APPENDIX J

DRAFT FOCUSED TRAFFIC ANALYSIS

Trinity Cannabis Cultivation & Manufacturing Facility
NE Corner of West Cole Boulevard/Sunset Boulevard
City of Calexico
March 16, 2018

Draft Focused Traffic Analysis

Prepared for:

Ericsson-Grant, Inc.
5145 Avenida Encinas, Suite H
Carlsbad, CA 92008

Prepared by Justin Rasas (RCE 60690), a principal with:

LOS Engineering, Inc.
11622 El Camino Real, Suite 100, San Diego, CA 92130
Phone 619-890-1253, Fax 619-374-7247

Job #1804

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1.0 Introduction

The purpose of this study is to determine and analyze potential traffic impacts for the proposed Trinity Cultivation & Manufacturing Facility located on the northeast corner of West Cole Boulevard and Sunset Boulevard in Calexico, California. The project is a cultivation and manufacturing facility for cannabis to be located within one existing and three proposed industrial buildings. An existing building at 2421 Enterprise Boulevard of 33,112 sf will be retro-fitted and three new buildings totaling 131,338 sf will be constructed. A 10,000 sf transportation and distribution facility will be located north of the existing building at 2421 Enterprise Boulevard on a newly created parcel. The overall Project includes six parcels totaling about 8.23 acres. The location of the project is shown in **Figure 1**. A site plan is included in **Figure 2**.

This report describes the existing roadway network in the vicinity of the project parcels. It includes a review of the existing and proposed traffic activities for weekday peak AM and PM periods and daily traffic conditions. The format of this study includes the following chapters:

1.0 Introduction
2.0 Study Methodology
3.0 Existing Conditions
4.0 Project Description
5.0 Existing Year 2018 + Project Conditions
6.0 Conclusions and Recommendations
7.0 References

Figure 1: Project Location

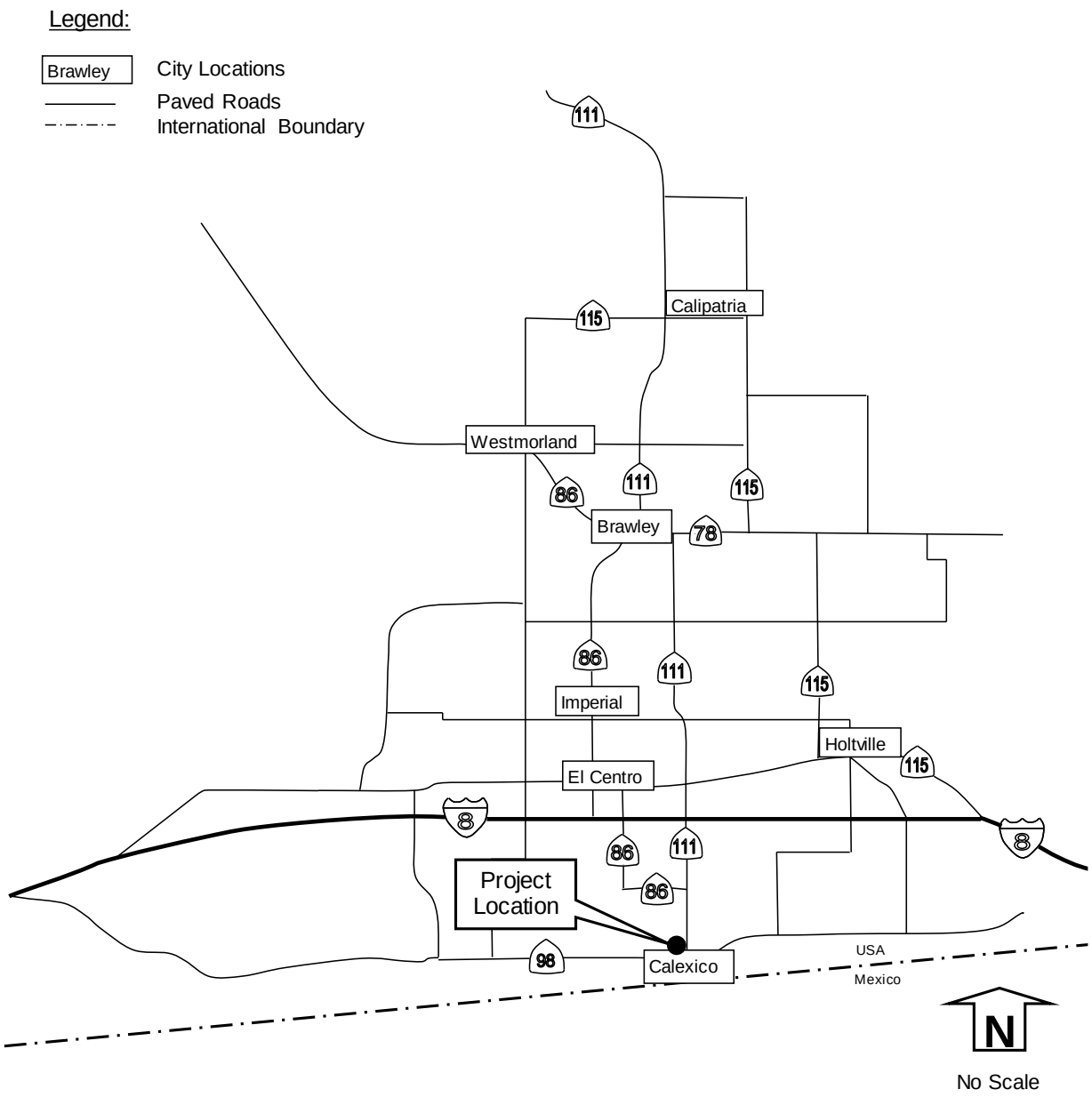
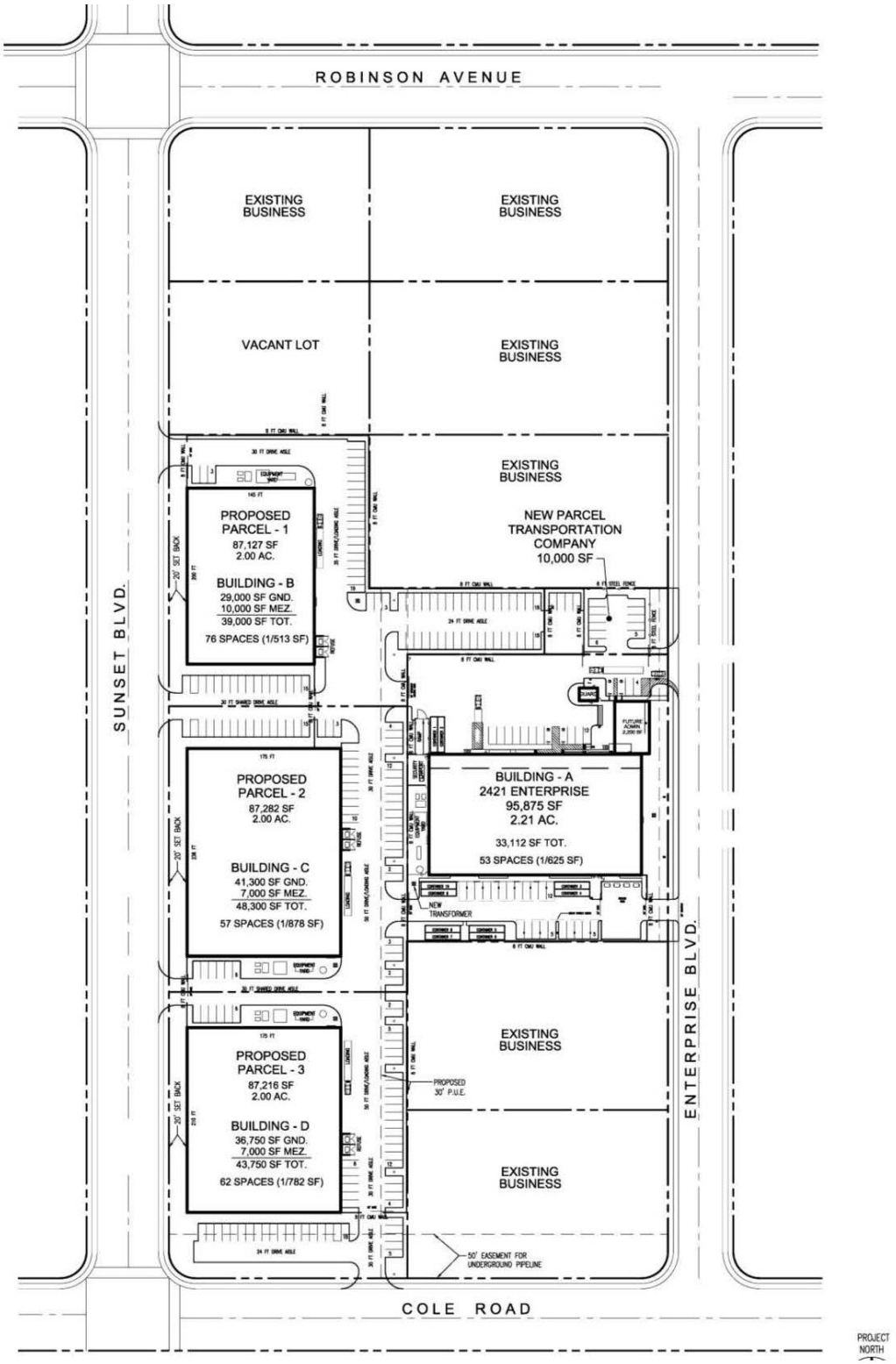


Figure 2: Site Plan



Source: Development Design & Engineering, 2017.

2.0 Traffic Analysis Methodology and Significance Criteria

The parameters by which this traffic study was prepared included the determination of what intersections and roadways are to be analyzed, the scenarios to be analyzed and the methods required for analysis. The criteria for each of these parameters are included herein.

2.1 Study Area Criteria

The study area was determined based on recommendations made by City of Calexico staff and resulted in a study area with the following intersections:

1) West Cole Boulevard/Sunset Boulevard
2) West Cole Boulevard /Enterprise Boulevard
3) West Cole Boulevard /SR-111

Additionally, the roadway segment of West Cole Boulevard between Enterprise Boulevard and SR-111 was included in this analysis.

2.2 Scenario Criteria

The number of scenarios to be analyzed was based on recommendations made by City of Calexico staff and included the following scenarios:

1) Existing 2018 Conditions
2) Existing 2018 + Project Conditions

2.3 Traffic Analysis Criteria

The City of Calexico General Plan Update 2015 uses a Level of Service (LOS) standard based on the *Highway Capacity Manual* (HCM) published by the Transportation Research Board National Research Council. The HCM LOS designations range from A through F where LOS A represents the best operating condition and LOS F denotes the worst operating condition. The City of Calexico LOS standards are shown in **Table 1** with City of Calexico General Plan Update 2015 excerpts included in **Appendix A**.

TABLE 1: LEVEL OF SERVICE STANDARDS

Level of Service	Description of Operation	Range of V/C Ratios
A	Describes primarily free-flow conditions at average travel speeds. Vehicles are seldom impeded in their ability to maneuver in the traffic stream. Delays at intersections are minimal.	0.00-0.60
B	Represents reasonably unimpeded operations at average travel speeds. The ability to maneuver in the traffic stream is slightly restricted and delays are not bothersome.	0.61-0.70
C	Represents stable operations, however, ability to change lanes and maneuver may be more restricted than LOS and longer queues are experienced at intersections.	0.71-0.80
D	Congestion occurs and a small change in volumes increases delays substantially.	0.81-0.90
E	Severe congestion occurs with extensive delays and low travel speeds occur.	0.91-1.00
F	Characterizes arterial flow at extremely low speeds and intersection congestion occurs with high delays and extensive queuing.	> 1.00

Source: City of Calexico General Plan Update 2015, Table C-1.

2.3.1 Intersections

The study intersections were analyzed based on the **operational analysis** outlined in the HCM. This process defines LOS in terms of **average control delay** per vehicle, which is measured in seconds. LOS at the intersections were calculated using the computer software program Synchro 10 (Trafficware Corporation). The HCM LOS for the range of delay by seconds for un-signalized and signalized intersections is described in **Table 2**.

TABLE 2: INTERSECTION LEVEL OF SERVICE DEFINITIONS (HCM 2010)

Level of Service	Un-Signalized (TWSC and AWSC) Control Delay (seconds/vehicle)	Signalized Control Delay (seconds/vehicle)
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	> 80

TWSC: Two Way Stop Control. AWSC: All Way Stop Control. Source: Highway Capacity Manual 2010 (exhibit 19-1 for two way stop control, exhibit 20-2 for all way stop control, and exhibit 18-4 for signalized intersections).

According to the California Department of Transportation's (Caltrans) *Guide for the Preparation of Traffic Impact Studies,* December 2002, an accepted methodology for signalized intersections is Synchro (excerpts included in **Appendix B**).

2.3.2 Roadway Segments

The roadway segments were analyzed based on the maximum capacity of the roadway using the City of Calexico maximum capacity based on Table C-5 from the 2015 General Plan Update (City of Calexico General Plan update 2015 excerpts are included in Appendix A). The segments operations were based on the City of Calexico LOS standards based on Table C-1 from the 2015 General Plan Update as shown previously in Table 1. The maximum roadway capacities are summarized in **Table 3**.

TABLE 3: ROADWAY SEGMENT MAXIMUM CAPACITIES

Roadway Classification	Roadway Width (Feet)	Section	Right-of-Way (Feet)	Maximum Capacity*
8-Lane Freeway	-	8F		140,000
6-Lane Freeway	-	6F		105,000
6-Lane Expressway	-	6E	-	90,000
Highway	-	4D	80-148	56,300
Highway 111	160	6D	200	60,000
Primary	80	4D	100-126	37,500
Major	60	4U	80-126	25,000
Secondary	50	2U	70-75	17,500
2-Lane Divided	50	2D	70-75	17,500
Collector	40	2U	60	16,200
Local	40	2U	60	12,500

Source: City of Calexico General Plan Update 2015 Table C-5. *These roadway capacities are approximate figures only and are used at the General Plan level. They are affected by such factors as intersections (number & configuration), degree of access control, roadway grades, design geometrics (horizontal & vertical alignment standards), sight distance, level of truck and bus traffic, and level of pedestrian and bicycle traffic. Average daily traffic (ADT) is used in the model application as a long-range planning tool to assist in determining roadway highway classification (number of thru lanes) needed to meet traffic demand.

2.4 Significance Criteria

The significance criteria for potential traffic related impacts are based on criteria outlined in the Gran Plaza Phase 2 Power Center City of Calexico Final Environmental Impact Report ("Gran Plaza FEIR") with excerpts included in **Appendix C**. Within the City of Calexico, the Gran Plaza FEIR states:

> "The City of Calexico's goal is that 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 a LOS D or worse due to project traffic is considered a significant direct impact. The only exception is that an LOS D operating segment is not considered significant if the intersections along the segment operate at LOS D or better during peak periods.
>
> A cumulative impact is calculated when an intersection or segment level of service is already operating below City standards and the project increases the delay by more than 2 seconds or the volume to capacity (v/c) ratio by more than 0.02. Also, if project and cumulative project traffic together cause an intersection or segment to operate below City standards and project traffic only increases the intersection delay by more than 2 seconds

or the roadway segment v/c ratio by more than 0.02, a cumulative impact would be calculated. Under the long-term scenarios, significant impacts are considered cumulative and LOS D is considered acceptable."

For roadways within Caltrans' jurisdiction, the Gran Plaza FEIR states:

"LOS D is acceptable under the Caltrans jurisdiction or as of long-term impacts."

2.5 Study Limitations

The findings and recommendations of this report were prepared in accordance with generally accepted professional traffic and transportation engineering principles and practice, and California Environmental Quality Act (CEQA) based on substantial evidence. No other warranty, express or implied, is made.

3.0 Existing Conditions

This section describes the study area street system, peak hour intersection volumes, daily roadway volumes, and existing LOS.

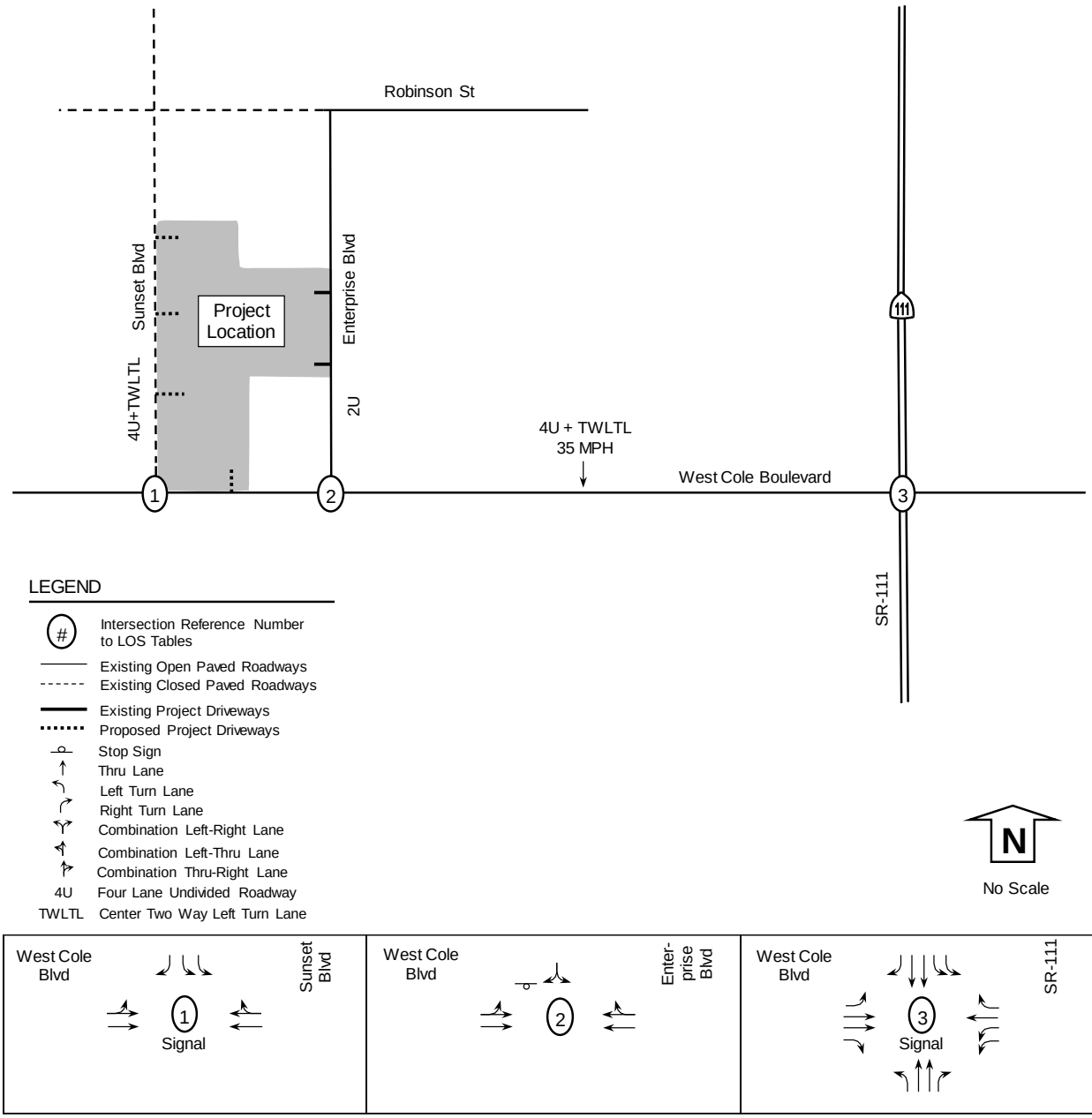
3.1 Existing Street System

The existing roadway system and classifications are described below. The classification is based on the City of Calexico General Plan (excerpts included in Appendix A).

West Cole Boulevard between Sunset Boulevard and SR-111 has a classification of Prime Arterial (4D) in the City of Calexico General Plan. This roadway is currently constructed as a 4-lane undivided (4U) roadway from Sunset Boulevard to SR-111. The roadway is generally constructed with 4 travel lanes (2 lanes in each direction), a center Two-Way Left-Turn Lane (TWLTL), some on street parking generally allowed on both sides of the roadway, and a posted speed limit of 35 MPH. A maximum roadway capacity of 25,000 was applied based on the existing configuration of a 4-lane undivided (4U) roadway as outlined previously in Table 3.

The existing roadway conditions are shown in **Figure 3**.

Figure 3: Existing Roadway Conditions



3.2 Existing Traffic Volumes and LOS Analyses

Existing peak hour intersection volumes (with count dates) were collected from 7:00 to 9:00 AM and from 4:00 to 6:00 PM for this study:

1) West Cole Boulevard/Sunset Boulevard (from adjacent intersection through volumes)
2) West Cole Boulevard/Enterprise Boulevard (Wednesday, 2/14/2018)
3) West Cole Boulevard/SR-111 (Wednesday, 2/14/2018)

Twenty-four hours of data were collected for the following roadway segment of West Cole Boulevard between Enterprise Boulevard and SR-111.

Existing AM, PM, and daily volumes are shown on **Figure 4**. Count data are included in **Appendix D**. The intersection and segment LOS are shown in **Tables 4 and 5** respectively. Intersections LOS calculations are included in **Appendix E**.

TABLE 4: EXISTING INTERSECTION LOS

Intersection and (Analysis)[1]	Movement	Study Period	Existing Delay[2]	Existing LOS[3]
1) W. Cole Blvd at	All	AM	1.2	A
Sunset Blvd (S)	All	PM	1.2	A
2) W. Cole Blvd at	SB LR	AM	12.5	B
Enterprise Blvd (U)	SB LR	PM	12.3	B
3) W. Cole Blvd at	All	AM	45.2	D
SR-111 (S)*	All	PM	44.1	D

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service. *Caltrans' jurisdiction.

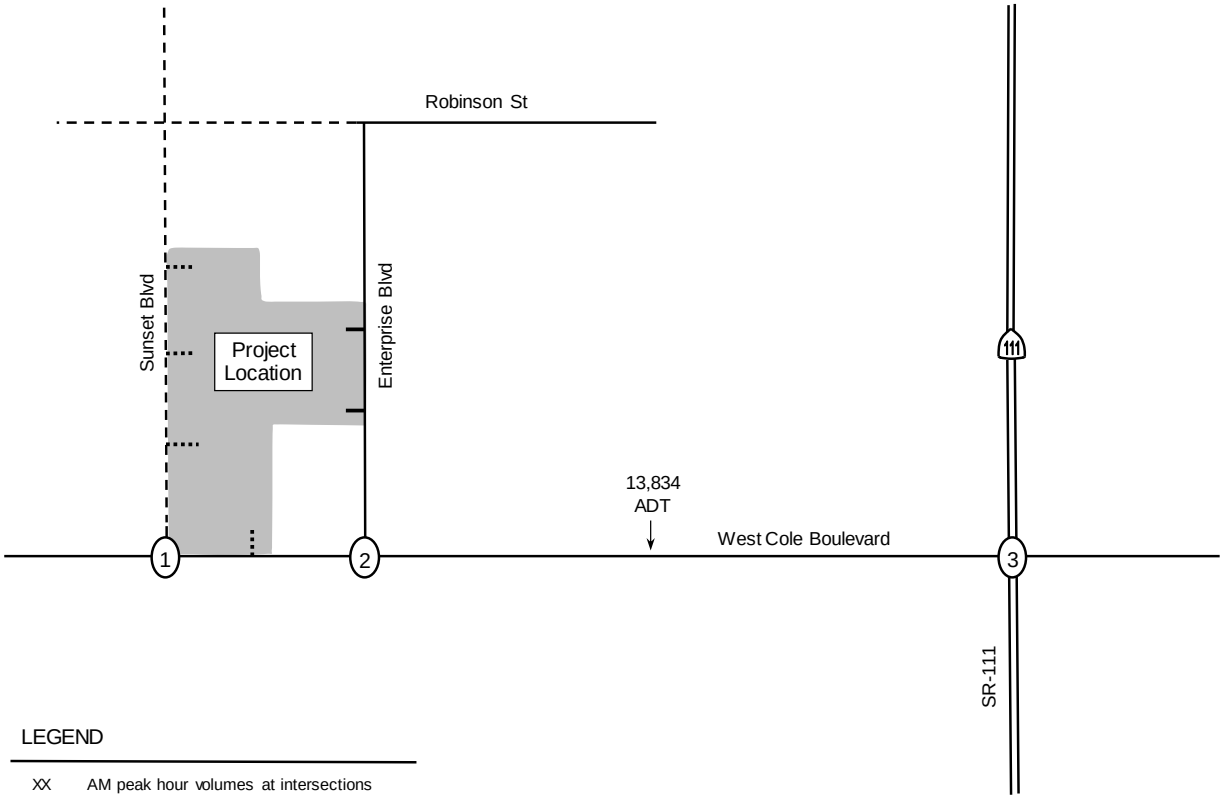
TABLE 5: EXISTING ROADWAY LOS

Segment	Roadway Classification (as built)	Maximum Capacity	Existing Daily Volume	Existing V/C	Existing LOS
West Cole Boulevard					
Enterprise Blvd to SR-111	Collector (4U+TWLTL)	25,000	13,834	0.553	A

Notes: 4U+TWLTL = 4 un-divided lanes + two way left turn lane. Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.

Under existing conditions, the study intersections and roadway were calculated to operate at LOS B or better under City of Calexico jurisdiction. Under Caltrans' jurisdiction, the study intersection was calculated to operate at LOS D.

Figure 4: Existing Volumes

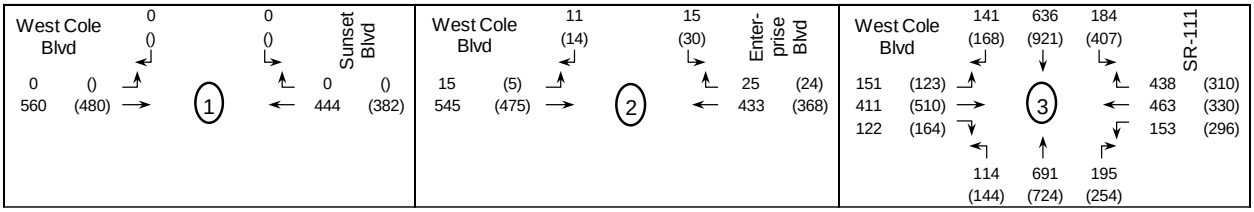


LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections an empty bracket () represents a 0 PM volume
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Open Paved Roadways
- - - - -	Existing Closed Paved Roadways
———	Existing Project Driveways
·····	Proposed Project Driveways

N

No Scale



4.0 Project Description

The project is a cultivation and manufacturing facility for cannabis to be located within one existing and three proposed industrial buildings. An existing building at 2421 Enterprise Boulevard of 33,112 sf will be retro-fitted and three new buildings totaling 131,338 sf will be constructed. A 10,000 sf transportation and distribution facility will be located north of the existing building at 2421 Enterprise Boulevard on a newly created parcel. The overall Project includes six parcels totaling about 8.23 acres (details included in **Appendix F**).

4.1 Project Trip Generation

Trip generation is typically calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual 10th Edition*; however, the ITE manual does list trip rates for cannabis cultivation. The ITE manual does include cannabis retail dispensary rates; however, the project is not a retail facility – the general public cannot purchase cannabis from this location. Excerpts from the ITE manual describing in how the rate was obtained from facilities where cannabis is sold to patients or consumers is included in **Appendix G**. The project is not a retail facility; therefore, the project trip generation is calculated based on the higher amount of traffic generated between the construction of the facility and the operations of the facility (employees and truck traffic).

4.1.1 Project Construction Traffic

The project construction traffic is based on an estimate by the Applicant as to the number of construction workers, equipment, and construction trucks required to build the three new industrial buildings. According to the Applicant, the construction phase is anticipated to have an average of 20 daily construction workers. The trip generation accounted for the 20 workers arriving during the same AM peak hour (even though some workers may arrive earlier or slightly later), each worker is assumed to have lunch off-site, and all workers are assumed to leave during the same PM peak hour. The construction workers and equipment trip generation are shown in **Table 6**.

TABLE 6: PROJECT CONSTRUCTION TRIP GENERATION

Construction Traffic	ADT	AM Pk Hr		PM Pk Hr	
		IN	OUT	IN	OUT
Construction Workers[1]	80	20	0	0	20
Equipment and Construction Trucks (with PCE)[2]	8	2	2	2	2
Construction Traffic	**88**	**22**	**2**	**2**	**22**

Notes: 1) Applicant anticipated an average of 20 daily construction employees. All employees anticipated to leave for lunch, thus ADT accounts for lunch egress and ingress (20 AM in + 20 lunch out + 20 lunch in + 20 PM out = 80 ADT). 2) Passenger Car Equivalent (PCE) factor of 2 applied to each truck trip, thus 1 AM inbound truck = 2 PCE trips. Daily truck trips anticipated at 2 over a typical day (one during each peak period), thus ADT with PCE = 8.

The project construction traffic is calculated to generate 88 daily trips, 24 AM peak hour trips (22 inbound and 2 outbound), and 24 PM peak hour trips (2 inbound and 22 outbound).

4.1.2 Project Operations Traffic

The project operations traffic is based on a forecast by the Applicant of the number of employees, deliveries, product removal, sludge removal, and ancillary support vehicles. According to the Applicant, each facility will have an average of 18 employees. With four facilities, there will be an average daily total of 72 employees. The Transportation component will have 3 employees. The combined total of 75 employees are anticipated to start work between 6 AM and 9 AM and end work at or after 5 PM. Each facility may have slightly different start and end times. The trip generation accounted for each employee arriving during the same AM peak hour (even though some employees may arrive earlier or slightly later), each employee is assumed to have lunch off-site, and all employees are assumed to leave during the same PM peak hour. The combined employees and support trucks for the total operations trip generation are shown in **Table 7**.

TABLE 7: PROJECT OPERATIONS TRIP GENERATION

Operations Traffic	ADT	AM Pk Hr		PM Pk Hr	
		IN	OUT	IN	OUT
Daily Employees[1]	300	75	0	0	75
Deliveries and support with Passenger Car Equivalent Facor[2]	32	2	2	2	2
Operations Traffic	**332**	**77**	**2**	**2**	**77**

Notes: 1) Daily employees of 18 on average per facility times 4 facilities plus 3 transporation employees. All employees anticipated to leave for lunch, thus ADT accounts for lunch egress and ingress (75 AM in + 75 lunch out + 75 lunch in + 75 PM out = 300 ADT). 2) Deliveries and support includes truck transports of product, removal of materials (product and sludge), and ancillary vehicles such as postal carrier and private carriers. Passenger Car Equivalent (PCE) factor of 2 applied to each truck trip, thus 1 AM inbound truck = 2 PCE trips. Daily truck/anncillary trips are anticipated at about 1 per hour. Therefore, 8 daily inbound trucks + 8 daily outbound trucks = 16 trucks times a PCE factor of 2 = 32 ADT.

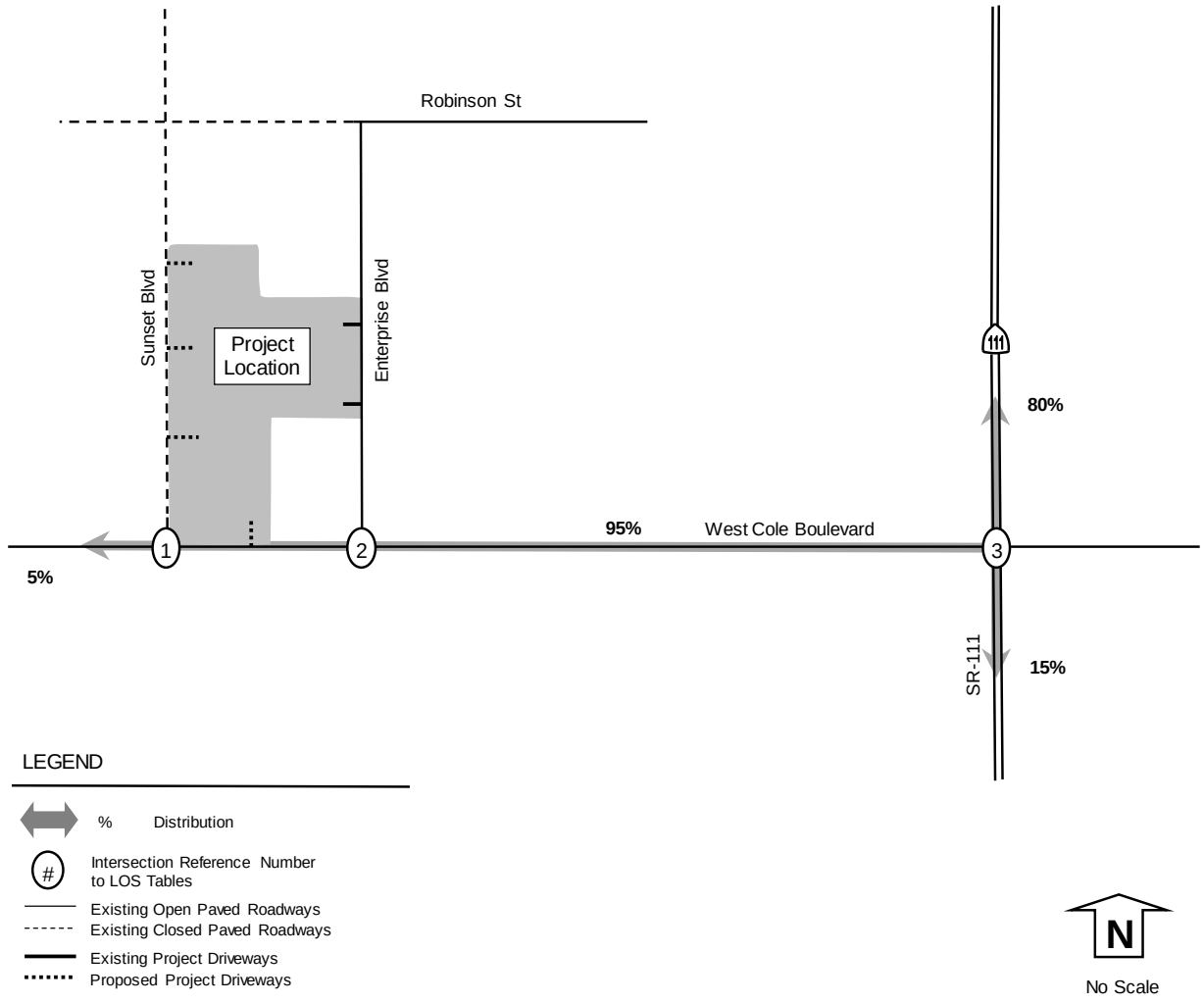
The project operational traffic is calculated to generate 332 daily trips, 79 AM peak hour trips (77 inbound and 2 outbound), and 79 PM peak hour trips (2 inbound and 77 outbound). The higher operational traffic is used for the analysis within this focused traffic analysis.

4.2 Project Trip Distribution and Assignment

The project distribution is based on the anticipated employee labor pool and material deliveries as shown in **Figure 5**. The project trip assignment is shown in **Figure 6**.

The intersection of West Cole Boulevard/Sunset Boulevard is currently signalized. However, Sunset Boulevard is closed off with barricades immediately north of West Cole Boulevard. With the completion of the project, Sunset Boulevard will provide access to three of the new project driveways along Sunset Boulevard. The project trip distribution included the use of Sunset Boulevard while respecting the current eastbound to northbound left turn restriction (project traffic can travel east past Sunset Boulevard and turn left at Enterprise Boulevard as shown in Figure 5). The current closure and barricades on Sunset Boulevard can be moved to just past the northerly project driveway on Sunset Boulevard.

Figure 5: Project Distribution



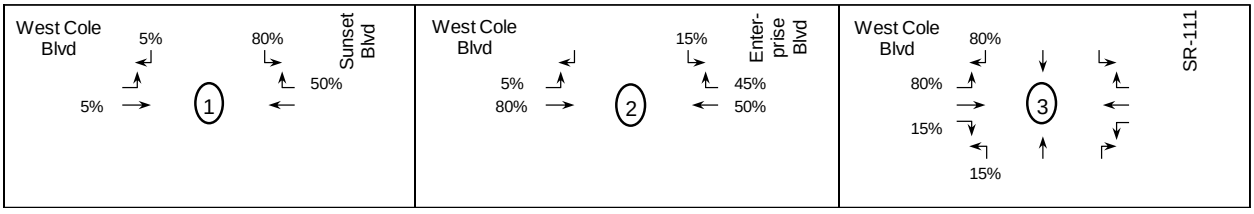
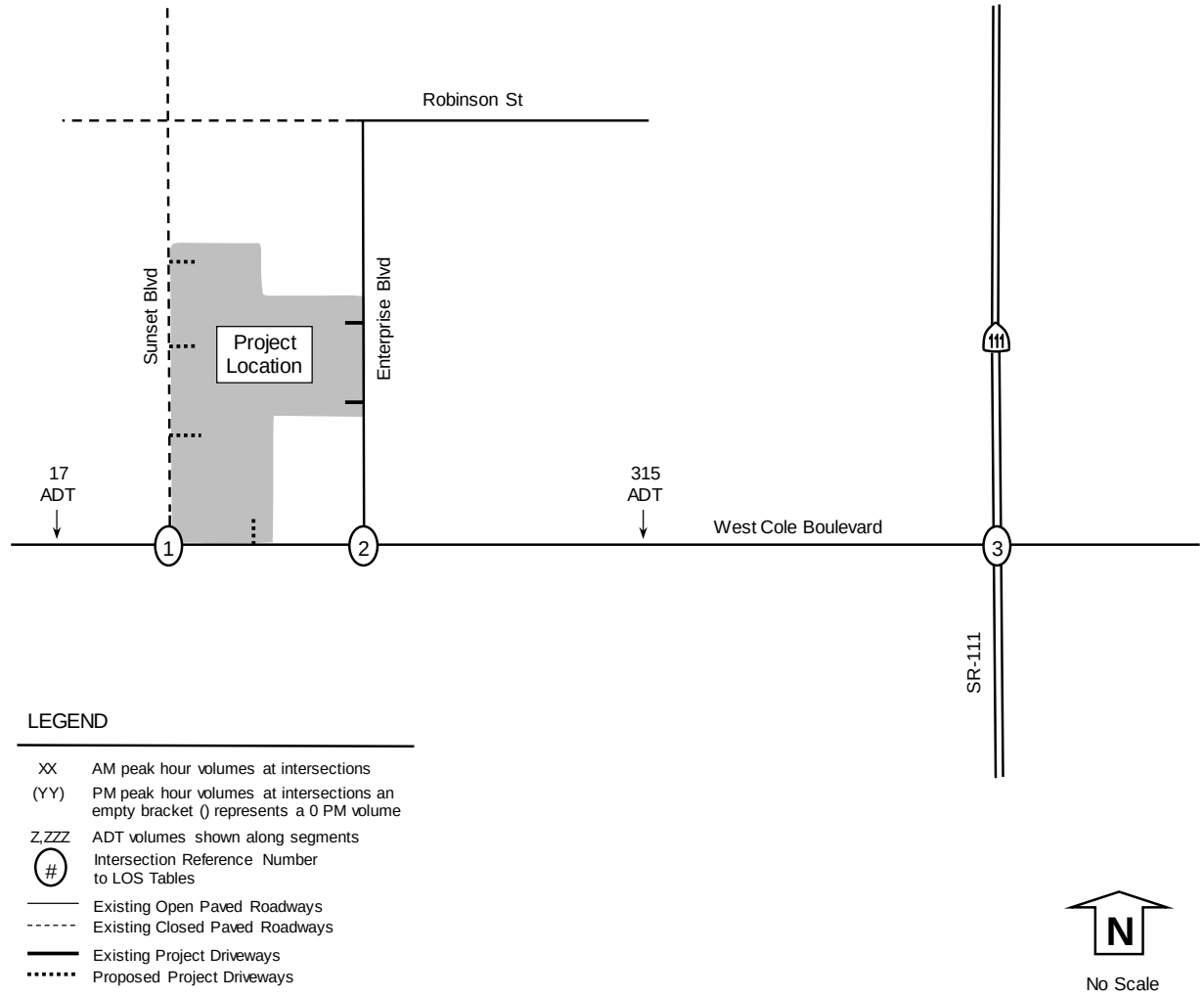
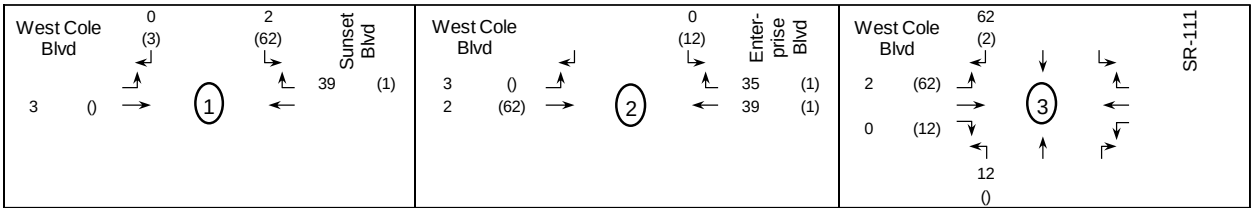


Figure 6: Project Traffic





5.0 Existing + Project Conditions

This section documents the addition of project traffic onto existing year 2018 conditions. Existing plus project traffic volumes are shown in **Figure 7**. Intersection and segment LOS are shown in **Tables 8 and 9**. Intersection LOS calculations are included in **Appendix H**.

TABLE 8: EXISTING WITHOUT AND WITH PROJECT INTERSECTION LOS

Intersection and	Movement	Study	Existing		Existing + Project			
(Analysis)[1]		Period	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Direct Impact?[5]
1) W. Cole Blvd at	All	AM	1.2	A	5.0	A	3.8	No
Sunset Blvd (S)	All	PM	1.2	A	5.2	A	4.0	No
2) W. Cole Blvd at	SB LR	AM	12.5	B	13.1	B	0.6	No
Enterprise Blvd (U)	SB LR	PM	12.3	B	13.0	B	0.7	No
3) W. Cole Blvd at	All	AM	45.2	D	45.4	D	0.2	No
SR-111 (S)*	All	PM	45.8	D	46.4	D	0.6	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service. 4) Delta is the increase in delay from project. 5) Direct Impact if project traffic exceeds threshold. *Caltrans' jurisdiction.

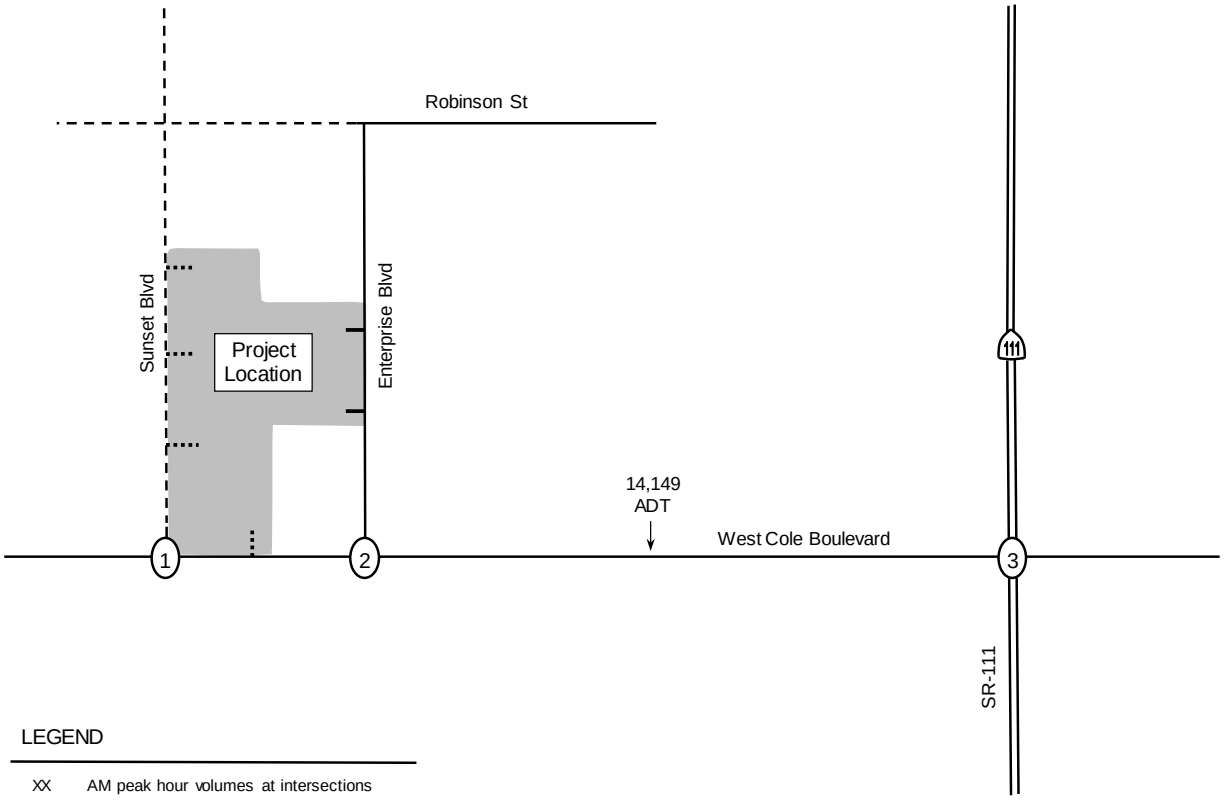
TABLE 9: EXISTING WITHOUT AND WITH PROJECT ROADWAY LOS

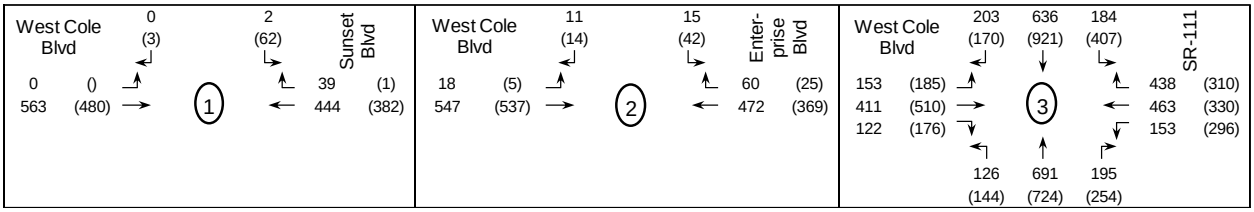
Segment	Roadway Classification (as built)	LOS E Capacity	Existing Daily Volume	Existing V/C	Existing LOS	Project Daily Volume	Existing + Project Daily Volume	Existing + Project V/C	Existing + Project LOS	Change in V/C	Direct Impact?
West Cole Boulevard											
Enterprise Blvd to SR-111	Collector (4U+TWLTL)	25,000	13,834	0.553	A	315	14,149	0.566	A	0.013	No

Notes: 4U+TWLTL = 4 un-divided lanes + two way left turn lane. Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity Ratio.

Under existing + project conditions, the study intersections and roadway were calculated to operate at LOS B or better under City of Calexico jurisdiction. Under Caltrans' jurisdiction, the study intersection was calculated to operate at LOS D. There are no significant traffic impacts because the addition of project traffic does not exceed the significance thresholds (LOS C or better under City jurisdiction and LOS D or better under Caltrans jurisdiction).

Figure 7: Existing + Project Volumes





6.0 Conclusions and Recommendations

The proposed project, Trinity 341, is a cannabis Cultivation & Manufacturing Facility located on the northeast corner of West Cole Boulevard and Sunset Boulevard in Calexico, California. The project is proposed in one existing and three new industrial buildings. An existing industrial building at 2421 Enterprise Boulevard (with 33,112 sf) will be retro-fitted and three new industrial buildings totaling 131,338 sf will be constructed. The overall site includes five parcels totaling approximately 8.23 acres.

The project trip generation is calculated based on the higher amount of traffic generated between the construction of the facility and the operations of the facility (employees and truck traffic). The higher project operations traffic is calculated to generate 332 daily trips, 79 AM peak hour trips (77 inbound and 2 outbound), and 79 PM peak hour trips (2 inbound and 77 outbound).

The intersection of West Cole Boulevard/Sunset Boulevard is currently signalized; however, Sunset Boulevard is closed immediately north of West Cole Boulevard. With the completion of the project, Sunset Boulevard will provide access to three of the new project driveways along Sunset Boulevard. The project trip distribution included the use of Sunset Boulevard while respecting the current eastbound to northbound left turn restriction (project traffic can travel east past Sunset Boulevard and turn left at Enterprise Boulevard). The current closure and barricades on Sunset Boulevard can be moved to just past the northerly project driveway on Sunset Boulevard.

The following scenarios were analyzed: Existing and Existing plus Project Conditions. For each scenario, the findings include:

1) Under existing conditions, the study intersections and roadway were calculated to operate at LOS B or better under City of Calexico jurisdiction. Under Caltrans' jurisdiction, the study intersection was calculated to operate at LOS D.

2) Under existing + project conditions, the study intersections and roadway were calculated to operate at LOS B or better under City of Calexico jurisdiction. Under Caltrans' jurisdiction, the study intersection was calculated to operate at LOS D. There are no significant traffic impacts because the addition of project traffic does not exceed the significance thresholds (LOS C or better under City jurisdiction and LOS D or better under Caltrans jurisdiction).

<u>The project has no calculated traffic impacts based on the significance criteria; therefore, mitigation measures are not required.</u>

7.0 References

Caltrans. December 2002. *Guide for the Preparation of Traffic Impact Studies.*

City of Calexico General Plan Update 2015.

Trafficware. Synchro 10.0 computer software.

Transportation Research Board National Research Council Washington, D.C. 2010. *Highway Capacity Manual 2010*. CD ROM.

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