

**APPENDIX I**

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SONGS Decommissioning Traffic Study

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*DBE/SBE*

**SAN ONOFRE NUCLEAR GENERATING STATION  
DECOMMISSIONING PROJECT**

**TRAFFIC STUDY  
FEBRUARY 8, 2018**

This Traffic Study has been prepared under the direction of the following registered Engineer. The registered Engineer attests to the technical information contained herein and has judged the qualifications of any technical specialists providing engineering data upon which recommendations, conclusions, and decisions are based.

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# SECTION 1 - INTRODUCTION AND SUMMARY

## PURPOSE OF REPORT AND STUDY OBJECTIVES

The purpose of this study is to evaluate the anticipated effects on traffic circulation produced from the San Onofre Nuclear Generating Station (SONGS) Decommissioning Project (Project).

The objectives of this study include the following:

- Determine existing traffic conditions in the vicinity of the proposed Project;
- Evaluate the traffic generated from the proposed Project;
- Determine existing plus Project traffic conditions – existing volumes plus Project generated traffic;
- Determine if the level of service (LOS) required will be maintained at all affected intersections, and if not, determine the mitigation measures that will be necessary in order to maintain the required LOS.

## EXECUTIVE SUMMARY

### Site Location

The SONGS site is located on the northern San Diego County coast and is generally located within the Marine Corps Base Camp Pendleton. The city of San Clemente, Orange County is approximately two miles northeast of the site. The city of Oceanside, San Diego County is approximately 15 miles southeast of the site.

### Development Description

The primary transportation/traffic impacts associated with the Project would occur during construction activities associated with decommissioning the SONGS facility and the dispositioning of conduit work. Impacts would be caused by worker trips to and from the SONGS facility and both truck and rail trips associated with removal of decontamination and dismantlement (D&D) waste. Vehicle trips would be concentrated at the Interstate 5 (I-5)/Basilone Road interchange and on Old Pacific Highway (OPH; U.S. 101) south of the interchange between I-5 and the SONGS facility. Rail trips would originate on the

existing rail spur located on the Onshore Site along the east side of the power plant and enter/exit the facility via the existing switch located north of the OPH overcrossing at the Los Angeles-San Diego-San Luis Obispo (LOSSAN) corridor.

For the purpose of this evaluation, it is assumed the D&D waste material would be sorted on site and hauled north by rail and truck to various recycling and processing facilities prior to final disposal of non-hazardous, non-recyclable material in regional landfills.

## **Principal Findings**

### **Levels of Service – Existing Conditions**

The existing levels of service for the study area intersections vary from LOS A to C. None of the study intersections are operating at an unacceptable LOS.

### **Levels of Service – Existing Plus Project Conditions**

For existing plus Project traffic conditions, the study area intersections are expected to operate at levels of service that vary from LOS A to C. None of the study intersections are expected to operate at an unacceptable LOS.

## **Conclusions**

Based on the traffic study, it is concluded that the traffic impacts generated from the proposed Project are less than significant.

## **On-Site Recommendations**

### **Safety and Operational Improvements**

- Sight distance at the project entrances should be reviewed with respect to sight distance standards at the time of construction.
- Signing/stripping for truck access should be implemented in conjunction with detailed construction plans for the project site.



## **Off-Site Recommendations**

It is assumed the Project material would be sorted on site and hauled north by rail and truck to various recycling and processing facilities prior to final disposal of non-hazardous, non-recyclable material in regional landfills. Rail trips would originate on the existing rail spur located on the Onshore Site along the east side of the power plant and enter/exit the facility via the existing switch located north of the OPH overcrossing at the Los Angeles-San Diego-San Luis Obispo (LOSSAN) corridor. Truck and employee trips would be concentrated at the I-5/Basilone Road interchange and on Old Pacific Highway (OPH; U.S. 101) south of the interchange between I-5 and the SONGS facility. The minimal increase of vehicular and rail traffic to the network circulation is not expected to adversely affect circulation. Therefore, this impact would be less than significant.

# SECTION 2 - PROPOSED PROJECT

## SUMMARY OF THE PROJECT

### Site Location

The SONGS site is located on the northern San Diego County coast and is generally located within the Marine Corps Base Camp Pendleton. The city of San Clemente, Orange County is approximately two miles northeast of the site. The city of Oceanside, San Diego County is approximately 15 miles southeast of the site.

### Phasing and Timing of the Proposed Project

The decommissioning phases of the Project are listed in Table 2-1. For the purpose of this study, only Phase 1 is considered the “Proposed Project.”

**Table 2-1 – Decommissioning Phases**

<b>Phase</b>	<b>Activities</b>	<b>Anticipated Dates</b>
1	Decontamination and Dismantlement and Conduit Disposition (Proposed Project)	2019 - 2028
2	Independent Spent Fuel Storage Installation (ISFSI) Operation and Maintenance	2019 - 2035
3	Additional Substructure Removal and Final Site Restoration (Future Activities)	2035

## SECTION 3 - AREA CONDITIONS

### STUDY AREA

The study area includes the following intersections:

1. I-5/Basilone Road interchange northbound on- and off-ramps;
2. I-5/Basilone Road interchange southbound on- and off-ramps;
3. OPH/EI Camino Real;
4. OPH/Beach Club Road north;
5. OPH/Beach Club Road south;
6. OPH/SONGS north entrance; and
7. OPH/SONGS south entrance.

### SITE ACCESSIBILITY

#### Regional Access

I-5 is the north/south regional access route connecting the SONGS facility with the interstate highway system, and is owned and maintained by the Federal Highway Administration (FHWA) and Caltrans, District 11, headquartered in San Diego, California. At Basilone Road, I-5 has four travel lanes in each direction. The interchange is a diamond configuration and provides access to the Marine Corps Base Camp Pendleton (MCBCP) to the east via the Basilone Gate and to public recreational amenities and the SONGS facility to the west.

Table 3-1 shows 2014 Average Annual Daily Traffic (AADT) volumes on the I-5 mainline at the Basilone Road interchange. In addition, data are provided for the Las Pulgas Road interchange, the nearest interchange to the south, and Christianitos Road, the nearest interchange to the north of Basilone Road. Of the total AADT at the Basilone Road interchange, approximately 7.23 percent (9,471) are trucks (Caltrans 2015).

**Table 3-1 – 2014 Mainline I-5 Traffic Counts**

<b>Interchange</b>	<b>Back Peak Hour</b>	<b>Back Peak Month</b>	<b>Back AADT</b>	<b>Ahead Peak Hour</b>	<b>Ahead Peak Month</b>	<b>Ahead AADT</b>
Las Pulgas Road PM 62.0	11,200	146,000	132,000	10,800	146,000	131,000
Basilone Road PM 71.3	10,800	146,000	131,000	11,300	142,000	138,000
Christianitos Road PM 72.3	11,300	142,000	138,000	11,400	143,000	139,000

Peak hour is the one hour period between 7:00 a.m. and 9:00 a.m. and 5:00 p.m. to 7:00 p.m. when volumes are heaviest.

Back peak hour are peak hour volumes approaching the interchange.

Average daily traffic for month of heaviest (peak) traffic flow approaching the interchange.

Back AADT is Average Daily Traffic Volumes approaching the interchange, which are calculated by totaling annual traffic volumes and dividing by 365.

Ahead peak hour are peak hour volumes departing the interchange.

Average daily traffic for month of heaviest traffic flow departing the interchange.

Source: Caltrans 2015.

Traffic counts were performed to obtain current volume data at all intersections within the study area. With respect to the I-5/Basilone interchange, both intersections are stop controlled at the off-ramp intersection with Basilone Road. No signalized intersections are located at this interchange. Traffic counts were performed on October 12, 2016 for both morning and evening peak hour periods. Peak hours are defined as the one hour between 7:00 and 9:00 a.m. and 4:00 p.m. and 6:00 p.m. when volumes are highest and are the time periods commonly used to assess traffic operating conditions. Table 3-2 shows morning (a.m.) and evening (p.m.) peak hour counts for the off- and on-ramps, which were calculated based on turning movement data collected. The traffic count worksheets are provided in Appendix A.

**Table 3-2 – I-5/Basilone Road Northbound and Southbound Ramp Volumes**

<b>Intersection</b>	<b>A.M. Peak Hour</b>	<b>P.M. Peak Hour</b>
Northbound off-ramp	173	117
Northbound on-ramp	270	423
Southbound off-ramp	346	274
Southbound on-ramp	127	275

## **Local Access**

### **Old Pacific Highway**

Local access to the SONGS facility is provided by OPH. OPH extends south from the Basilone Road interchange along the west side of I-5 terminating at the entrance to San Onofre Bluffs State Park. The paved road has two travel lanes in each direction generally between Basilone Road and the LOSSAN corridor overcrossing. South of this point, the road varies from two lanes to one lane in either direction. There are two signalized intersections - one at the intersection with El Camino Real and the other at the SONGS south access entrance/exit. El Camino Real and Beach Bluffs Drive provide access from OPH to San Onofre State Beach via gated access driveways.

### **El Camino Real**

El Camino Real is a two lane paved road that provides access from OPH to MCBCP via a gated access point on El Camino Real, just north of the intersection with OPH. Vehicles pass through the gate and then loop under I-5 to access MCBCP facilities on the east side of I-5. The OPH/El Camino Real intersection is signalized.

### **Beach Club Road**

Beach Club Road is a two-lane paved road that provides restricted access to a SONGS parking area located at the north end of the facility and to a military recreational area that is part of MCBCP. At a four-way stop-controlled intersection located just west of OPH, vehicles can proceed straight to the parking lot for the recreation area, turn left to access the SONGS facility, or turn right. Vehicles turning right loop under OPH and return to OPH approximately one-quarter mile south of the OPH/Beach Club Road intersection to the north. Both Beach Club Road intersections with OPH are stop controlled on the Beach Club Road legs.

### **SONGS Access Driveways**

SONGS has two access driveways. The northern access driveway provides access to a parking lot, administrative building, and southern segment of Beach Club Road. Access to the SONGS facility past this point requires vehicles to pass through multiple security gates. The southern access driveway provides direct access to the SONGS facility and is signalized.

Table 3-3 shows a.m. and p.m. peak hour traffic counts at each of the intersections located along OPH between Basilone Road and the south SONGS access road. The traffic count worksheets are provided in Appendix A.

**Table 3-3 – Old Pacific Highway Volumes**

<b>Intersection</b>	<b>A.M. Peak Hour</b>	<b>P.M. Peak Hour</b>
OPH/EI Camino Real	169	272
OPH/Beach Club Road North	165	261
OPH/Beach Club Road South	83	212
SONGS Access North	44	56
SONGS Access South	41	47

### **Level of Service Methodology**

The HCM evaluates the LOS of intersections based upon the control delay per vehicle. The methodology used to evaluate the intersection level of service differs on whether the intersection is signalized or unsignalized. LOS is a quality of service measure that describes the operational conditions on a transportation facility, such as a roadway or intersection. LOS is established based on the driver's perspective. This service measure is a general overall measurement of several conditions such as speed and travel time, freedom to maneuver, traffic interruption, and comfort and convenience. Safety is an important concern but, typically, is not included in the measures that establish service levels. Six LOS categories have been established using the letters A through F. LOS A represents the best operating condition with free flow and no delays, while LOS F represents the worst operating condition with long delays where the volume of traffic exceeds the capacity of the roadway. Each LOS category represents a range of operating conditions and the driver's perception of those conditions. Methods for identifying LOS vary based upon the type of transportation facility. LOS measurement is used primarily to assess how substantial increases in vehicular traffic may affect traffic congestion on specific transportation facilities, such as freeways, arterials, and intersections. Procedures have also been established to adjust the evaluation to account for trucks, buses, roadway gradient, and pedestrian volumes. However, substantial traffic volume increases may also result in other traffic-related impacts. Tables 3-4 and 3-5 describe the criteria for the various LOS categories (A through F) as applied to signalized and unsignalized operations.

### **Signalized Intersections**

According to the 2010 HCM, the level of service for signalized intersections is based upon the weighted average control delay of all vehicles in seconds per vehicle. Table 3-4 shows the criteria used to determine the level of service for signalized intersections.

**Table 3-4 – Level of Service for Signalized Intersections**

<b>Level of Service</b>	<b>Average Control Delay (Seconds/Vehicle)</b>
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Source: HCM 2010, Exhibit 18-4, Level-of-Service Criteria: Automobile Mode

### **Unsignalized Intersections**

The 2010 HCM defines the level of service for all-way stop intersections as the weighted average control delay in seconds per vehicle. For two-way stop controlled intersections, the delay is computed for each controlled movement and the level of service is based on the highest control delay. Table 3-5 shows the criteria used to determine the level of service for unsignalized intersections.

**Table 3-5 – Level of Service for Unsignalized Intersections**

<b>Level of Service</b>	<b>Average Control Delay (Seconds/Vehicle)</b>
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: HCM 2010, Exhibit 19-1, Level-of-Service Criteria: Automobile Mode

### **Required Level of Service**

State highway LOS and performance is based upon procedures derived from the 2010 Highway Capacity Manual by the Transportation Research Board of the National Academies. The procedure for calculating LOS involves estimating an average control delay, measured in seconds per vehicle, as well as a volume to capacity (V/C) ratio on State highways. The resulting peak hour delay is then compared to acceptable ranges of values corresponding to the various LOS, as shown in Tables 3-4 and 3-5. The corresponding LOS represents an approximation of existing or anticipated future peak hour operating conditions. As stated in the California Department of Transportation (Caltrans) Guide for the preparation of Traffic Impact Studies (Caltrans 2002), the target LOS is C on State highway facilities. However, Caltrans acknowledges that this may not

always be feasible. In these circumstances, Caltrans often accepts lower LOS for facilities currently operating below LOS C.

### **Levels of Service – Existing Conditions**

The intersection levels of service for existing conditions shown on Table 3-6 are based upon the existing roadway system and the existing AM and PM peak hour intersection volumes. The level of service calculation worksheets are provided in Appendix C.

**Table 3-6 – Levels of Service – Existing Conditions**

Intersection		Traffic Control	Peak Hour	Existing	
				Delay (Sec)	LOS
1.	Basilone Road /	OWSC	AM	10.8	B
	I-5 NB Ramps		PM	11.5	B
2.	Basilone Road /	OWSC	AM	14.2	B
	I-5 SB Ramps		PM	20.0	C
3.	El Camino Real /	Signal	AM	3.8	A
	Old Pacific Highway		PM	3.6	A
4.	Beach Club North /	N/A	AM	N/A	A
	Old Pacific Highway		PM	N/A	A
5.	Beach Club South /	OWSC	AM	8.7	A
	Old Pacific Highway		PM	8.8	A
6.	SONGS North /	OWSC	AM	7.3	A
	Old Pacific Highway		PM	7.3	A
7.	SONGS South /	Signal	AM	4.0	A
	Old Pacific Highway		PM	16.9	B

OWSC = One-Way Stop Control



# SECTION 4 - PROJECTED TRAFFIC

## SITE TRAFFIC

### Trip Generation

Trip generation represents the amount of traffic traveling to and from the proposed Project. The traffic generation determined for the Project were provided by Southern California Edison (SCE). The trip generation data is provided in Appendix B.

Table 4-1 shows the daily and peak hour trip generation for the proposed Project. As shown, it is anticipated to generate approximately 324 daily trip-ends, including 162 trip-ends during the AM peak hour and 162 trip-ends during the PM peak hour.

**Table 4-1 – Trip Generation**

		Round Trips	Daily Trips	AM Peak Hour			PM Peak Hour		
		(Daily)	Total	Total	In	Out	Total	In	Out
SONGS	Trucks	89	178	89	45	44	89	44	45
SONGS/ POLB	Pickups	7	14	7	4	3	7	3	4
	Trucks	32	64	32	16	16	32	16	16
	Worker Commute	34	68	34	17	17	34	17	17
<b>TOTALS</b>		<b>162</b>	<b>324</b>	<b>162</b>	<b>82</b>	<b>80</b>	<b>162</b>	<b>80</b>	<b>82</b>

Source: SCE December 2017.

- 1) Employee trips to/from SCE do not increase from the NOP Baseline...about 750 trips for baseline, up to approximately the same during peak construction.
- 2) Truck trips are the assumed worst-case yearly trips divided by 260 days/year, rounded up.

### Trip Distribution

Trip distribution represents the directional orientation of traffic to and from the Project site.

The trip directional orientation of traffic for the Project was determined based upon the estimated trips to and from various facilities. The directional distribution for the proposed Project is described below.

Approximately 99% of the Truck trips are projected to travel to/from the North to SONGS and 1% to/from the South to SONGS. Pickup trips and Worker Commute trips are projected to travel to/from the North.

## **THROUGH TRAFFIC**

### **Method of Projection**

The method of traffic projection is based on the following criteria:

- Existing traffic conditions;
- Project generated traffic.

This report uses study years per Table 2-1.

### **Ambient Growth**

In order to evaluate traffic conditions for the project analysis years, area wide growth on the existing roadways must be projected. For this Project, the growth rate is negligible per SANDAG, Transportation Forecast Information Center data.

### **Modal Split**

For the purpose of the study, Transit, Rail, Pedestrian, and Bicycle facilities and volumes were considered less than significant within the roadway study network and not considered for the study.

### **Non-Site Traffic for Study Area**

Non-site traffic from within the study area is not expected to have an impact on LOS.

Other projects proposed in the Project area would contribute to impacts to transportation and circulation; however, because the Project would have no long-term permanent transportation impacts, it would not have a cumulative impact on transportation and circulation in the Project area. Therefore, cumulative impacts would be less than significant.

## SECTION 5 - TRAFFIC ANALYSIS

### LEVEL OF SERVICE ANALYSIS

#### Levels of Service – Existing Plus Project

Table 5-1 provides the projected levels of service at the study intersections under Existing plus Project conditions. These levels of service vary from LOS A to C. The levels of service are based upon the existing geometrics for the study intersections. The level of service calculation worksheets are provided in Appendix C. None of the study intersections are expected to operate at an unacceptable level of service.

**Table 5-1 – Levels of Service – Existing Plus Project Conditions**

Intersection		Traffic Control	Peak Hour	Existing plus Project	
				Delay (Sec)	LOS
1.	Basilone Road /	OWSC	AM	11.5	B
	I-5 NB Ramps		PM	12.5	B
2.	Basilone Road /	OWSC	AM	16.4	C
	I-5 SB Ramps		PM	24.0	C
3.	El Camino Real /	Signal	AM	2.5	A
	Old Pacific Highway		PM	2.6	A
4.	Beach Club North /	N/A	AM	N/A	A
	Old Pacific Highway		PM	N/A	A
5.	Beach Club South /	OWSC	AM	9.6	A
	Old Pacific Highway		PM	9.7	A
6.	SONGS North /	OWSC	AM	7.6	A
	Old Pacific Highway		PM	7.6	A
7.	SONGS South /	Signal	AM	15.4	B
	Old Pacific Highway		PM	15.9	B

OWSC = One-Way Stop Control

N/A = Not Applicable

## SECTION 6 - FINDINGS AND RECOMMENDATIONS

### TRAFFIC IMPACTS

The primary transportation and circulation impacts associated with the Project would occur during construction activities associated with decommissioning the SONGS facility and the dispositioning of conduit work. Impacts would be caused by commuter trips to and from the SONGS facility and truck trips associated with removal of decontamination and dismantlement (D&D) waste. Vehicle trips would be concentrated at the Interstate 5 (I-5)/Basilone Road interchange and on Old Pacific Highway (OPH; U.S. 101) south of the interchange between I-5 and the SONGS facility. The Project estimates an additional 324 daily trips to the existing network.

### SITE ACCESS

The SONGS facility has access to Interstate 5 (I-5) from Old Pacific Highway (OPH, U.S. 101) and the Basilone Road interchange.

### NEED FOR IMPROVEMENTS

Based on the traffic study, it is concluded that the traffic impacts generated from the proposed Project can be mitigated to a level of insignificance. Intersections in the study area currently operate at LOS C or better, and the minimal increase in employee and truck traffic from the Project is not expected to adversely impact intersection operations or cause a substantial change in LOS. Therefore, because these trips are minimal and would not cause a decline in LOS to unacceptable levels, this impact would be less than significant.

#### **Safety and Operational Improvements**

Sight distance at the project entrances should be reviewed with respect to sight distance standards at the time of construction.

Signing/striping for truck access should be implemented in conjunction with detailed construction plans for the project site.

# APPENDIX A – TRAFFIC COUNT WORKSHEETS

Location ID: 1  
 North/South: Basilone Rd  
 East/West: I-5 Northbound On/Off Ramp

Date: 10/12/2016  
 City: San Onofre, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	25	31	0	28	2	11	0	62	5	0	0	0	164
7:15	42	26	0	39	1	11	0	46	5	0	0	0	170
7:30	63	20	0	40	1	9	0	48	6	0	0	0	187
7:45	57	14	0	21	0	2	0	61	18	0	0	0	173
8:00	57	14	0	34	4	11	0	38	16	0	0	0	174
8:15	39	16	0	15	0	10	0	26	20	0	0	0	126
8:30	33	8	0	17	0	6	0	31	14	0	0	0	109
8:45	29	13	0	16	0	9	0	30	20	0	0	0	117

Total Volume:	345	142	0	210	8	69	0	342	104	0	0	0	1220
Approach %	71%	29%	0%	73%	3%	24%	0%	77%	23%	0%	0%	0%	

Peak Hr Begin:	7:15												
PHV	219	74	0	134	6	33	0	193	45	0	0	0	704
PHF	0.883			0.848			0.753			0.000			0.941

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	53	51	0	14	1	7	0	33	31	0	0	0	190
16:15	64	49	0	21	0	5	0	49	27	0	0	0	215
16:30	93	39	0	27	0	3	0	40	39	0	0	0	241
16:45	72	30	0	19	1	6	0	63	28	0	0	0	219
17:00	69	35	0	27	0	9	0	50	27	0	0	0	217
17:15	72	32	0	22	1	2	0	75	21	0	0	0	225
17:30	67	25	0	23	1	3	0	59	40	0	0	0	218
17:45	75	18	0	17	0	1	0	51	16	0	0	0	178

Total Volume:	565	279	0	170	4	36	0	420	229	0	0	0	1703
Approach %	67%	33%	0%	81%	2%	17%	0%	65%	35%	0%	0%	0%	

Peak Hr Begin:	16:30												
PHV	306	136	0	95	2	20	0	228	115	0	0	0	902
PHF	0.837			0.813			0.893			0.000			0.936

Location ID: 2  
 North/South: Basilone Rd  
 East/West: I-5 Southbound On/Off Ramp

Date: 10/12/2016  
 City: San Onofre, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	7	35	0	0	0	3	4	0	25	5	64	143
7:15	0	7	32	0	0	0	2	5	0	32	1	47	126
7:30	0	7	20	0	0	0	1	5	0	23	5	49	110
7:45	0	3	13	0	0	0	5	14	0	26	5	64	130
8:00	0	4	22	0	0	0	0	11	0	23	2	44	106
8:15	0	9	17	0	0	0	3	15	0	18	0	29	91
8:30	0	2	11	0	0	0	2	14	0	17	3	33	82
8:45	0	7	15	0	0	0	0	22	0	21	2	28	95

Total Volume:	0	46	165	0	0	0	16	90	0	185	23	358	883
Approach %	0%	22%	78%	0%	0%	0%	15%	85%	0%	33%	4%	63%	

Peak Hr Begin:	7:00												
PHV	0	24	100	0	0	0	11	28	0	106	16	224	509
PHF	0.738			0.000			0.513			0.911			0.890

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	3	55	0	0	0	27	32	0	18	1	34	170
16:15	0	1	52	0	0	0	28	22	0	14	3	51	171
16:30	0	3	38	0	0	0	27	33	0	17	1	46	165
16:45	0	6	30	0	0	0	9	25	0	20	4	65	159
17:00	0	12	33	0	0	0	14	24	0	15	1	52	151
17:15	0	3	31	0	0	0	7	20	0	26	2	80	169
17:30	0	3	24	0	0	0	12	37	0	25	3	58	162
17:45	0	2	18	0	0	0	12	15	0	14	1	53	115

Total Volume:	0	33	281	0	0	0	136	208	0	149	16	439	1262
Approach %	0%	11%	89%	0%	0%	0%	40%	60%	0%	25%	3%	73%	

Peak Hr Begin:	16:00												
PHV	0	13	175	0	0	0	91	112	0	69	9	196	665
PHF	0.810			0.000			0.846			0.770			0.972

Location ID: 3  
 North/South: El Camino Real  
 East/West: Old Pacific Hwy

Date: 10/12/2016  
 City: San Onofre, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	8	1	0	0	0	0	34	0	43
7:15	0	0	0	0	4	0	0	0	0	1	36	1	42
7:30	0	0	0	0	6	0	0	0	0	0	30	1	37
7:45	0	0	0	0	15	0	1	0	0	0	27	4	47
8:00	0	0	0	0	8	1	0	0	1	1	25	1	37
8:15	0	0	0	0	14	0	0	0	0	0	23	4	41
8:30	0	0	0	0	15	1	1	0	0	0	18	1	36
8:45	0	0	0	0	20	1	0	0	0	0	24	3	48

Total Volume:	0	0	0	0	90	4	2	0	1	2	217	15	331
Approach %	0%	0%	0%	0%	96%	4%	67%	0%	33%	1%	93%	6%	

Peak Hr Begin:	7:00												
PHV	0	0	0	0	33	1	1	0	0	1	127	6	169
PHF	0.000			0.567			0.250			0.882			0.899

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	0	0	0	57	0	0	0	1	1	15	2	76
16:15	0	0	0	0	47	0	0	0	0	0	14	4	65
16:30	0	0	0	0	52	0	0	0	0	0	18	1	71
16:45	0	0	0	0	33	0	0	0	0	0	24	3	60
17:00	0	0	0	0	36	0	0	0	0	0	24	2	62
17:15	0	0	0	0	22	0	0	0	0	0	25	5	52
17:30	0	0	0	0	45	0	0	0	0	0	26	4	75
17:45	0	0	0	0	23	0	0	0	0	0	11	2	36

Total Volume:	0	0	0	0	315	0	0	0	1	1	157	23	497
Approach %	0%	0%	0%	0%	100%	0%	0%	0%	100%	1%	87%	13%	

Peak Hr Begin:	16:00												
PHV	0	0	0	0	189	0	0	0	1	1	71	10	272
PHF	0.000			0.829			0.250			0.759			0.895



Location ID: 4  
 North/South: Beach Club Rd NORTH  
 East/West: Old Pacific Hwy

Date: 10/12/2016  
 City: San Onofre, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	10	0	0	0	0	22	15	0	47
7:15	0	0	0	0	3	0	0	0	0	24	9	0	36
7:30	0	0	0	0	6	0	0	0	0	19	9	0	34
7:45	0	0	0	0	17	0	0	0	0	24	7	0	48
8:00	0	0	0	0	8	0	0	0	0	23	5	0	36
8:15	0	0	0	0	15	0	0	0	0	12	8	0	35
8:30	0	0	0	0	15	0	0	0	0	18	4	0	37
8:45	0	0	0	0	21	0	0	0	0	16	5	0	42

Total Volume:	0	0	0	0	95	0	0	0	0	158	62	0	315
Approach %	0%	0%	0%	0%	100%	0%	0%	0%	0%	72%	28%	0%	

Peak Hr Begin:	7:00												
PHV	0	0	0	0	36	0	0	0	0	89	40	0	165
PHF	0.000			0.529			0.000			0.872			0.859

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	0	0	0	58	0	0	0	0	13	4	0	75
16:15	0	0	0	0	46	0	0	0	0	14	2	0	62
16:30	0	0	0	0	53	0	0	0	0	10	5	0	68
16:45	0	0	0	0	35	0	0	0	0	16	5	0	56
17:00	0	0	0	0	34	0	0	0	0	12	15	0	61
17:15	0	0	0	0	22	0	0	0	0	15	12	0	49
17:30	0	0	0	0	48	0	0	0	0	18	7	0	73
17:45	0	0	0	0	21	0	0	0	0	9	3	0	33

Total Volume:	0	0	0	0	317	0	0	0	0	107	53	0	477
Approach %	0%	0%	0%	0%	100%	0%	0%	0%	0%	67%	33%	0%	

Peak Hr Begin:	16:00												
PHV	0	0	0	0	192	0	0	0	0	53	16	0	261
PHF	0.000			0.828			0.000			0.821			0.870

Location ID: 5  
 North/South: Beach Club Rd SOUTH  
 East/West: Old Pacific Hwy

Date: 10/12/2016  
 City: San Onofre, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	8	0	0	0	2	0	0	0	0	0	14	1	25
7:15	3	0	3	0	0	0	0	0	0	0	9	0	15
7:30	5	0	0	0	1	0	0	0	0	0	7	2	15
7:45	16	0	0	0	1	0	0	0	0	0	6	1	24
8:00	7	0	0	0	1	0	0	0	0	0	5	0	13
8:15	15	0	0	0	0	0	0	0	0	0	8	0	23
8:30	15	0	1	0	0	0	0	0	0	0	4	0	20
8:45	20	0	1	0	1	0	0	0	0	0	5	0	27

Total Volume:	89	0	5	0	6	0	0	0	0	0	58	4	162
Approach %	95%	0%	5%	0%	100%	0%	0%	0%	0%	0%	94%	6%	

Peak Hr Begin:	8:00												
PHV	57	0	2	0	2	0	0	0	0	0	22	0	83
PHF	0.702			0.500			0.000			0.688			0.769

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	35	0	0	0	23	0	0	0	0	0	3	1	62
16:15	42	0	2	0	4	0	0	0	0	0	2	0	50
16:30	47	0	0	0	6	0	0	0	0	0	4	1	58
16:45	32	0	2	0	3	0	0	0	0	0	5	0	42
17:00	29	0	1	0	5	0	0	0	0	0	15	0	50
17:15	21	0	0	0	1	0	0	0	0	0	10	2	34
17:30	44	0	2	0	4	0	0	0	0	0	7	0	57
17:45	17	0	0	0	4	0	0	0	0	0	2	1	24

Total Volume:	267	0	7	0	50	0	0	0	0	0	48	5	377
Approach %	97%	0%	3%	0%	100%	0%	0%	0%	0%	0%	91%	9%	

Peak Hr Begin:	16:00												
PHV	156	0	4	0	36	0	0	0	0	0	14	2	212
PHF	0.851			0.391			0.000			0.800			0.855

Location ID: 6  
 North/South: First Driveway west of entrance to San Onofre Plant  
 East/West: Old Pacific Hwy

Date: 10/12/2016  
 City: San Onofre, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	2	0	0	0	0	12	2	0	16
7:15	0	0	0	0	0	0	0	0	0	11	1	0	12
7:30	0	0	0	0	1	1	0	0	0	3	4	0	9
7:45	0	0	0	0	1	0	0	0	0	5	1	0	7
8:00	0	0	0	0	1	0	0	0	0	3	2	0	6
8:15	0	0	0	0	0	1	0	0	0	5	3	0	9
8:30	0	0	0	0	0	0	0	0	0	2	3	0	5
8:45	0	0	0	0	1	1	0	0	0	2	4	0	8

Total Volume:	0	0	0	0	6	3	0	0	0	43	20	0	72
Approach %	0%	0%	0%	0%	67%	33%	0%	0%	0%	68%	32%	0%	

Peak Hr Begin:	7:00												
PHV	0	0	0	0	4	1	0	0	0	31	8	0	44
PHF	0.000			0.625			0.000			0.696			0.688

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	0	0	0	23	0	0	0	0	1	2	0	26
16:15	0	0	0	0	4	0	0	0	0	3	1	0	8
16:30	0	0	0	0	6	2	0	0	0	3	1	0	12
16:45	0	0	0	0	3	0	0	0	0	5	2	0	10
17:00	0	0	0	0	5	0	0	0	0	12	4	0	21
17:15	0	0	0	0	1	0	0	0	0	6	4	0	11
17:30	0	0	0	0	4	0	0	0	0	5	4	0	13
17:45	0	0	0	0	4	0	0	0	0	0	2	0	6

Total Volume:	0	0	0	0	50	2	0	0	0	35	20	0	107
Approach %	0%	0%	0%	0%	96%	4%	0%	0%	0%	64%	36%	0%	

Peak Hr Begin:	16:00												
PHV	0	0	0	0	36	2	0	0	0	12	6	0	56
PHF	0.000			0.413			0.000			0.643			0.538

Location ID: 7  
 North/South: Entrance to San Onofre Plant  
 East/West: Old Pacific Hwy

Date: 10/13/2016  
 City: San Onofre, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	0	0	0	0	0	2	5	0	7
7:15	0	0	0	0	2	0	0	0	1	0	6	0	9
7:30	0	0	0	0	0	0	0	0	1	2	2	0	5
7:45	0	0	0	0	0	0	0	0	0	0	5	0	5
8:00	0	0	0	0	4	0	0	0	0	1	4	0	9
8:15	0	0	0	0	4	0	0	0	1	1	7	0	13
8:30	0	0	0	0	2	0	0	0	1	1	3	0	7
8:45	0	0	0	0	7	0	0	0	1	0	4	0	12

Total Volume:	0	0	0	0	19	0	0	0	5	7	36	0	67
Approach %	0%	0%	0%	0%	100%	0%	0%	0%	100%	16%	84%	0%	

Peak Hr Begin:	8:00												
PHV	0	0	0	0	17	0	0	0	3	3	18	0	41
PHF	0.000			0.607			0.750			0.656			0.788

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	0	0	0	1	0	0	0	13	0	1	0	15
16:15	0	0	0	0	4	0	0	0	3	0	7	0	14
16:30	0	0	0	0	4	0	0	0	2	0	1	0	7
16:45	0	0	0	0	3	0	0	0	2	0	6	0	11
17:00	0	0	0	0	3	0	0	0	0	0	5	0	8
17:15	0	0	0	0	3	0	0	0	0	0	1	0	4
17:30	0	0	0	0	3	0	0	0	1	0	2	0	6
17:45	0	0	0	0	2	0	0	0	0	0	0	0	2

Total Volume:	0	0	0	0	23	0	0	0	21	0	23	0	67
Approach %	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	100%	0%	

Peak Hr Begin:	16:00												
PHV	0	0	0	0	12	0	0	0	20	0	15	0	47
PHF	0.000			0.750			0.385			0.536			0.783

## **APPENDIX B – TRIP GENERATION**

## Daily Trip Summary

Trips to/from SONGS		RT/Day
	Trucks North	88
	Trucks South	1

Trips to/from Port of LB		RT/Day
	Pickups North	7
	Trucks North	32
	Worker Commute North	34

### Assumptions:

- 1) Employee trips to/from SCE do not increase from the NOP Baseline...about 750 trips for baseline, up to approximately the same during peak construction.
- 2) Truck trips are the assumed worst-case yearly trips divided by 260 days/year, rounded up.
- 3) Truck trips occur during the normal workday hours...so worst case assumption could be as high as 25 percent of them occur during the peak am and pm, each (50 percent total in peak periods).
- 4) All vehicle/rail trips are provided as round trips, so multiply by two for total trips, this assumes empty truck returns when full waste truck leaves, or visa versa for fill or other import trips. Same for rail...although schedule would allow return trips to be on separate nights, and logic would make that seem advantageous as well.
- 5) There are 11 fill import round trips per day, which are unspecified other than coming from the north...but they could come from Ortega Highway based on earlier discussions.

# **APPENDIX C – LEVEL OF SERVICE CALCULATIONS**

# EXISTING



Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*

Intersection #1 Basilone Road & I-5 NB Ramps

\*\*\*\*\*

Average Delay (sec/veh): 3.2 Worst Case Level Of Service: B[ 10.8]

\*\*\*\*\*

Street Name:	Basilone Road						I-5 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Channel		
Lanes:	0	1	0	0	0	0	0	0	1	0	1	0

Volume Module:

Base Vol:	45	193	0	0	74	219	0	0	0	33	6	134
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	193	0	0	74	219	0	0	0	33	6	134
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	48	205	0	0	79	233	0	0	0	35	6	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	48	205	0	0	79	233	0	0	0	35	6	142

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	311	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	496	612	205
Potent Cap.:	1260	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	537	411	841
Move Cap.:	1260	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	521	395	841
Volume/Cap:	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	0.02	0.17

Level of Service Module:

2Way95thQ:	3.0	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	15.2
Control Del:	8.0	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	10.2
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	B
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	497	xxxx	xxxxxx
SharedQueue:	0.1	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	0.3	xxxx	xxxxxx
Shrd ConDel:	8.0	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	12.9	xxxx	xxxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	B	*	*
ApproachDel:	xxxxxxx			xxxxxxx			xxxxxxx			10.8		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the distance per lane in feet.

\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #1 Basilone Road & I-5 NB Ramps
\*\*\*\*\*

Average Delay (sec/veh): 2.6 Worst Case Level Of Service: B[ 11.5]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Basilone Road and I-5 NB Ramps with various approach and movement details.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows include values for Basilone Road and I-5 NB Ramps.

Critical Gap Module: Table with columns for Critical Gp, FollowUpTim. Rows include values for Basilone Road and I-5 NB Ramps.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows include values for Basilone Road and I-5 NB Ramps.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows include values for Basilone Road and I-5 NB Ramps.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*

Intersection #2 Basilone Road & I-5 SB Ramps

\*\*\*\*\*

Average Delay (sec/veh): 10.3 Worst Case Level Of Service: B[ 14.2]

\*\*\*\*\*

Street Name:	Basilone Road						I-5 SB Ramps													
Approach:	North Bound			South Bound			East Bound			West Bound										
Movement:	L	T	R	L	T	R	L	T	R	L	T	R								
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign										
Rights:	Include			Include			Ignore			Include										
Lanes:	0	0	1	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0

Volume Module:

Base Vol:	0	28	11	100	24	0	224	16	106	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	28	11	100	24	0	224	16	106	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.00	0.89	0.89	0.89
PHF Volume:	0	31	12	112	27	0	252	18	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	31	12	112	27	0	252	18	0	0	0	0

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	xxxx	xxxx	xxxxx	44	xxxx	xxxxx	289	296	27	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1578	xxxx	xxxxx	706	619	1054	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1578	xxxx	xxxxx	665	572	1054	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.07	xxxx	xxxx	0.38	0.03	0.00	xxxx	xxxx	xxxx

Level of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	5.7	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	657	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	2.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	14.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	B	*	*	*	*	*
ApproachDel:	xxxxxxx			xxxxxxx			14.2			xxxxxxx		
ApproachLOS:	*			*			B			*		

\*\*\*\*\*

Note: Queue reported is the distance per lane in feet.

\*\*\*\*\*

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #2 Basilone Road & I-5 SB Ramps
\*\*\*\*\*

Average Delay (sec/veh): 9.2 Worst Case Level Of Service: C [ 20.0]
\*\*\*\*\*

Street Name: Basilone Road I-5 SB Ramps
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Ignore Include
Lanes: 0 0 1 0 1 0 1 0 0 0 0 1 0 0 0 0 0

Volume Module:
Base Vol: 0 112 91 175 13 0 196 9 69 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 112 91 175 13 0 196 9 69 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00
PHF Adj: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.00 0.97 0.97 0.97
PHF Volume: 0 115 94 180 13 0 202 9 0 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 115 94 180 13 0 202 9 0 0 0 0

Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx 4.1 xxxx xxxxx 6.4 6.5 6.2 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 xxxxx xxxx xxxxx

Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx 209 xxxx xxxxx 535 582 13 xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx 1374 xxxx xxxxx 509 427 1073 xxxx xxxx xxxxx
Move Cap.: xxxx xxxx xxxxx 1374 xxxx xxxxx 452 365 1073 xxxx xxxx xxxxx
Volume/Cap: xxxx xxxx xxxx 0.13 xxxx xxxx 0.45 0.03 0.00 xxxx xxxx xxxx

Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx 11.3 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 8.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: \* \* \* A \* \* \* \* \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx 448 xxxx xxxxx xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx 0.5 xxxx xxxxx 2.5 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 8.0 xxxx xxxxx 20.0 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: \* \* \* A \* \* \* C \* \* \* \* \* \*
ApproachDel: xxxxxx xxxxxx 20.0 xxxxxx
ApproachLOS: \* \* \* C \*

\*\*\*\*\*
Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #3 El Camino Real & Old Pacific Highway
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.046
Loss Time (sec): 12 Average Delay (sec/veh): 3.8
Optimal Cycle: 24 Level Of Service: A
\*\*\*\*\*

Table with columns for Street Name (El Camino Real, Old Pacific Highway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Protected), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume adjustments including Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow rates (Sat/Lane), adjustment factors (Adjustment), lane counts (Lanes), and final saturation values (Final Sat.).

Capacity Analysis Module: Table showing capacity analysis metrics such as Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Uniform Del, IncrementDel, InitQueueDel, Delay Adj, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #3 El Camino Real & Old Pacific Highway
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.074
Loss Time (sec): 12 Average Delay (sec/veh): 3.6
Optimal Cycle: 24 Level Of Service: A
\*\*\*\*\*

Table with columns for Street Name (El Camino Real, Old Pacific Highway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Protected), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module: Table showing Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume for each approach and movement.

Saturation Flow Module: Table showing Sat/Lane, Adjust, Lanes, and Final Sat for each approach and movement.

Capacity Analysis Module: Table showing Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Uniform Del, IncremntDel, InitQueuDel, Delay Adj, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ for each approach and movement.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #4 Beach Club North & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[ 0.0]
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Beach Club North and Old Pacific Highway with various approach and movement details.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume. Rows include data for Beach Club North and Old Pacific Highway.

Critical Gap Module: Table with columns for Critical Gp and FollowUpTim. Rows include data for Beach Club North and Old Pacific Highway.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap. Rows include data for Beach Club North and Old Pacific Highway.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS. Rows include data for Beach Club North and Old Pacific Highway.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #4 Beach Club North & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[ 0.0]
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Beach Club North and Old Pacific Highway with various approach and movement details.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume. Rows include numerical values for each metric.

Critical Gap Module: Table with columns for Critical Gp and FollowUpTim, containing placeholder text (xxxxx).

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap, containing placeholder text (xxxxx).

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS, containing placeholder text (xxxxx).

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*



Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #5 Beach Club South & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: A[ 8.7]

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Beach Club South and Old Pacific Highway with various approach and movement details.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume for various movements.

Critical Gap Module table showing Critical Gp and FollowUpTim for different movements.

Capacity Module table showing Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap for different movements.

Level Of Service Module table showing 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #5 Beach Club South & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A[ 8.8]
\*\*\*\*\*

Street Name: Beach Club South Old Pacific Highway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Ignore Include Include
Lanes: 0 0 0 0 0 1 0 0 0 1 1 0 1 0 0 0 0 1 0 1

Volume Module:
Base Vol: 0 0 0 4 0 156 2 14 0 0 36 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 4 0 156 2 14 0 0 36 0
User Adj: 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.86 0.86 0.86 0.86 0.86 0.00 0.86 0.86 0.86 0.86 0.86 0.86
PHF Volume: 0 0 0 5 0 0 2 16 0 0 42 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 5 0 0 2 16 0 0 42 0

Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx 6.4 xxxx 6.2 4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx 3.5 xxxx 3.3 2.2 xxxx xxxxx xxxxx xxxx xxxxx

Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx 63 xxxx 42 42 xxxx xxxxx xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx 948 xxxx 1034 1580 xxxx xxxxx xxxx xxxx xxxxx
Move Cap.: xxxx xxxx xxxxx 947 xxxx 1034 1580 xxxx xxxxx xxxx xxxx xxxxx
Volume/Cap: xxxx xxxx xxxx 0.00 xxxx 0.00 0.00 xxxx xxxx xxxx xxxx xxxx

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.4 xxxx xxxxx 0.1 xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 8.8 xxxx xxxxx 7.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: \* \* \* A \* \* A \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \*
ApproachDel: xxxxxx 8.8 xxxxxx xxxxxx
ApproachLOS: \* A \* \*

\*\*\*\*\*
Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #6 SONGS North & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: A[ 7.3]
\*\*\*\*\*

Street Name: SONGS North Old Pacific Highway
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 1 0 0

Volume Module:
Base Vol: 0 0 0 0 0 0 0 0 8 31 1 4 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 0 0 0 0 0 8 31 1 4 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.69 0.69 0.69 0.69 0.69 0.69 0.69 0.69 0.69 0.69 0.69 0.69
PHF Volume: 0 0 0 0 0 0 0 0 12 45 1 6 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 0 0 0 0 0 12 45 1 6 0

Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 4.1 xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx 57 xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx 1561 xxxx xxxxx
Move Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx 1561 xxxx xxxxx
Volume/Cap: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 0.00 xxxx xxxx

Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx 0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 7.3 xxxx xxxxx
LOS by Move: \* \* \* \* \* \* \* \* \* \* A \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \*
ApproachDel: xxxxxx xxxxxx xxxxxx xxxxxx
ApproachLOS: \* \* \* \*

\*\*\*\*\*
Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #6 SONGS North & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: A[ 7.3]
\*\*\*\*\*

Table with columns for Street Name (SONGS North, Old Pacific Highway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0, 0, 0, 0, 0).

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume across various movement categories.

Critical Gap Module: Table with columns for Critical Gp and FollowUpTim, showing values like 4.1 and 2.2.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap., showing values like 33, 1591, and 0.00.

Level of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #7 SONGS South & Old Pacific Highway
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.012
Loss Time (sec): 8 Average Delay (sec/veh): 4.0
Optimal Cycle: 17 Level Of Service: A
\*\*\*\*\*

Table with columns for Street Name (SONGS South, Old Pacific Highway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Permitted), Rights (Include), and various traffic metrics like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume and adjustment factors for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow rates and adjustment factors for Sat/Lane, Adjustmnt, Lanes, and Final Sat.

Capacity Analysis Module: Table showing capacity analysis metrics like Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Uniform Del, IncremntDel, InitQueueDel, Delay Adj, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #7 SONGS South & Old Pacific Highway
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.026
Loss Time (sec): 8 Average Delay (sec/veh): 16.9
Optimal Cycle: 18 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name (SONGS South, Old Pacific Highway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Permitted), Rights (Include), and various traffic metrics like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume and adjustment factors for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow rates and adjustment factors for Sat/Lane, Adjustmnt, Lanes, and Final Sat.

Capacity Analysis Module: Table showing capacity analysis metrics like Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Uniform Del, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

# EXISTING PLUS PROJECT

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Basilone Road & I-5 NB Ramps
\*\*\*\*\*

Average Delay (sec/veh): 3.8 Worst Case Level Of Service: B[ 11.5]
\*\*\*\*\*

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Basilone Road and I-5 NB Ramps.

Volume Module: Table with columns: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Table with columns: Critical Gp, FollowUpTim.

Capacity Module: Table with columns: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Table with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*



Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Basilone Road & I-5 NB Ramps
\*\*\*\*\*

Average Delay (sec/veh): 3.3 Worst Case Level Of Service: B[ 12.5]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Basilone Road and I-5 NB Ramps.

Volume Module: Table with columns: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Table with columns: Critical Gp, FollowUpTim.

Capacity Module: Table with columns: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Table with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the distance per lane in feet.

\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Basilone Road & I-5 SB Ramps
\*\*\*\*\*

Average Delay (sec/veh): 9.8 Worst Case Level Of Service: C[ 16.4]
\*\*\*\*\*

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Basilone Road and I-5 SB Ramps.

Volume Module: Table with columns: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Table with columns: Critical Gp, FollowUpTim.

Capacity Module: Table with columns: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Table with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the distance per lane in feet.

\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Basilone Road & I-5 SB Ramps
\*\*\*\*\*

Average Delay (sec/veh): 9.4 Worst Case Level Of Service: C[ 24.0]
\*\*\*\*\*

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Basilone Road and I-5 SB Ramps.

Volume Module: Table with columns: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Table with columns: Critical Gp, FollowUpTim.

Capacity Module: Table with columns: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Table with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 El Camino Real & Old Pacific Highway
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.075
Loss Time (sec): 12 Average Delay (sec/veh): 2.5
Optimal Cycle: 24 Level Of Service: A
\*\*\*\*\*

Table with columns for Street Name (El Camino Real, Old Pacific Highway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Protected), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume adjustments including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing Sat/Lane, Adjustment, Lanes, and Final Sat. values for each approach and movement.

Capacity Analysis Module: Table showing Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Uniform Del, IncremntDel, InitQueuDel, Delay Adj, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

\*\*\*\*\*
Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 El Camino Real & Old Pacific Highway
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.103
Loss Time (sec): 12 Average Delay (sec/veh): 2.6
Optimal Cycle: 25 Level Of Service: A
\*\*\*\*\*

Table with columns for Street Name (El Camino Real, Old Pacific Highway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Split Phase, Protected), Rights (Include), and various timing parameters like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume calculations including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow parameters like Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table showing capacity analysis parameters like Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Uniform Del, IncrementDel, InitQueueDel, Delay Adj, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Beach Club North & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[ 0.0]
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Beach Club North and Old Pacific Highway with various approach and movement details.

Volume Module: Table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume across different approaches.

Critical Gap Module: Table with columns for Critical Gp, FollowUpTim, and other gap-related metrics.

Capacity Module: Table showing Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap. for different approaches.

Level Of Service Module: Table showing 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Beach Club North & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[ 0.0]
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Beach Club North and Old Pacific Highway with various approach and movement details.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume. Rows include various volume and adjustment factors.

Critical Gap Module: Table with columns for Critical Gp and FollowUpTim, showing gap and follow-up time values.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap, showing capacity and conflict volume values.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS, showing level of service and delay values.

Note: Queue reported is the distance per lane in feet.

\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Beach Club South & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: A[ 9.6]
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Beach Club South and Old Pacific Highway with various approach and movement details.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module: Table showing critical gap and follow-up time data for different approaches.

Capacity Module: Table showing capacity-related data such as Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table showing level of service data including 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the distance per lane in feet.
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Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #5 Beach Club South & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: A[ 9.7]

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Beach Club South and Old Pacific Highway with various approach and movement details.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume. Rows include detailed volume and adjustment data.

Critical Gap Module: Table with columns for Critical Gp and FollowUpTim. Rows include critical gap and follow-up time data.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap. Rows include capacity and volume data.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS. Rows include level of service and control delay data.

Note: Queue reported is the distance per lane in feet.

\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 SONGS North & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[ 7.6]
\*\*\*\*\*

Table with columns for Street Name (SONGS North, Old Pacific Highway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0, 0, 0, 0, 0).

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume across various movement categories.

Critical Gap Module: Table with columns for Critical Gp and FollowUpTim, showing values like 4.1 and 2.2.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap., showing values like 176, 1413, and 0.00.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS, showing values like 0.1, 7.6, and A.

Note: Queue reported is the distance per lane in feet.

\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 SONGS North & Old Pacific Highway
\*\*\*\*\*

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: A[ 7.6]
\*\*\*\*\*

Table with columns for Street Name (SONGS North, Old Pacific Highway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0, 0, 0, 0, 0).

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume across various movement categories.

Critical Gap Module: Table with columns for Critical Gp and FollowUpTim, showing values like 4.1 and 2.2.

Capacity Module: Table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap, showing values like 182, 1405, and 0.00.

Level Of Service Module: Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS, showing values like 0.2, 7.6, and A.

Note: Queue reported is the distance per lane in feet.
\*\*\*\*\*

## Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

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Intersection #7 SONGS South &amp; Old Pacific Highway

\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.111

Loss Time (sec): 8 Average Delay (sec/veh): 15.4

Optimal Cycle: 19 Level Of Service: B

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Street Name: SONGS South Old Pacific Highway

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

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Control: Permitted Permitted Permitted Permitted

Rights: Include Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Lanes: 1 0 0 0 0 0 0 0 2 0 1 1 0 1 0 0

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## Volume Module:

Base Vol: 3 0 0 0 0 0 0 0 18 3 0 17 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 3 0 0 0 0 0 0 0 18 3 0 17 0

Added Vol: 60 0 0 0 0 0 0 0 0 61 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 63 0 0 0 0 0 0 0 18 64 0 17 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79

PHF Volume: 80 0 0 0 0 0 0 0 23 81 0 22 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 80 0 0 0 0 0 0 0 23 81 0 22 0

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

FinalVolume: 80 0 0 0 0 0 0 0 23 81 0 22 0

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## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.81 1.00 1.00 1.00 1.00 1.00 1.00 0.95 0.85 1.00 1.00 1.00

Lanes: 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 2.00 1.00 1.00 1.00 0.00

Final Sat.: 1530 0 0 0 0 0 0 0 3610 1615 1900 1900 0

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## Capacity Analysis Module:

Vol/Sat: 0.05 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.05 0.00 0.01 0.00

Crit Moves: \*\*\*\*

Green/Cycle: 0.47 0.00 0.00 0.00 0.00 0.00 0.00 0.45 0.45 0.00 0.45 0.00

Volume/Cap: 0.11 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.11 0.00 0.03 0.00

Uniform Del: 14.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 15.2 15.9 0.0 15.2 0.0

IncrementDel: 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0

InitQueueDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Delay Adj: 1.00 0.00 0.00 0.00 0.00 0.00 0.00 1.00 1.00 0.00 1.00 0.00

Delay/Veh: 15.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 15.2 15.9 0.0 15.2 0.0

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 15.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 15.2 15.9 0.0 15.2 0.0

LOS by Move: B A A A A A A B B A B A

HCM2kAvgQ: 34 0 0 0 0 0 0 0 5 36 0 9 0

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Note: Queue reported is the distance per lane in feet.

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Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

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Intersection #7 SONGS South & Old Pacific Highway
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.126
Loss Time (sec): 8 Average Delay (sec/veh): 15.9
Optimal Cycle: 19 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name (SONGS South, Old Pacific Highway), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Permitted), Rights (Include), and various traffic metrics like Min. Green, Y+R, and Lanes.

Volume Module: Table showing traffic volume metrics such as Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing saturation flow metrics like Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table showing capacity analysis metrics such as Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Uniform Del, IncrementDel, InitQueueDel, Delay Adj, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the distance per lane in feet.
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