

SECTION 4.3

TRANSPORTATION AND CIRCULATION

4.3 TRANSPORTATION AND CIRCULATION

This section discusses the potential traffic impacts that would occur in association with implementation of the proposed Seville 4 Solar Project. The analysis includes a discussion of the effects of Project construction and operational traffic on SR 78 and two area intersections. Potential for impacts associated with Project design are also discussed.

The analysis is based on the “Seville 4 Solar Project – Traffic Analysis Letter” memo prepared by Chen Ryan (September 1, 2017). This document is provided as **Appendix C** in the attached CD of Technical Appendices of this EIR.

In order to understand the following analysis, it is important to become familiar with the concept of Level of Service (LOS) as it pertains to transportation. **Table 4.3-1** below provides the definition of each LOS found in the Highway Capacity Manual (HCM), using letters A through F, with A being the best and F being the worst. This terminology is used throughout this section.

**TABLE 4.3-1
LEVEL OF SERVICE DEFINITIONS FOR UNSIGNALIZED INTERSECTIONS**

LOS ¹ Average Control Delay (sec/veh)	Definition
A ≤10	Free flow. Traffic flows at or above the posted speed limit and motorists have complete mobility between lanes. The average spacing between vehicles is about 550 feet or 27 car lengths. Motorists have a high level of physical and psychological comfort. The effects of incidents or point breakdowns are easily absorbed. LOS A occurs late at night in urban areas, frequently in rural areas, and generally in car advertisements.
B >10 to ≤15	Reasonably free flow. LOS A speeds are maintained, maneuverability within the traffic stream is slightly restricted. The lowest average vehicle spacing is about 330 feet (100 meters) or 16 car lengths. Motorists still have a high level of physical and psychological comfort.
C >15 to ≤25	Stable flow, at or near free flow. Ability to maneuver through lanes is noticeably restricted and lane changes require more driver awareness. Minimum vehicle spacing is about 220 feet or 11 car lengths. Most experienced drivers are comfortable, roads remain safely below but efficiently close to capacity, and posted speed is maintained. Minor incidents may still have no effect but localized service will have noticeable effects and traffic delays will form behind the incident. This is the target LOS for some urban and most rural highways.
D >25 to ≤35	Approaching unstable flow. Speeds slightly decrease as traffic volume slightly increase. Freedom to maneuver within the traffic stream is much more limited and driver comfort levels decrease. Vehicles are spaced about 160 feet or 8 car lengths. Minor incidents are expected to create delays. Examples are a busy shopping corridor in the middle of a weekday, or a functional urban highway during commuting hours. It is a common goal for urban streets during peak hours, as attaining LOS C would require prohibitive cost and societal impact in bypass roads and lane additions.

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**TABLE 4.3-1
LEVEL OF SERVICE DEFINITIONS FOR UNSIGNALIZED INTERSECTIONS**

LOS ¹ Average Control Delay (sec/veh)	Definition
E >35 to ≤50	Unstable flow, operating at capacity. Flow becomes irregular and speed varies rapidly because there are virtually no usable gaps to maneuver in the traffic stream and speeds rarely reach the posted limit. Vehicle spacing is about 6 car lengths, but speeds are still at or above 50 miles per hour. Any disruption to traffic flow, such as merging ramp traffic or lane changes, will create a shock wave affecting traffic upstream. Any incident will create serious delays. Drivers' level of comfort become poor. This is a common standard in larger urban areas, where some roadway congestion is inevitable.
F >50	Forced or breakdown flow. Every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing required. Travel time cannot be predicted, with generally more demand than capacity. A road in a constant traffic jam is at this LOS, because LOS is an average or typical service rather than a constant state. For example, a highway might be at LOS D for the AM peak hour, but have traffic consistent with LOS C some days, LOS E or F others, and come to a halt once every few weeks.

Source: ¹TRB 2010.

4.3.1 REGULATORY FRAMEWORK

A. STATE

California Department of Transportation

The State of California Department of Transportation (Caltrans) is responsible for the design, construction, maintenance, and operation of the California State Highway System. Caltrans is also responsible for portions of the Interstate Highway System within the state's boundaries. Caltrans has jurisdiction over state highway right-of-way and has the authority to issue permits for work and encroachments (temporary or permanent) in these areas. Likewise, Caltrans is involved in review of traffic control plans, stoppage of traffic for placement of aerial lines, and installation or removal of overhead conductors crossing a highway. The Project does not include any components that would span Caltrans facilities (i.e. SR 78).

Caltrans provided comments during the NOP period indicating that a traffic impact study (TIS) should be prepared to address the proposed Project's near-term and long-term impacts to State facilities and identify mitigation measures if necessary. Caltrans also requested that data used in the TIS be no more than 2 years old (Eaton 2017). In keeping with the provisions of Caltrans' request, a Traffic Analysis Letter was prepared for the proposed Project using traffic counts collected in June 2017. Traffic count data is included in Attachment 2 of **Appendix C** in the attached CD of Technical Appendices of this EIR.

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B. LOCAL

Imperial County General Plan Circulation and Scenic Highways Element

The Circulation and Scenic Highways Element (Imperial County 2008b) is included as part of the Imperial County General Plan pursuant to requirements of law and policies of federal, state, and regional agencies. The purpose of the Element is to provide a comprehensive document which contains the latest information about the transportation needs of the County and the various modes available to meet these needs and to facilitate regional transportation coordination. This Element is also intended to provide a plan to accommodate a pattern of concentrated and coordinated growth providing both regional and local linkage systems between unique communities and the County’s neighboring metropolitan regions. Additionally, the purpose of this Element is to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

Table 4.3-2 analyzes the consistency of the proposed Project with the applicable goals and objectives relating to transportation in the County of Imperial General Plan. While this EIR analyzes the Project’s consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 4.3-2
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
CIRCULATION AND SCENIC HIGHWAYS ELEMENT		
Safe, Convenient, and Efficient Transportation System		
Goal 1: The County will provide and require an integrated transportation system for the safe and efficient movement of people and goods within and through the County of Imperial with minimum disruption to the environment.	Yes	Access to the proposed Project is available from SR 78. This highway provides access to the northwestern portion of the County and connects with SR 86 approximately eight miles east of the Project. No changes to the transportation system are proposed as part of the Project. Therefore, the proposed Project is consistent with this goal.
Objective 1.2 Require a traffic analysis for any new development which may have a significant impact on County roads. A traffic analysis may not be necessary in every situation, such as when the size or location of the project will not have a significant impact upon and generate only a small amount of traffic. Also, certain types of projects, due to the trip generation characteristics, may add virtually no traffic during peak periods. These types of projects may be exempt from the traffic analysis requirements.	Yes	A Traffic Analysis Letter was prepared to assess the construction and operational impacts of the proposed Project’s traffic (Appendix C of this EIR). The Imperial County Department of Public Works and Caltrans was consulted during the preparation of the transportation analysis for concurrence on the approach. Therefore, the proposed Project is consistent with this objective.

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**TABLE 4.3-2
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
Whether a particular project qualifies for any exemption will be determined by the Department of Public Works Road Commissioner.		
<p>Objective 1.12 Review new development proposals to ensure that the proposed development provides adequate parking and would not increase traffic on existing roadways and intersection to a level of service (LOS) worse than “C” without providing appropriate mitigations to existing infrastructure. This can include fair share contributions on the part of developers to mitigate traffic impacts caused by such proposed developments.</p>	Yes	<p>The traffic analysis conducted for the proposed Project examined impacts to SR 78 and intersection LOS during both construction and operation under near-term, long-term and cumulative conditions. The Project would not cause the LOS C threshold to be exceeded under any scenario. On-site parking would be provided for all construction workers. No operational parking is proposed as there will be no on-site O&M Building. Therefore, the proposed Project is consistent with this objective.</p>

4.3.2 EXISTING SETTING

Information contained in this section is summarized from the “Seville 4 Solar Project – Traffic Analysis Letter” (Chen Ryan 2017). This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR.

The analysis applies to construction and operation of the Seville 4 Solar Project, including the solar field, Gen-Tie Line, Seville 4 Substation, IID Switching Station and extension of the existing access road. No differentiation of trips for these components is made. Rather the Project is analyzed in its totality.

A. PROJECT STUDY AREA

The closest intersections to the Project area (with a paved road) is located over eight miles to the east (SR-86) and over eight miles to the west (Split Mountain Road), along SR 78. Due to the distance of these intersections from the proposed Project area, as well as the anticipated low Project trip generation (8 daily trips and 4 peak hour trips), the facilities considered in the traffic analysis were limited to the following:

Highway Segment

1. SR 78, between Project Driveway and SR 86

Intersection

1. Project Driveway / SR 78 (SSSC – Side-street stop controlled)
2. SR 86 / SR 78 (SSSC – Side-street stop controlled)

Due to the location of the Project, it is anticipated that the project-related traffic would have minimal effect on the operations of any intersection under the County’s jurisdiction. Therefore, no analysis of County controlled intersections was included in the traffic analysis.

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State Route 86 (SR 86)

SR 86 is generally a north-south route and begins near the Townsite of Heber south of the Project area as a two-lane conventional highway and ends at the Riverside County line north of the Project area as a four-lane expressway. In Riverside County, SR 86 extends to Interstate 10. This 67.8-mile route primarily provides travel for interregional, intra-regional and international trips. SR 86 north of SR 78 is a major goods movement corridor serving the Los Angeles area and other California goods movement centers from the Imperial County region. According to the Imperial County General Plan Circulation and Scenic Highways Element, average existing daily traffic on SR 86 north of the I-8 to Keystone Road (approximately 35 miles south of the Project) can range anywhere from 14,700 to 36,000 trips. Average existing daily traffic on this route north of Keystone Road can range from 9,400 to 21,400 trips. During the spring, truck traffic transporting agriculture goods constitutes 35 percent of travel on this route (Imperial County 2008c, p. 19).

State Route 78 (SR 78)

SR 78 is an east-west route that traverses a distance of 81.8 miles through Imperial County with an average daily traffic (ADT) ranging from 17,000 to 19,500 east of SR 86 and from 1,850 to 3,950 east of SR 111. The route is a two-lane conventional highway throughout its alignment, although some portions have been upgraded to a four-lane expressway and four-lane conventional highway as a result of recent improvement projects (Imperial County 2008c, p. 19).

B. EXISTING TRAFFIC VOLUME AND LOS ANALYSIS

Existing Traffic Volume

Based on Caltrans 2015 count data, the segment of SR 78 north of the proposed Project site serves an annual average daily traffic (AADT) volume of 780 vehicles per day (vpd) with a two-way volume of 170 vehicles during the peak hour (Chen Ryan 2017, p. 4).

Existing LOS Analysis

Table 4.3-3 summarizes existing LOS on the segment of SR 78. As shown, this segment currently operates at LOS A. Based upon Caltrans and County of Imperial requirements, LOS C or better is used as the threshold for acceptable highway operations.

**TABLE 4.3-3
SR 78 HIGHWAY SEGMENT LEVEL OF SERVICE – EXISTING CONDITION**

Scenario	AADT ¹	K	Peak Hour Volume	D	Lanes	PHF	HVF	Volume (pc/h/ln)	V/C	LOS
Existing	780	24.9%	194	0.6	1	0.92	24.3%	167	0.10	A

Source: Chen Ryan 2017.

- Notes:** K: Percent of AADT that occurs during the peak hour. The source for existing K factor is the Caltrans 2015 *Traffic Volumes on the California State Highway System*. It is assumed that as traffic volumes increase on the segment, the K factor will reduce to a level that is more consistent with the adjacent segments both to the east and the west.
- D: Directional split, assumed value
- PHF: Peak Hour Factor, assumed value
- HVF: Heavy Vehicle Factor, based on Caltrans 2015 *Annual Average Daily Truck Traffic on the California State Highway System*.
- V/C: Volume to Capacity Ratio

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Table 4.3-4 shows peak hour intersection LOS for the two study area intersections under existing conditions. The intersection of SR 78 at the Project Driveway operates at LOS A during both the AM and PM Peak hour; and the intersection of SR 86 and SR 78 operates at LOS B during both the AM and PM Peak hour. Both intersections operate well above Caltrans and County requirements of LOS C during both the AM and PM Peak hour.

**TABLE 4.3-4
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS – EXISTING CONDITIONS**

Scenario	Intersections	Traffic Control	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
Existing Conditions	1. Project Driveway / SR 78	SSSC	0.0	A	0.0	A
	2. SR 86 / SR 78	SSSC	12.4	B	11.4	B

Source: Chen Ryan 2017.

Notes: SSSC – side street stop controlled.

For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.

4.3.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The CEQA significance criteria listed below were used to determine if the proposed Project would result in impacts to transportation and circulation during construction and operation. These criteria are the same as the significance criteria for Transportation/Traffic listed in the Environmental Checklist, Appendix G of the CEQA Guidelines. Under CEQA, a Project would have a significant impact on transportation and circulation if it would:

- a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- e) Result in inadequate emergency access.
- f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Imperial County's goal is to have intersections and roadway segments operate at LOS C or better. In general, a location operating at LOS C or better under existing conditions that degrades to LOS D or worse is considered a significant impact. Page 55 of the Circulation and Scenic Highways Element states: "The County's goal for an acceptable traffic service standard on an ADT (average daily trips) basis and during AM and PM peak periods for all County-Maintained Roads shall be LOS C for all street segment links and intersections" (Imperial County 2008c, p 55). LOS C or better was used as the threshold for acceptable highway operations based on Caltrans and County of Imperial requirements.

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B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Note that three CEQA significance criteria were scoped out as part of the Initial Study. Criterion “c” was eliminated from further analysis because the proposed Project would not result in changes to existing air traffic patterns through an increase in traffic levels or change in location. Thus, no impact is identified for this issue area.

Criterion “e” was eliminated because the proposed circulation plan for the Project will be required to provide emergency access points and safe vehicular travel. The principal access road was constructed as part of the Seville Solar Farm Complex approximately one-quarter mile west of an existing private access road off of SR 78. The primary access road extends south off of SR 78 through one-half mile of public land. From this point, the access road aligns east-west approximately 1,500 feet then extends south along the western boundary of Lots 4 and 5 and east-west along the northern boundaries of Lots 1, 2 and 3 of the Seville 3 Solar project (refer to **Figure 2.0-3** in Chapter 2.0, Project Description). The primary access road is equipped with a minimum 30-foot double swing gate with a coded entry system and a “Knox Box” for emergency access. The private access extending south from SR 78 and crossing public land managed by the BLM would be used for secondary, emergency access. Nominal 20-foot wide roads are proposed between the PV arrays, consistent with agency emergency access requirements.

The final site plan would be designed in accordance with the Imperial County Fire Department (ICFD) requirements for access. The Project is not anticipated to hinder the ability of fire or law enforcement to access nearby properties. Thus, no impact is identified for this issue area.

Lastly, Criterion “f” was eliminated because the proposed Project is in a rural, sparsely populated portion of the County void of public transit, bike lanes and pedestrian facilities. Thus, development of the proposed Project would not conflict with any adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Thus, no impact is identified for this issue area.

C. METHODOLOGY

The Traffic Assessment Letter analysis was performed in accordance with the requirements of the County of Imperial Department of Public Works Traffic Study and Report Policy dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007. The Traffic Assessment Letter also followed the procedures developed by Caltrans District 11. Additionally, coordination efforts took place with County of Imperial Traffic Engineer, Francisco Olmedo, and Caltrans Associate Transportation Planner, Mark McCumsey, between the months of June and July of 2017.

Highway Segment LOS Standards and Thresholds

State Highway LOS and performance is based upon procedures developed by Caltrans District 11 derived from the 2010 Highway Capacity Manual (TRB 2010). The procedure for calculating highway LOS involves estimating a peak hour volume to capacity (V/C) ratio. Peak hour volumes are estimated from the application of design hour (“K”), directional (“D”) and Heavy Vehicle Factors (“HVF”) to Average Daily Traffic (ADT) volumes. The analysis assumed a capacity of 1,700 passenger-cars per hour per lane (pc/h/ln), a peak-hour factor (PHF) of 0.92, and a 60/40 directional split.

Peak Hour Intersection Level of Service Standards and Thresholds

Unsignalized Intersection Analysis

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the 2010 Highway Capacity Manual unsignalized intersection analysis methodology. The *Synchro*

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9.0 software supports this methodology and was utilized to produce LOS results. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS criteria for unsignalized intersections are identified in **Table 4.3-1** at the beginning of this section.

Determination of Significant Impacts

The significance criteria for traffic impacts are based on the Imperial County Planning & Development Services Department LOS standard as outlined on page 55 of the “Circulation and Scenic Highways Element” dated January 29, 2008, which states “The County’s goal for an acceptable traffic service standard on an ADT basis and during AM and PM peak periods for all County-Maintained Road shall be LOS C for all street segment links and intersections.” **Table 4.3-5** summarizes the impact significance thresholds for facilities operating at substandard LOS with and without the project for both direct and cumulative impacts. These thresholds, as applied to roadway segments, are based upon an acceptable increase in the Volume / Capacity (V/C) ratio.

**TABLE 4.3-5
SIGNIFICANCE CRITERIA**

Existing	Existing + Project	Existing + Project + Cumulative Projects	Impact Type
Intersections			
LOS C or better	LOS C or better	LOS C or better	None
LOS C or better	LOS D or worse	NA	Direct
LOS D	LOS D and adds >2.0 seconds of delay	LOS D or worse	Cumulative
LOS D	LOS D and project adds >2.0 seconds of delay	LOS D or worse	None
LOS D	LOS E or F	NA	Direct
LOS E	LOS F	NA	Direct
LOS F	LOS F and delay increases by > 10.0 seconds	LOS F	Direct
Any LOS F	Project does not degrade LOS and adds <2.0 seconds of delay	Any LOS	None
Any LOS F	Project does not degrade LOS but adds 2.0 to 9.9 seconds of delay	LOS E or worse	Cumulative
Segments			
LOS C or better	LOS C or better	LOS C or better	None
LOS C or better	LOS C or better and V/C 0.02	LOS D or worse	Cumulative
LOS C or better	LOS D or worse	NA	Direct ¹
LOS D	LOS D or better and V/C 0.02	LOS D or worse	Cumulative
LOS D	LOS D or better and V/C 0.02	LOS D or worse	None
LOS D	LOS E or F	NA	Direct
LOS E	LOS F	NA	Direct
LOS F	LOS F and V/C increases by > 0.09	LOS F	Direct
Any LOS	LOS E or worse & V/C 0.02 to 0.09	LOS E or worse	Cumulative
Any LOS	LOS E or worse and V/C 0.02	Any LOS	None

Source: Chen-Ryan 2017.

Notes: LOS = Level of Service, NA = Not Applicable

¹ Exception: post-project segment operations is LOS D and intersections along segment are LOS D or better resulting in no significant impact.

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D. SCENARIOS

Highway segment and intersection analyses were conducted for the scenarios described below. Existing conditions are discussed in subsection 4.3.2, Existing Setting, above. All other scenarios are discussed as part of sub-section 4.3.3, Impacts and Mitigation Measures.

Existing Conditions

Based on Caltrans 2015 count data, the segment of SR 78 north of the Project area serves an AADT volume of 780 vehicles per day (vpd) with a two-way volume of 170 vehicles during the peak hour.

Existing and Normal Background Growth (Near-Term)

Construction of the proposed Project is anticipated to take place in early to mid-2018. Year 2018 background volumes are based on applying a growth rate to existing conditions volumes by an annual growth rate. Determination of the annual growth rate was based on guidelines defined in the County of Imperial Department of Public Works Traffic Study and Report Policy dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007. This document indicates that traffic projections should be based on demonstrated growth as detailed in the general plan. Three growth rate options were reviewed:

- 1) The Land Use Element of the general plan indicates that the Population Research Unit of the California Department of Finance (DOF) estimates the annual change in population. Using the revised July 1, 2015 population estimate of 185,328 and the projected population of Imperial County in 2035 of 232,298, an annual growth rate of 1.3 percent is calculated.
- 2) The Housing Element section of the general plan states that the total population of Imperial County in 2010 was 174,528, an increase of 23 percent since 2000. Based on this information, an annual growth rate of 2.3 percent is calculated.
- 3) The Southern California Association of Governments (SCAG) Regional Transportation Plan 2012-2035 Sustainable Communities Strategy, adopted in April 2012, states that the population of Imperial County is projected to grow at an annual rate of 2.6 percent.

For the purpose of this analysis, the most conservative growth rate of 2.6 percent per year was applied to develop the traffic volumes used in the “Normal background growth” scenarios. It is important to note that Existing Conditions traffic volumes for the analyzed roadway segment of SR 78 are based on the latest published Caltrans 2015 data. Thus, a total growth rate of 7.8 percent was applied to the volumes to account for the three-year difference between 2015 and 2018. Year 2018 is assumed to be the year of project operations.

Existing and Normal Background Growth and Project (Near-Term + Project)

This scenario analyzes traffic conditions within the study area under “Near-Term” conditions with the addition of the traffic related to the proposed project during its typical operations.

Existing and Normal Background Growth and New Development and Project (Near-Term + Cumulative + Project)

Based on a review of a list of cumulative projects provided by County of Imperial staff (refer to Table 3.0-1 in Chapter 3.0) and information from the Applicant, the Ocotillo Wells Solar Farm Project and Seville 3 Solar Project were identified as contributing additional traffic to the segment of SR 78 north of the Project area prior to the construction of the proposed Project.

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The Ocotillo Wells Solar Farm Project is anticipated to have a higher trip generation when maintenance activities are taking place. The Ocotillo Wells Solar Farm Project Description stipulated (see Attachment 1 in **Appendix C**) that it would contribute 476 average daily trips to SR-78 when maintenance activities such as cleaning panels and soil binding are taking place. The high volume of traffic is attributed to the need to truck in water for the panel cleaning. While included to be conservative and represent a worst-case scenario, it is important to note that it is highly unlikely that Ocotillo Wells Solar Farm Project will overlap with construction of the proposed Project. Furthermore, the number of maintenance trips is extremely high and over-estimated given advances in solar PV panel technology which greatly diminish the frequency, or necessity, of panel washing.

The second project identified as a cumulative project is the Seville 3 Solar Project. This project is anticipated to have a higher trip generation during its construction phase as opposed to typical operations. Therefore, construction traffic for the Seville 3 Solar project was included in the cumulative analysis. The Seville 3 Solar Project is anticipated to generate 384 average daily trips and 150 peak hour trips during the AM and PM peak hours. These volumes would be added to SR 78 during construction of the Seville 3 Solar Project. Relevant pages from the Ocotillo Wells Solar Farm Project Description and the Seville Solar Farm Project Transportation Analysis are provided in Attachment 1 of **Appendix C** in the attached CD of Technical Appendices of this EIR.

Long-Term Conditions

This scenario analyzes the traffic conditions within the study area under “Long-Term” conditions using Year 2050 ADT volumes and roadway geometries contained in the *County of Imperial Circulation and Scenic Highways Element*. Peak hour intersection volumes were developed by comparing existing year 2015 ADT to the projected year 2050 ADT. Based on this comparison, the growth rate was applied to existing peak hour intersection approach and departure volumes. Relevant excerpts are provided in Attachment 1 of **Appendix C** in the attached CD of Technical Appendices of this EIR.

Long-Term Plus Project Conditions

This scenario analyzes traffic conditions within the study area under “Long-Term” conditions with the addition of the traffic related to the proposed Project during its typical operations.

Existing and Normal Background Growth and Project Construction Period (Near-Term + Project Construction)

This scenario analyzes traffic conditions within the study area under “Near-Term” conditions with the addition of the traffic related to the proposed Project during construction.

Existing and Normal Background Growth and New Development and Project Construction (Near-Term + Cumulative + Project Construction)

This scenario analyzes traffic conditions within the study area under “Near-Term” conditions with the addition of the traffic related to cumulative projects and the proposed Project during construction. It is important to note that the “Plus Project” scenarios analyzed as part of the traffic analysis only assume the proposed Seville 4 Solar Project and do not consider different future land uses that may result from reclamation of the site.

E. PROJECT TRIP GENERATION

Project trip generation consists of a construction phase and operations phase. The construction phase will have the highest traffic intensity followed by an operations phase with significantly fewer vehicle trips. Construction and operations trip generation are described below. Further analyses will be necessary at the time of reclamation to assess trips associated with the end land uses.

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Typical Project Trip Generation

Construction Traffic

Based on information provided by the Applicant, Project construction would require a maximum of 136 workers on-site at any given time and 17 haul trucks. To provide a worst-case scenario, all construction workers were assumed to arrive during the AM peak hour and depart during the PM peak hour, and all workers were assumed to drive separate vehicles to and from the Project area. **Table 4.3-6** displays the assumed project vehicle trip generation during construction. Trip generation estimates provided by the Project Applicant are included in Attachment 4 of **Appendix C** in the attached CD of Technical Appendices of this EIR.

**TABLE 4.3-6
PROJECT CONSTRUCTION TRIP GENERATION**

Task	Units	PVE	Rate	Total Daily Trips	AM Peak		PM Peak	
					In	Out	In	Out
Workers	136	1	2 /Worker	272	136	0	0	136
Haul Trucks	17	3	2 / Truck	102	51	0	0	51
Total				374	187	0	0	187

Source: Chen Ryan 2017.

As shown, construction of the Project is anticipated to generate 374 daily vehicle trips per day with 187 trips arriving to the Project area during the AM peak hour and 187 trips departing during the PM peak hour.

Operational

The proposed Project is not expected to have staff on-site on a daily basis. Security for the site will be handled at an off-site location and will be monitored via closed circuit cameras. Additional workers would be required to access the site for maintenance of the equipment, landscaping, and cleaning of the solar panels. The cleaning of the solar panels is anticipated to be the highest trip generator activity and it will take place for one week every six months. Therefore, panel washing was selected for inclusion in the analysis. As a worst-case scenario, it was assumed that all employees would drive separate vehicles to and from the Project site, and that all employees would arrive during the AM peak hour and depart during the PM peak hour. **Table 4.3-7** summarizes the assumed Project vehicle trip generation during its day-to-day operations.

**TABLE 4.3-7
TYPICAL DAILY TRIP GENERATION**

Task	Number of On-Site Employees Required	Trips	AM Peak		PM Peak	
			In	Out	In	Out
Panel Washing	4	8	4	0	0	4

Source: Chen Ryan 2017.

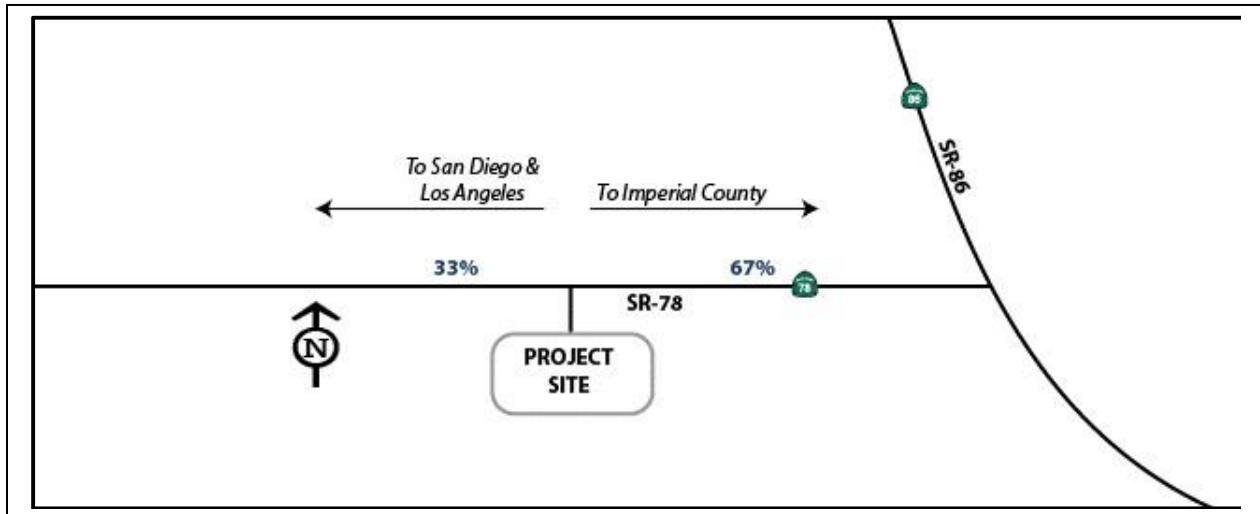
As shown, the proposed Project is anticipated to generate 8 daily vehicle trips with 4 trips arriving at the Project site during the AM peak hour and 4 trips departing from the Project site during the PM peak hour.

Project Trip Distribution

Trip distribution for the proposed Project was determined based on adjacent land uses, population from the surrounding cities, and information from the Project Applicant. Based on this, it was assumed that one-

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third of the construction worker traffic would travel to and from the west (i.e., in San Diego and other local residential developments) while the remaining two-thirds would originate from the various Imperial Valley Cities and unincorporated areas to the east such as Westmorland, Brawley, Imperial, El Centro, Holtville, Calexico, etc. **Figure 4.3-1** depicts the project distribution.



Source: Chen-Ryan 2017.

FIGURE 4.3-1
CONSTRUCTION TRAFFIC ASSIGNMENT

Project Trip Assignment

Project trip distribution was based upon daily and AM/PM peak hour trips assigned to the adjacent roadway network.

F. PROJECT IMPACTS AND MITIGATION MEASURES

Conflict with an Applicable Plan/Level of Service Standard (Near-Term Year 2018)

Impact 4.3.1 Implementation of the proposed Project would add traffic to existing volumes on SR 78 during construction and to a lesser degree during operation. The segment of SR 78 north of the Project area and two study area intersections would operate above LOS C without and with the Project construction and operational traffic. Therefore, conflicts with the General Plan Circulation and Scenic Highway Element and impacts to LOS standards would be **less than significant** under the Near-Term Year 2018 scenario.

Construction

Construction of the proposed Project is expected to be completed in approximately six months. The fourth month of construction is assumed to be the highest trip generator. Construction activities related to the proposed Project consist of racking installation, solar panel installation, system wiring, trenching and substation construction. Increases in traffic on the segment of SR 78 and the two study area intersections are discussed below.

Highway Segment

Near-Term Year 2018 conditions were used as the base condition for the analysis of Project construction. Traffic volumes during Project construction were developed by adding the estimated number of trips associated with construction (refer to **Table 4.3-6**) to Near-Term Year 2018 highway volumes. As shown in **Table 4.389**, this segment of SR 78 is projected to operate at LOS A, both with and without Project construction traffic under both of the study scenarios. The addition of the Project traffic does not cause the operations of the highway segment to degrade from acceptable to unacceptable LOS.

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**TABLE 4.3-8
SR 78 HIGHWAY SEGMENT LEVEL OF SERVICE – PROJECT CONSTRUCTION**

Scenario	AADT	K	Peak Hour Volume (one direction)	D	Lanes per Direction	PHF	HVF	Volume (pc/h/ln)	V/C	LOS
Near-Term Year 2018	840	24.9%	209	0.6	1	0.92	24.3%	180	0.11	A
Near-Term Year 2018 Plus Project Construction	1,214	24.9%	302	0.6	1	0.92	24.3%	291	0.17	A

Source: Chen Ryan 2017. Notes to Table 4.3-9:

K: Percent of AADT that occurs during the peak hour. The source for existing K factor is the Caltrans 2015 *Traffic Volumes on the California State Highway System*. It is assumed that as traffic volumes increase on the segment, the K factor will reduce to a level that is more consistent with the adjacent segments both to the east and the west.

D: Directional split, assumed value

PHF: Peak Hour Factor, assumed value

HVF: Heavy Vehicle Factor, based on Caltrans 2015 *Annual Average Daily Truck Traffic on the California State Highway System*.

V/C: Volume to Capacity Ratio

Traffic count data is provided in **Attachment 2** of Appendix C of this EIR.

As shown, the segment of SR 78 is projected to continue to operate LOS A during the construction period of the proposed Project. Therefore, highway segment conflicts with an applicable plan or LOS standard under the Near-Term Year 2018 construction scenario would be **less than significant**.

Intersection LOS

Table 4.3-9 displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2018 conditions without and with the proposed Project. As shown, the intersection of the Project driveway and SR 78 would operate at LOS A in the near-term both without and with the Project construction traffic. Similarly, the intersection of SR 86 and SR 78 would remain operating at LOS B both with and without Project construction traffic.

**TABLE 4.3-9
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS – PROJECT CONSTRUCTION**

Scenario	Intersections	Traffic Control	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
Near-Term 2018	1. Project Driveway / SR 78	SSSC	0.0	A	0.0	A
	2. SR 86 / SR 78	SSSC	12.6	B	11.5	B
Near-Term 2018 + Project	1. Project Driveway / SR 78	SSSC	7.7	A	9.4	A
	2. SR 86 / SR 78	SSSC	16.8	C	11.5	B

Source: Chen Ryan 2017.

Notes: SSSC – side street stop controlled.

For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.

LOS calculation worksheets for all scenarios are provided in **Attachment 3** of Appendix C of this EIR.

As shown in **Table 4.3-9**, both analyzed intersections operate at LOS D or better under the Near-Term 2018 scenario and the Near-Term 2018 plus Project scenario. Additionally, based on the significance criteria (refer to **Table 4.3-5**), the proposed Project-related construction traffic does not cause the operations of the intersections to degrade from acceptable to unacceptable despite adding more than 2.0 seconds of delay. While no transportation-related impacts would be associated with the proposed Project during construction, it is recommended that a Construction Management Plan be prepared to address

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Caltrans requirements. Therefore, intersection conflicts with an applicable plan or LOS standard under the Near-Term Year 2018 construction scenario would be **less than significant**.

Operation

Highway Segment

Table 4.3-10 displays Highway Segment LOS results for the study area highway segment of SR 78 both without and with Project construction traffic. Because construction would take less than one year, Project operation would also begin in Near-Term Year 2018.

**TABLE 4.3-10
SR 78 HIGHWAY SEGMENT LEVEL OF SERVICE - TYPICAL OPERATIONS NEAR-TERM YEAR 2018**

Scenario	AADT	K	Peak Hour Volume (one direction)	D	Lanes per Direction	PHF	HVF	Volume (pc/h/ln)	V/C	LOS
Near-Term Year 2018	840	24.9%	209	0.6	1	0.92	24.3%	180	0.11	A
Near-Term Year 2018 Plus Project	848	24.9%	211	0.6	1	0.92	24.3%	182	0.11	A

Source: Chen Ryan 2017.

Notes to Table 4.3-11:

K: Percent of AADT that occurs during the peak hour. The source for existing K factor is the Caltrans 2015 *Traffic Volumes on the California State Highway System*. It is assumed that as traffic volumes increase on the segment, the K factor will reduce to a level that is more consistent with the adjacent segments both to the east and the west.

D: Directional split, assumed value

PHF: Peak Hour Factor, assumed value

HVF: Heavy Vehicle Factor, based on Caltrans 2015 *Annual Average Daily Truck Traffic on the California State Highway System*.

V/C: Volume to Capacity Ratio

Traffic count data is provided in **Attachment 2** of Appendix C of this EIR.

As shown in **Table 4.3-10**, the analyzed highway segment of SR 78 between the Project Driveway and SR 86 would continue to operate at LOS A with the addition of Project traffic. Additionally, based on the significance criteria (refer to **Table 4.3-5**), the proposed Project's operational traffic does not degrade LOS. The addition of the proposed project traffic does not cause the operations of the highway segment to degrade from acceptable to unacceptable LOS. Thus, no impacts would be associated with the proposed Project during its typical daily operations. Therefore, highway segment conflicts with an applicable plan or LOS standard in the Near-Term Year 2018 with Project operational traffic would be **less than significant**.

Intersection LOS

Table 4.3-11 displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2018 conditions without and with operation of the proposed Project. As shown, the intersection of the Project driveway and SR 78 would operate at LOS A in the near-term both without and with the proposed Project in the AM and PM Peak Hour. Similarly, the intersection of SR 86 and SR 78 would remain operating at LOS B both with and without Project construction traffic in the AM and PM Peak Hour.

Both intersections continue to operate at LOS B or better under the Near-Term Year 2018 condition with the addition of Project traffic. The addition of the proposed Project traffic does not cause the operations of the intersections to degrade from acceptable to unacceptable LOS. No direct nor transportation-related impacts would be associated with the proposed project during its typical daily operations under the Near-

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Term Year 2018 scenario. Therefore, intersection conflicts with an applicable plan or LOS standard under the Near-Term Year 2018 scenario would be **less than significant**.

**TABLE 4.3-11
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS - TYPICAL OPERATIONS NEAR-TERM YEAR 2018**

Scenario	Intersections	Traffic Control	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
Near-Term 2018	1. Project Driveway / SR 78	SSSC	0.0	A	0.0	A
	2. SR 86 / SR 78	SSSC	12.6	B	11.5	B
Near-Term 2018 + Project Typical Operations	1. Project Driveway / SR 78	SSSC	7.3	A	8.5	A
	2. SR 86 / SR 78	SSSC	12.7	B	11.5	B

Source: Chen Ryan 2017.

Notes: SSSC – side street stop controlled.

For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.

LOS calculation worksheets for all scenarios are provided in **Attachment 3** of Appendix C of this EIR.

Reclamation

Reclamation would involve decommissioning the Seville 4 Solar site at the end of the Project’s useful life. Activities would include dismantling and removal of structures and infrastructure on the Project site. Reclamation activities are anticipated to add traffic to existing traffic volumes on SR 78 similar to what would occur in association with construction. The segment of SR 78 north of the Project area operates at LOS A with construction traffic while the intersection of SR 78 and the Project driveway operates at LOS B. Based on the remote location of the Project, even with the addition of traffic in the future, these intersections are not anticipated to operate beyond LOS C. As this activity would occur 30 or 40 years (if a 10-year extension is requested and approved) in the future, further analysis will likely be required at the time of reclamation. Therefore, conflicts with the General Plan Circulation and Scenic Highway Element and impacts to LOS standards are anticipated to be **less than significant** during reclamation. In addition, following reclamation, the Project site would be reclaimed to approximate the desert and idle farmland condition that currently exists. Therefore, less than significant impacts with regard to the General Plan Circulation and Scenic Highway Element and impacts to LOS standards are anticipated following reclamation.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Substantially Increase Hazards Due to a Design Feature

Impact 4.3.2 The existing access road off of SR 78 would be used to access the Project area. No new driveways or other design features are proposed that would impact SR 78 or infringe upon emergency access. Therefore, the proposed Project is not anticipated to substantially increase hazards due to a design feature and this impact is considered **less than significant**.

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Primary access to the Tract Map No. 00988 property, including Lot 8, is a private access road from the north off SR 78. This primary access road is provided with 30-foot double swing gates with a coded entry and "Knox Box"® over-ride for emergency vehicle access. Secondary access to the Tract Map No. 00988 property is also a gated, private road from SR 78 which can be used for any agricultural operations on the Property, and for secondary emergency access to the Seville Solar Farm Complex. The secondary access driveway also has 30-foot double swing gates equipped with a "Knox Box" for keyed entry.

Internal to the Seville Solar Farm Complex, a network of private roads provide construction, operations and maintenance access to existing solar operations (i.e. Seville 1 Solar and Seville 2 Solar). Legal and physical access is provided by a common interest development access road corridor (Lot B) from SR 78 through Lot 6 and Lot 7, extending to Lot 8, between Lots 4 and 5 on the east and north and Lot A and Lot 3 on the west and south (refer to **Figure 2.0-3** in Chapter 2.0).

Internal to the Project site, nominal 20-foot wide roads would be provided between the PV arrays as well as around the perimeter of the Project site inside the perimeter security fence to provide access to all areas for maintenance and emergency vehicles. The internal circulation network and access would be reviewed by the Imperial County Public Works Department and Imperial County Fire Department to ensure the proposed Project has been designed in accordance with all applicable standards.

Construction

Construction of the internal road network would occur at the start of construction. As noted above, the existing access road extending south from SR 78 would be used as the primary construction and permanent access for the Project. The internal road network on Lot B lands would provide access to the Seville 4 Solar Project site during construction as well as during operation and maintenance.

Approximately 60 acres in the northwest portion of the proposed Project site has been previously graded and farmed. Fine grading would be required to establish internal access roads. Both the Fixed-Frame Configuration and the HSAT Configuration would include nominal 20-foot wide roads between the arrays from the perimeter security fence.

Construction activities outside of Lot 8 would include improvement or construction of the required access road(s) in Lot B. No design features are proposed as part of the internal circulation network that would create a hazard. Therefore, the proposed Project is not anticipated to substantially increase hazards due to a design feature during construction and this impact is considered **less than significant**.

Operation

As described above, the Seville Solar Farm Complex is currently accessed by an existing driveway and roadway off of SR 78. The primary access road is approximately one-quarter mile west of another existing private access road and extends south through one-half mile of public land. From this point, the access road aligns east-west approximately 1,500 feet then extends south along the western boundary of Lots 4 and 5 and east-west along the northern boundaries of Lots 1, 2 and 3 of the Seville 3 Solar Project (refer to **Figure 2.0-3** in Chapter 2.0, Project Description). Internal to the Project area, a network of private roads would provide operations and maintenance access to the Project site; Gen-Tie Line alignment through Lots 1, 2 and 3; and the Seville 4 Substation and IID Switching Station on Lot D.

Existing primary and secondary emergency access has been designed in accordance with County standards and will be reviewed and require approval by the Imperial County Fire Department. The proposed Fixed-Frame and HSAT Configurations will also be reviewed to ensure that they are designed according to County standards. Therefore, the proposed Project is not anticipated to substantially increase hazards due to a design feature during operation and this impact is considered **less than significant**.

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Reclamation

Reclamation would occur at the end of the Project's useful life. The existing access road off of SR 78 would continue to be used during the reclamation process. No new roads or access points would be required which could create a hazard due to a design feature. Therefore, a **less than significant impact** would occur with regard to the proposed Project substantially increasing a hazard due to a design feature during reclamation.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

4.3.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The proposed Project is located in a remote portion of the County south of SR 78. As noted in the subsection 4.3.2, A. Existing Setting, above, the closest intersection to the Project area with a paved road is SR 86 located over 8 miles to the east. The other closest paved intersection is Split Mountain Road located in San Diego County over 8 miles to the west of the Project area along SR 78. Because the Project is located in a sparsely developed area with a limited roadway network, the cumulative traffic setting is limited to known projects that would add traffic to SR 78.

Based on a review of a list of cumulative projects (refer to Table 3.0 in Chapter 3.0), the Ocotillo Wells Solar Farm Project and Seville 3 Solar Project were identified to contribute additional traffic to the segment of SR 78 north of the Project area prior to the construction of the Seville 4 Solar Project.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts to Roadway Segment LOS (Near-Term Year 2018 Plus Cumulative Plus Project)

Impact 4.3.3 Implementation of the proposed Project in Near-Term Year 2018 in combination with projected cumulative traffic in Year 2018 would add traffic to the segment of SR 78 north of the Project area. However, this segment would continue to operate at LOS B under cumulative conditions. Therefore, impacts to cumulative traffic on SR 78 during Near-Term Year 2018 Plus Cumulative Plus Project conditions are considered **less than cumulatively considerable**.

Construction

Highway Segment

The Seville 3 Solar Project, which is immediately west of and adjacent to the proposed Project, was included in the cumulative analysis as it is probable that construction of the Seville 3 Solar Project would overlap with the construction of the proposed Project. During construction, the Seville 3 Solar Project is anticipated to add 384 average daily trips and 150 peak hour trips during the AM and PM peak hours to SR 78. After consulting with the County of San Diego, it was determined that the Ocotillo Wells Solar Farm Project has been in the preliminary application stages for the past two years with little progress (Menvielle, pers. comm. 2017). Thus, the Ocotillo Wells Solar Farm Project is not anticipated to be under construction simultaneously with the proposed Project and was therefore not included in the highway segment analysis.

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Near-Term Year 2018 conditions were used as the base condition for the analysis of Project construction. Traffic volumes during Project construction were developed by adding the estimated number of trips associated with Project construction (displayed in **Table 4.3-6**) to Near-Term Year 2018 highway volumes (refer to Near-Term Year 2018 in **Table 4.3-8** or **Table 4.3-10**). As shown in **Table 4.3-12**, this segment of SR 78 is projected to operate at LOS A with both cumulative projects and Project construction traffic in Near-Term Year 2018. No decline in LOS would occur and cumulative projects would have a **less than cumulatively considerable contribution** to AADT.

**TABLE 4.3-12
SR 78 HIGHWAY SEGMENT LEVEL OF SERVICE – NEAR TERM YEAR 2018
PLUS CUMULATIVE PROJECTS PLUS PROJECT CONSTRUCTION**

Scenario	AADT	K	Peak Hour Volume (one direction)	D	Lanes per Direction	PHF	HVF	Volume (pc/h/ln)	V/C	LOS
Near-Term Year 2018 Plus Cumulative Projects Plus Project Construction	2,074	24.9%	51,6	0.67	1	0.92	24.3%	497	0.29	A

Source: Chen Ryan 2017.

Notes to Table 4.3-9:

- K: Percent of AADT that occurs during the peak hour. The source for existing K factor is the Caltrans 2015 *Traffic Volumes on the California State Highway System*. It is assumed that as traffic volumes increase on the segment, the K factor will reduce to a level that is more consistent with the adjacent segments both to the east and the west.
 - D: Directional split, assumed value
 - PHF: Peak Hour Factor, assumed value
 - HVF: Heavy Vehicle Factor, based on Caltrans 2015 *Annual Average Daily Truck Traffic on the California State Highway System*.
 - V/C: Volume to Capacity Ratio
- Traffic count data is provided in **Attachment 2** of Appendix C of this EIR.

Based on the significance criteria (refer to **Table 4.3-5**), the proposed Project traffic does not degrade LOS. Therefore, highway segment conflicts with an applicable plan or LOS standard under the Near-Term Year 2018 Plus Cumulative Projects Plus Project Construction scenario would result in a **less than cumulatively considerable impact**.

Intersection LOS

Table 4.3-13 displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2018 conditions without and with Project construction traffic. As shown, the intersection of the Project driveway and SR 78 would operate at LOS A in the near-term both without and with the Project construction traffic. Similarly, the intersection of SR 86 and SR 78 would remain operating at LOS B both without and with Project construction traffic.

As shown in the table above, both analyzed intersections operate at LOS C or better under the Near-Term Year 2018 Plus Cumulative Projects Plus Project Construction scenario. Additionally, based on the significance criteria (refer to **Table 4.3-5**), the addition of project-generated construction traffic would result in a **less than cumulatively considerable contribution** delay and decline in LOS. No transportation-

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**TABLE 4.3-13
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS - NEAR-TERM YEAR 2018 PLUS CUMULATIVE
PROJECTS PLUS PROJECT CONSTRUCTION**

Scenario	Intersections	Traffic Control	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
Near-Term Year 2018 Plus Cumulative Projects Plus Project Construction	1. Project Driveway / SR 78	SSSC	8.2	A	10.5	B
	2. SR 86 / SR 78	SSSC	23.1	C	12.1	B

Source: Chen Ryan 2017.

Notes: SSSC – side street stop controlled.

For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.

LOS calculation worksheets for all scenarios are provided in **Attachment 5** of Appendix C of this EIR.

related impacts would be associated the addition of Project construction traffic to Near-Term Year 2018 Plus Cumulative traffic volumes. Therefore, intersection conflicts with an applicable plan or LOS standard under the Near-Term Year 2018 Plus Cumulative Projects Plus Project construction scenario would result in a **less than cumulatively considerable impact**. Nevertheless, it is recommended that a Construction Management Plan be prepared to address Caltrans requirements.

Operation

The cumulative operational analysis is based on Near-Term Year 2018. As a result, it is reflected in the analysis of construction above. The Ocotillo Wells Solar Farm Project is included in the cumulative operational analysis and is anticipated to contribute 476 average daily trips to SR 78 when maintenance activities are taking place. Refer to the discussion of Impact 4.3.2 above.

Reclamation

Project reclamation activities would occur 30 or 40 years (if a 10-year extension is requested and approved) in the future. As such, traffic volumes during the reclamation period would be similar to what is anticipated under Long-Term Year 2050. As noted in the operation discussion under Impact 4.3.2, the segment of SR 78 would operate at LOS D in Year 2050. Likewise, the intersection of SR 86 and SR 78 would also operate at LOS D in Long-Term Year 2050. The addition of reclamation traffic would likely be slightly less than the amount generated during construction. However, the amount of traffic could result in a decline in LOS and increase in delay greater than 2.0 seconds. Thus, on a short-term basis, the Project may result in a **cumulatively considerable contribution** to highway segment LOS and intersection delay. While reclamation activities would increase traffic volumes on the segment of SR 78 and the two study area intersections, the increases attributed to the Project would be temporary and cease once the Project site has been reclaimed. Thus, cumulative traffic volumes on SR 78 north of Project area, the intersection of the Project driveway and SR 78, and the intersection of SR 86 and SR 78 would result in a **less than cumulatively considerable impact** during Project reclamation.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

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Conflict With an Applicable Plan/Level of Service Standard (Long-Term Year 2050)

Impact 4.3.4 Implementation of the proposed Project would add minimal traffic to existing traffic volumes on the segment of SR 78 north of the Project area during operations. This segment of SR 78 would continue to operate at LOS A with the addition of Project operational traffic. Therefore, conflicts with the General Plan Circulation and Scenic Highway Element and impacts to LOS standards would be **less than cumulatively considerable** under Long-Term Year 2050 Project conditions.

Construction

Cumulative construction traffic impacts would occur in the Near-Term. Refer to the discussion of Near-Term Year 2018 Plus Cumulative Projects Plus Project under Impact 4.3.3, above.

Operation

Highway Segment

Long-Term Year 2050 volumes were calculated in the *County of Imperial Circulation and Scenic Highways Element* by applying annual growth percentages (ranging between 0.5% to 2%) to traffic volumes found in the Year 2025 CalxGP+Model. These annual growth percentages were applied to traffic volumes to capture cumulative projects as well as general population growth in the area. Therefore, Long-Term “cumulative projects” are taken into consideration in as part of the Year 2050 Long-Term analysis.

Table 4.3-14 displays Highway Segment LOS results for the segment of SR 78 both without and with Project Year 2050 operational traffic. The segment of SR 78 between the Project Driveway and SR 86 would continue to operate at LOS D with the addition of Project operational traffic. As shown, traffic would increase very slightly during operations with only 8 additional AADT (refer to **Table 4.3-7**). The addition of the Project operational traffic does not cause the operations of the segment of SR 78 to degrade LOS or surpass the acceptable increase of 0.02 in V/C ratio.

**TABLE 4.3-14
SR 78 HIGHWAY SEGMENT LEVEL OF SERVICE – LONG-TERM YEAR 2050 OPERATIONS**

Scenario	AADT	K	Peak Hour Volume	D	Lanes	PHF	HVF	Volume (pc/h/ln)	V/C	LOS
Long-Term	13,500	24.9%	3,362	0.6	2 ^a	0.92	24.3%	1,448	0.85	D
Long-Term Plus Project	13,508	24.9%	3,363	0.6	2 ^a	0.92	24.3%	1,448	0.85	D

Source: Chen Ryan 2017. Traffic count data is provided in **Attachment 2** of Appendix C of this EIR.

Notes:

K: Percent of AADT that occurs during the peak hour. The source for existing K factor is the Caltrans *2015 Traffic Volumes on the California State Highway System*. It is assumed that as traffic volumes increase on the segment, the K factor will reduce to a level that is more consistent with the adjacent segments both to the east and the west.

D: Directional split, assumed value

PHF: Peak Hour Factor, assumed value

HVF: Heavy Vehicle Factor, based on Caltrans *2015 Annual Average Daily Truck Traffic on the California State Highway System*.

V/C: Volume to Capacity Ratio

a: County of Imperial Circulation & Scenic Highways Element identifies SR-78 between County of San Diego line and SR-86 as a 4-Lane Highway.

Based on the significance criteria (refer to **Table 4.3-5**), the proposed Project’s Year 2050 Long-Term operational traffic LOS is D or better and the V/C ratio remains unchanged. Thus, the Project would result in a **less than cumulatively considerable contribution** to cumulative traffic volumes on SR 78 in Year. No impacts would be associated with the proposed Project during its typical long-term operations. Therefore,

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intersection conflicts with an applicable plan or LOS standard under the Year 2050 Long-Term scenario would result in a **less than cumulatively considerable impact**.

Intersection LOS

Table 4.3-15 displays intersection LOS and average vehicle delay results for the Project driveway and SR 78 intersection and the SR 86 and SR 78 intersection under Long-Term Year 2050 conditions without and with operation of the proposed Project. As shown, the intersection of the Project driveway and SR 78 would operate at LOS A in the long-term both without and with the proposed Project in the AM and PM Peak Hour. Similarly, the intersection of SR 86 and SR 78 would remain operating at LOS D both with and without Project operational traffic in the AM and PM Peak Hour.

**TABLE 4.3-15
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS - LONG-TERM YEAR 2050 OPERATIONS**

Scenario	Intersections	Traffic Control	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
Long-Term	1. Project Driveway / SR 78	SSSC	0.0	A	0.0	A
	2. SR 86 / SR 78	SSSC	33.9	D	34.3	D
Long-Term Plus Project	1. Project Driveway / SR 78	SSSC	8.1	A	9.6	A
	2. SR 86 / SR 78	SSSC	34.6	D	34.3	D

Source: Chen Ryan 2017.

Notes: SSSC – side street stop controlled. For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.

Based on the significance criteria (refer to **Table 4.3-5**), there are no changes in LOS at the intersection of the Project Driveway and SR 78 and the SR 86 and SR 78 intersection. Thus, the addition of Project-generated operational traffic would result in a **less than cumulatively considerable contribution** to a decline in LOS at both study area intersections. No transportation-related impacts would be associated with long-term operation of the two study area intersections. Therefore, intersection conflicts with an applicable plan or LOS standard under the Long-Term Year 2050 scenario would result in a **less than cumulatively considerable impact** during Project operations.

Reclamation

Reclamation would occur at the end of the Project’s useful life. Traffic associated with reclamation would be similar to construction traffic rather than operational traffic. Refer to the discussion of Reclamation under Impact 4.3.1, above.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Cumulative Increase in Hazards Due to a Design Feature

Impact 4.3.5 Implementation of the proposed Project would not require improvements or modifications to any Project study area highway segments or intersections. Therefore, cumulative increases in hazards due to a design feature are considered **less than cumulatively considerable**.

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Construction, Operation and Reclamation

SR 78 and SR 86 would be the main routes of travel to and from the Project area. The segment of SR 78 north of the Project area would not require a new driveway or other design features that could create a hazard. Likewise, the intersection of the Project driveway and SR 78 and the intersection of SR 86 and 78 would not require improvements or new turn lanes. Improvements associated the Ocotillo Wells Solar Project and Seville 3 Solar project would be assessed on a project-by-project basis and any design features which may be considered a hazard would be address on a project-specific level. Therefore, the Project would result in a **less than cumulatively considerable contribution** to the cumulative increases in hazards due to a design feature during Project construction, operation and reclamation. Likewise, cumulative increases in hazards due to a design feature are considered **less than cumulatively considerable** during Project construction, operation and reclamation.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.