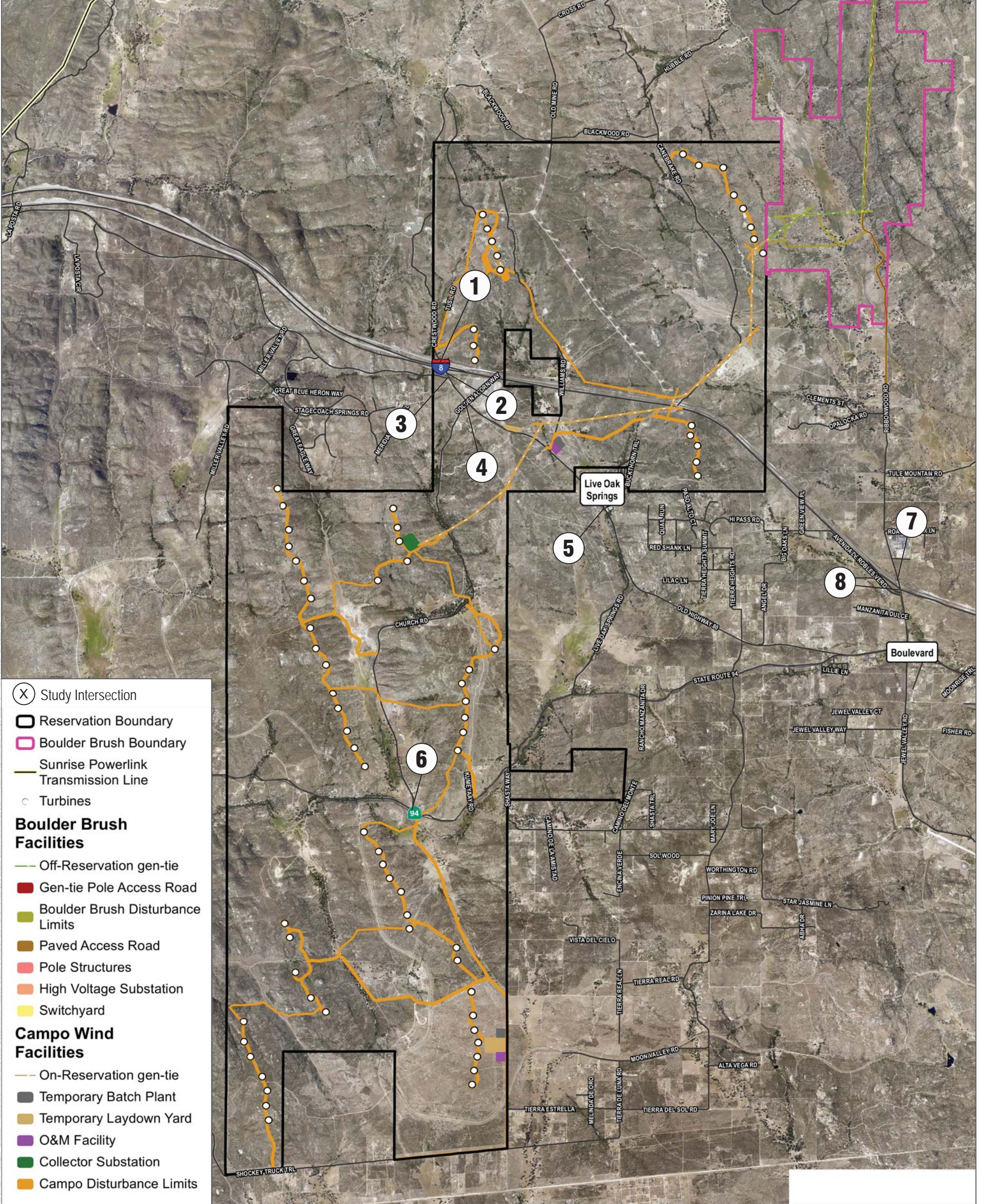
^a Lane geometry from PeMS lane configurations at corresponding postmile.

^b Increase in V/C ratio due to Project traffic.

^c V/C = Peak Hour Volume/Hourly Capacity

^d Density is presented in "passenger cars per lane per mile."

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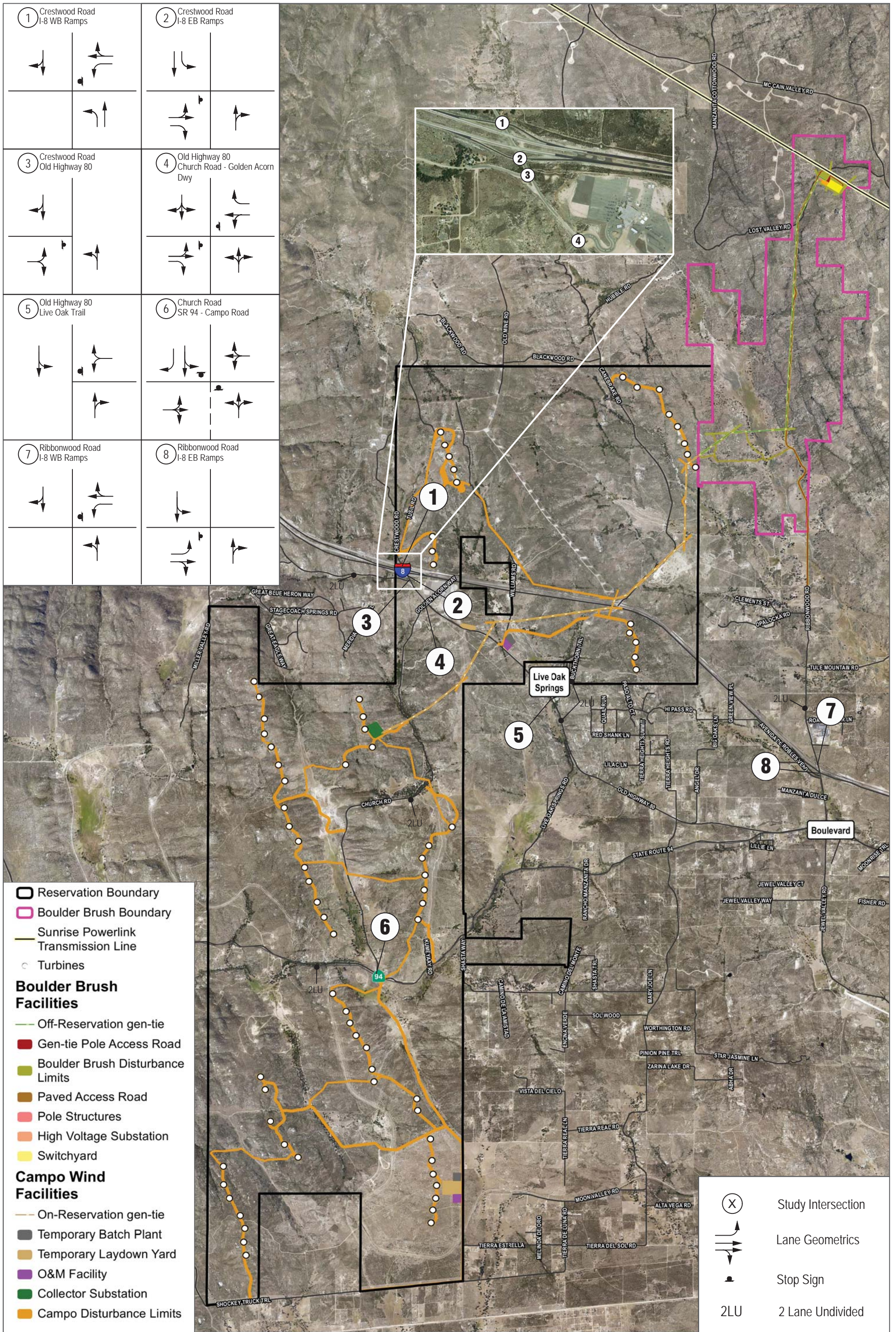
- (X) Study Intersection
 - ▭ Reservation Boundary
 - ▭ Boulder Brush Boundary
 - Sunrise Powerlink Transmission Line
 - Turbines
- Boulder Brush Facilities**
- Off-Reservation gen-tie
 - ▭ Gen-tie Pole Access Road
 - ▭ Boulder Brush Disturbance Limits
 - ▭ Paved Access Road
 - ▭ Pole Structures
 - ▭ High Voltage Substation
 - ▭ Switchyard
- Campo Wind Facilities**
- On-Reservation gen-tie
 - ▭ Temporary Batch Plant
 - ▭ Temporary Laydown Yard
 - ▭ O&M Facility
 - ▭ Collector Substation
 - ▭ Campo Disturbance Limits

SOURCE: SANGIS 2017, LLG 2019



FIGURE 2.8-1
Regional Location and Traffic Study Area
Campo Wind Project with Boulder Brush Facilities

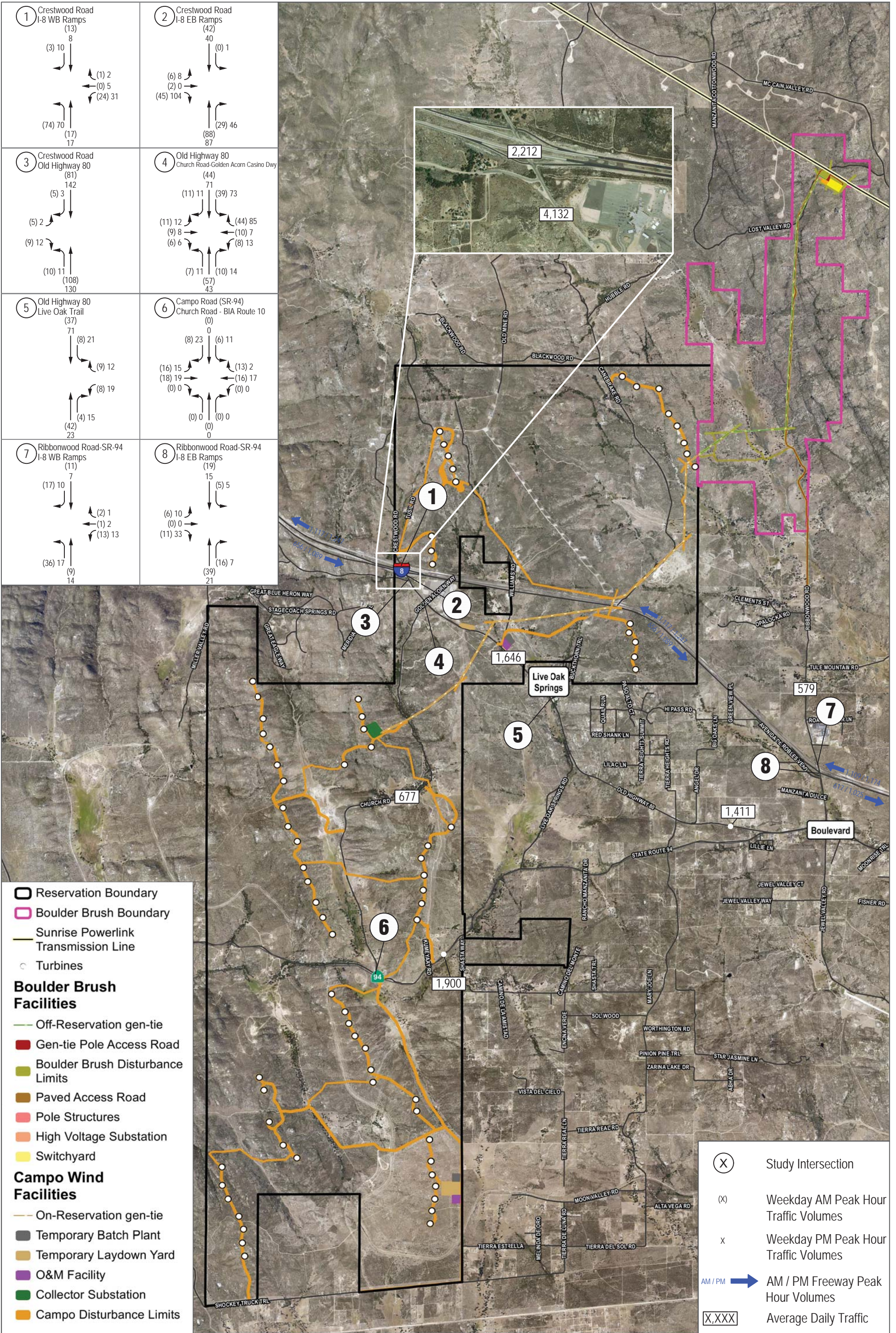
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SOURCE: SANGIS 2017, LLG 2019

FIGURE 2.8-2
Existing Roadway and Intersection Conditions
Campo Wind Project with Boulder Brush Facilities

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SOURCE: SANGIS 2017, LLG 2019

FIGURE 2.8-3 Existing Traffic Volumes

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