APPENDIX K – TRAFFIC IMPACT ANALYSIS, HUDSON RANCH MINERAL RECOVERY

LINSCOTT LAW & GREENSPAN
engineers

TRANSPORTATION IMPACT ANALYSIS

HUDSON RANCH MINERAL RECOVERY

County of Imperial, California
June 22, 2021

LLG Ref. 3-19-3152

Prepared by:
Jose R. Nunez Jr.
Transportation Planner II

Under the Supervision of:
John A. Boarman, P.E.
Principal

Linscott, Law & Greenspan, Engineers
4542 Ruffner Street
Suite 100
San Diego, CA 92111
858.300.8800 T
858.300.8810 F
www.llgengineers.com

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HUDSON RANCH MINERAL RECOVERY

County of Imperial, California
June 22, 2021

1.0 INTRODUCTION

The following traffic impact analysis has been prepared to determine the potential impacts to the local circulation system due to the addition of truck and employee traffic related to construction and post construction Day-to-Day Operations of the proposed Hudson Ranch Mineral Recovery project in the County of Imperial, California. This report includes the following sections:

- Project Description
- Existing Conditions
- Analysis Approach and Methodology
- Significance Criteria
- Analysis of Existing Conditions
- Trip Generation / Distribution / Assignment
- During Construction Analysis
- Day-to-Day Operations Analysis
- Project Access Discussion
- Vehicle Miles Travelled (VMT) Assessment
- Conclusions and Recommendations

2.0 PROJECT DESCRIPTION

Energy-Source Minerals LLC (ES Minerals), is proposing to construct and operate a commercial lithium hydroxide production plant in the Salton Sea geothermal field known as Project ATLiS. The facility will process geothermal brine from the neighboring Hudson Ranch Power I Geothermal Plant (HRl) to produce lithium hydroxide, and zinc and manganese products which will be sold commercially.

The proposed Project consists of the following:

- Construction and operation of a facility to extract lithium, manganese, zinc and other commercially viable substances from geothermal brine and process the extracted substances to produce commercial quantities of lithium, and to the extent possible, manganese and zinc products and other products;
- Construction and operation of brine supply and return pipelines and other associated interconnection facilities with the HRl power plant;
- Construction of a primary access road from McDonald Road (approximately 500 ft. west of the HR 1 entrance) and an emergency access entrance only from Davis Road;
- Paving of McDonald Road from Highway 111 to English Road;
- Construction of a "laydown yard" that will also support temporary offices during construction as well as serving as a truck management yard during operations, and
- Construction of offices, repair facilities, shipping and receiving facilities and other infrastructure components.

The ATLiS plant & facilities will be located about 3 miles west-southwest of the community of Niland near the southwest corner of the existing HRl power plant site. The property is zoned for manufacturing (medium industrial) (M2G-PE), and is located entirely within the existing Salton Sea Geothermal Overlay Zone (see Figure 3). The proposed ATLiS plant site and associated plant facilities would be built within an existing approximately 37-acre project area, with the addition of the 15 acres located at the southeast corner of Davis Road and McDonald Road, and approximately 40 acres on the south of the current HR 1 plant site.

Access is via McDonald Road.

Figure 2–1 depicts the project vicinity with ***Figure 2–2*** depicts a more details project area map and ***Figure 2–3*** shows the project's site plan.

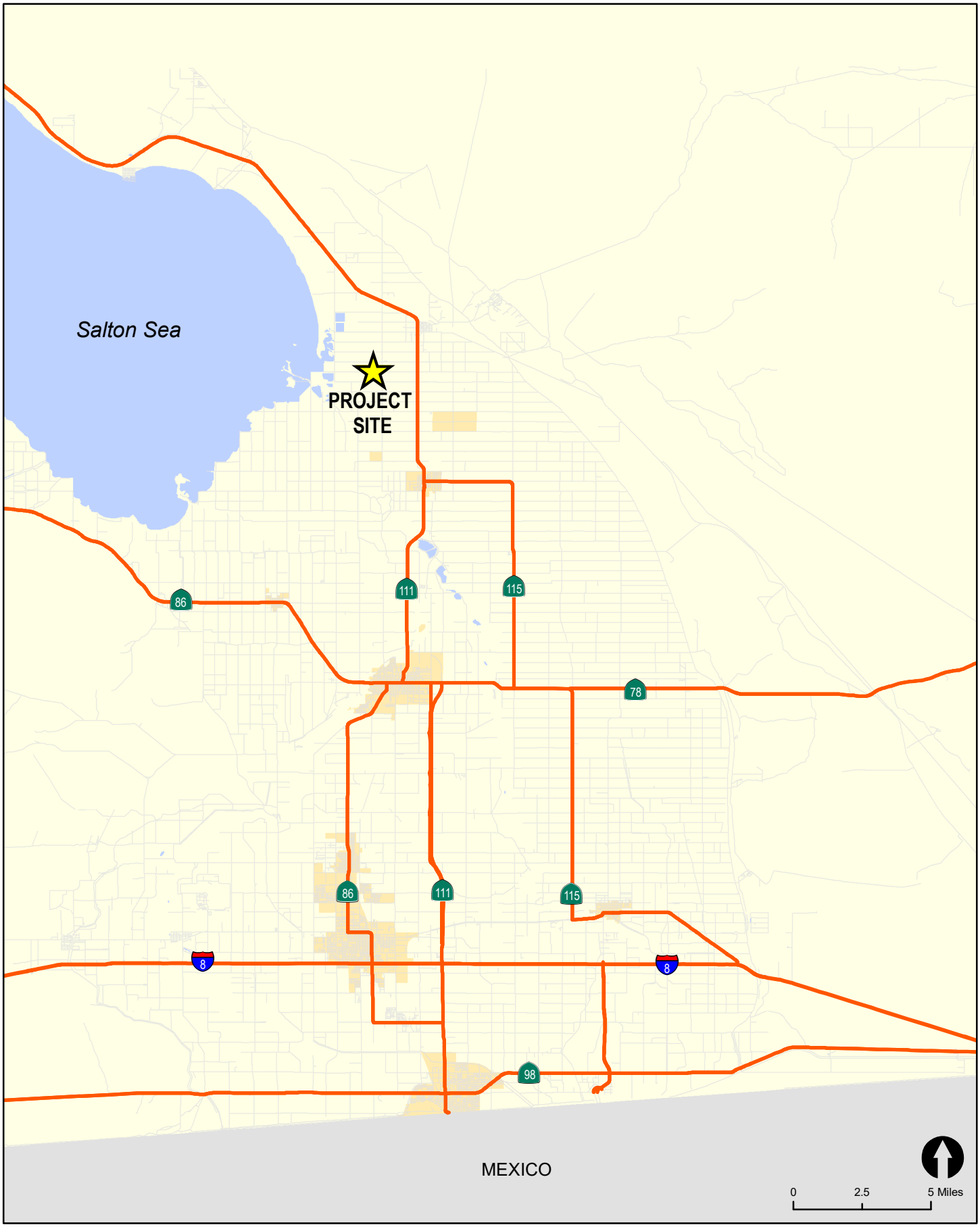

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Figure 2-1

Vicinity Map

Hudson Ranch Mineral Recovery

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Figure 2-2

Project Area Map

HUDSON RANCH MINERAL RECOVERY

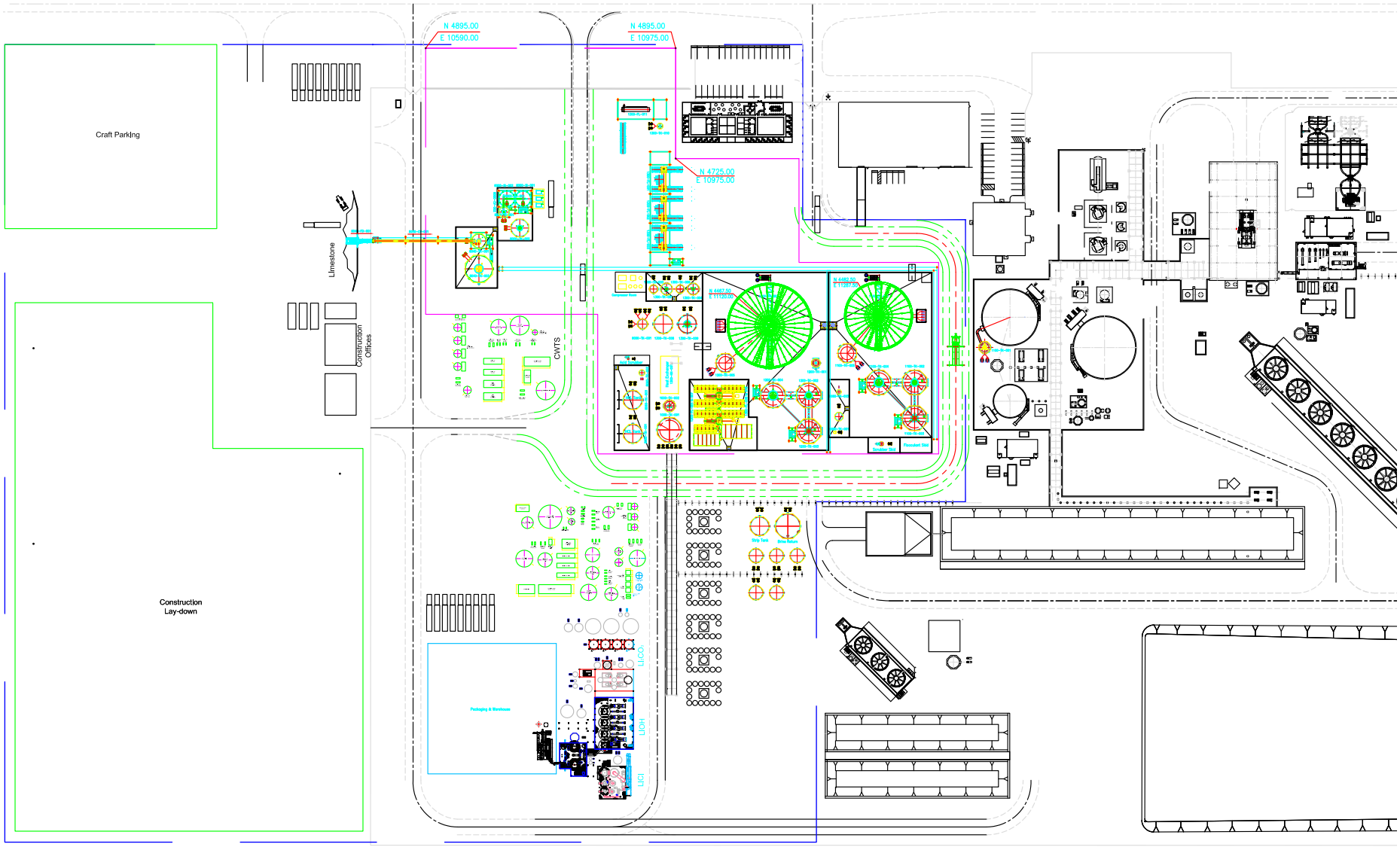

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Figure 2-3

Site Plan

HUDSON RANCH MINERAL RECOVERY

3.0 EXISTING CONDITIONS

3.1 Existing Street Network

Following is a brief description of the street segments within the project area. ***Figure 3–1*** illustrates the existing conditions, including the lane geometry, for the key intersections in the study area.

State Route 111 (SR-111) is classified as a State Highway/Expressway on the Imperial County General Plan Circulation Element. SR-111 is a north-south highway connecting the three largest cities in Imperial County and runs from I-10 in Riverside County to the international border. Outside the towns of Calipatria and Niland, SR-111 is constructed as a two-lane undivided north-south roadway, providing one lane of travel per direction and the posted speed limit is generally 65 mph.

Hazard Road is an east-west route through Imperial County. Hazard Road is currently an unpaved two-lane roadway within the Project vicinity.

Sinclair Road is an east-west route through Imperial County. Sinclair Road is currently a paved two-lane undivided roadway within the Project vicinity.

English Road is a north-south route through Imperial County. English Road is currently an unpaved two-lane roadway north of Sinclair Road and constructed as a two-lane paved roadway south of Sinclair Road.

McDonald Road is an east-west route though Imperial County. Currently, McDonald Road is an unpaved two-lane roadway west of SR-111 of Sinclair Road and constructed as a two-lane paved roadway east of SR-111. It is proposed to improve the intersection at SR-111 and pave McDonald Road between SR-111 and the site (west of SR-111) prior to construction of the project and thus the "Operations" analysis reflects these improvements.

3.2 Existing Traffic Volumes

Daily traffic (ADT) volumes on study area segments along SR-111 were obtained from the Caltrans Traffic Census Program for Year 2017, the latest available as of the date of this report. AM and PM peak hour intersection turning movement volume counts at study area intersections were commissioned by LLG Engineers in September 2019. ***Table 3–1*** summarizes the segment ADT volumes on all the study area segments. It should be noted that all segment ADT volumes were applied a growth factor of 2% per year to represent Year 2021 conditions. In addition, it should be noted that for the unpaved segments along McDonald Road and Sinclair Road, the ADTs were estimated based on a relationship that the PM peak hour volumes comprise approximately 10% of the ADT.

Figure 3–2 depicts the existing traffic volumes on both an ADT and peak hour basis. ***Appendix A*** contains the manual intersection count sheets and latest Caltrans traffic volumes.

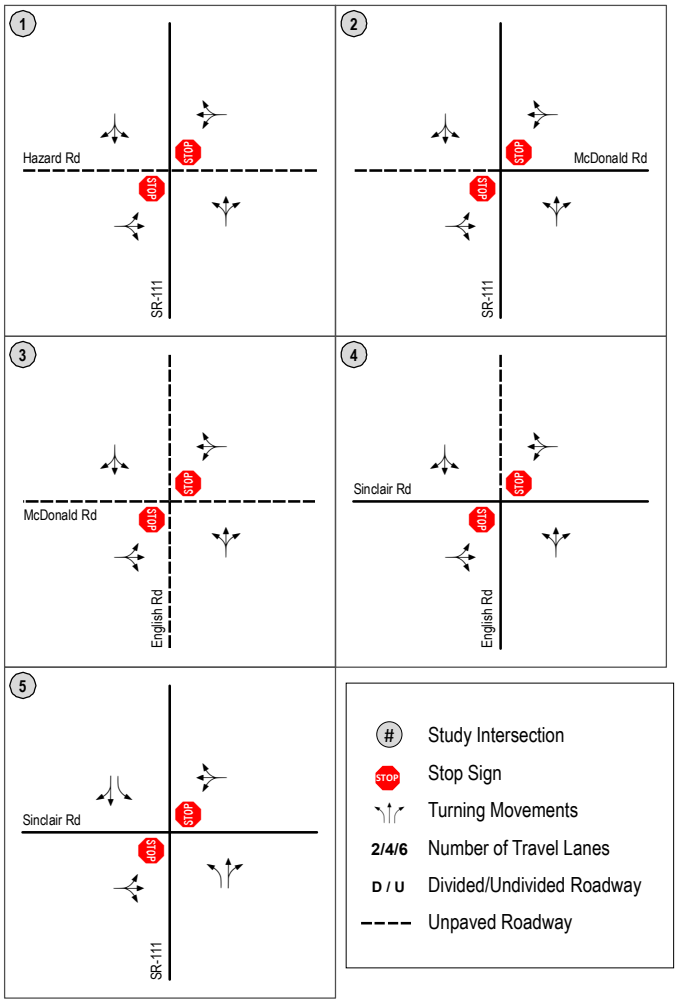
TABLE 3–1
EXISTING TRAFFIC VOLUMES

Street Segment	Source	ADT[a]
SR-111		
North of Hazard Road	Caltrans	3,800
Hazard Road to McDonald Road	Caltrans	3,800
McDonald Road to Sinclair Road	Caltrans	3,800
South of Sinclair Road	Caltrans	6,400
McDonald Road		
Project Site to English Road	LLG	270E
English Road to SR-111	LLG	220E
Sinclair Road		
English Road to SR-111	LLG	320E

Footnotes:

a. Average Daily Traffic Volume.
b. A 2% growth factor per year (8%) was applied to the 2017 Caltrans segment ADTs to reflect 2021 conditions.

E – Estimated volumes since road is unpaved.



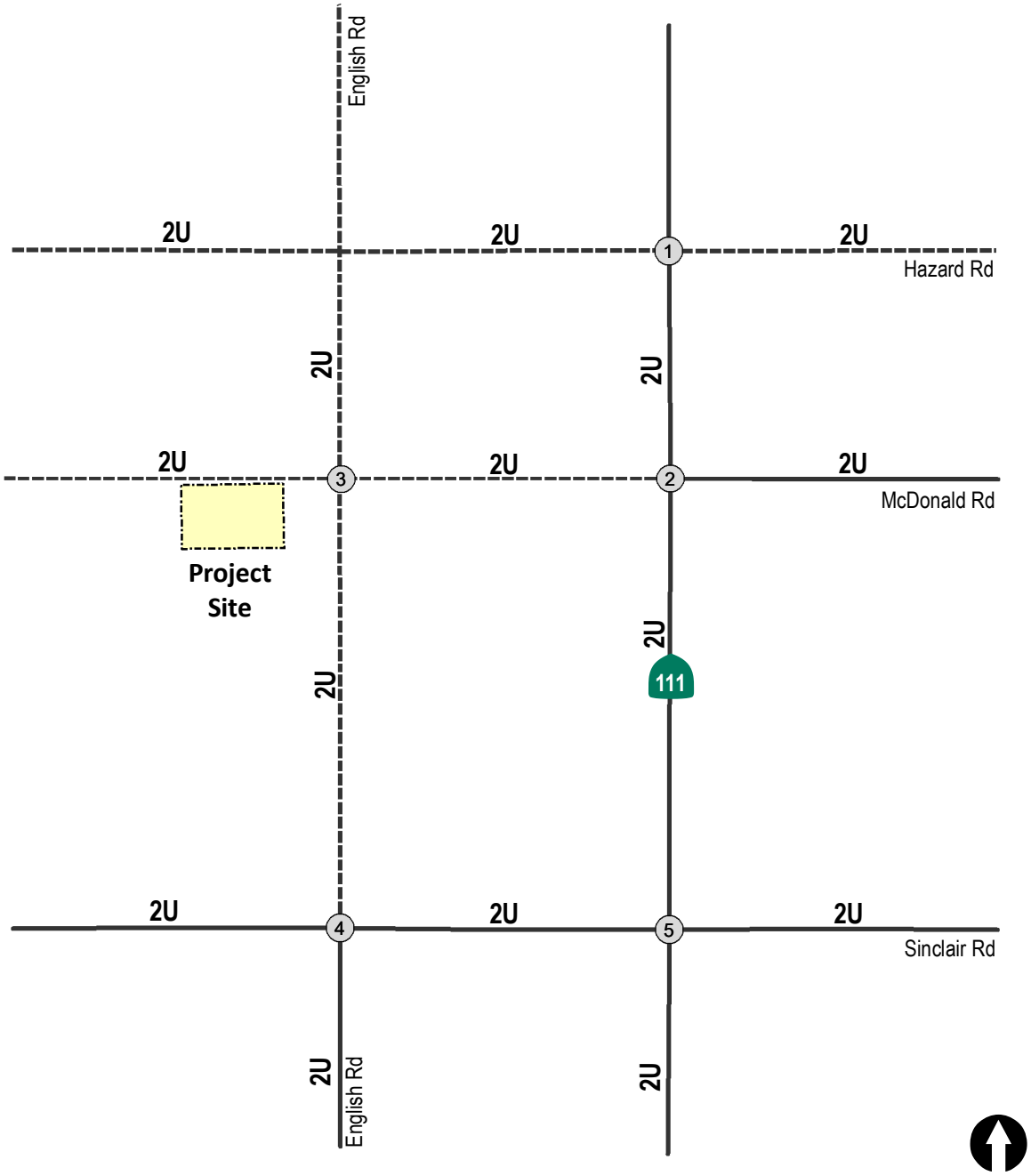


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Figure 3-1

Existing Conditions Diagram

Hudson Ranch Mineral Recovery

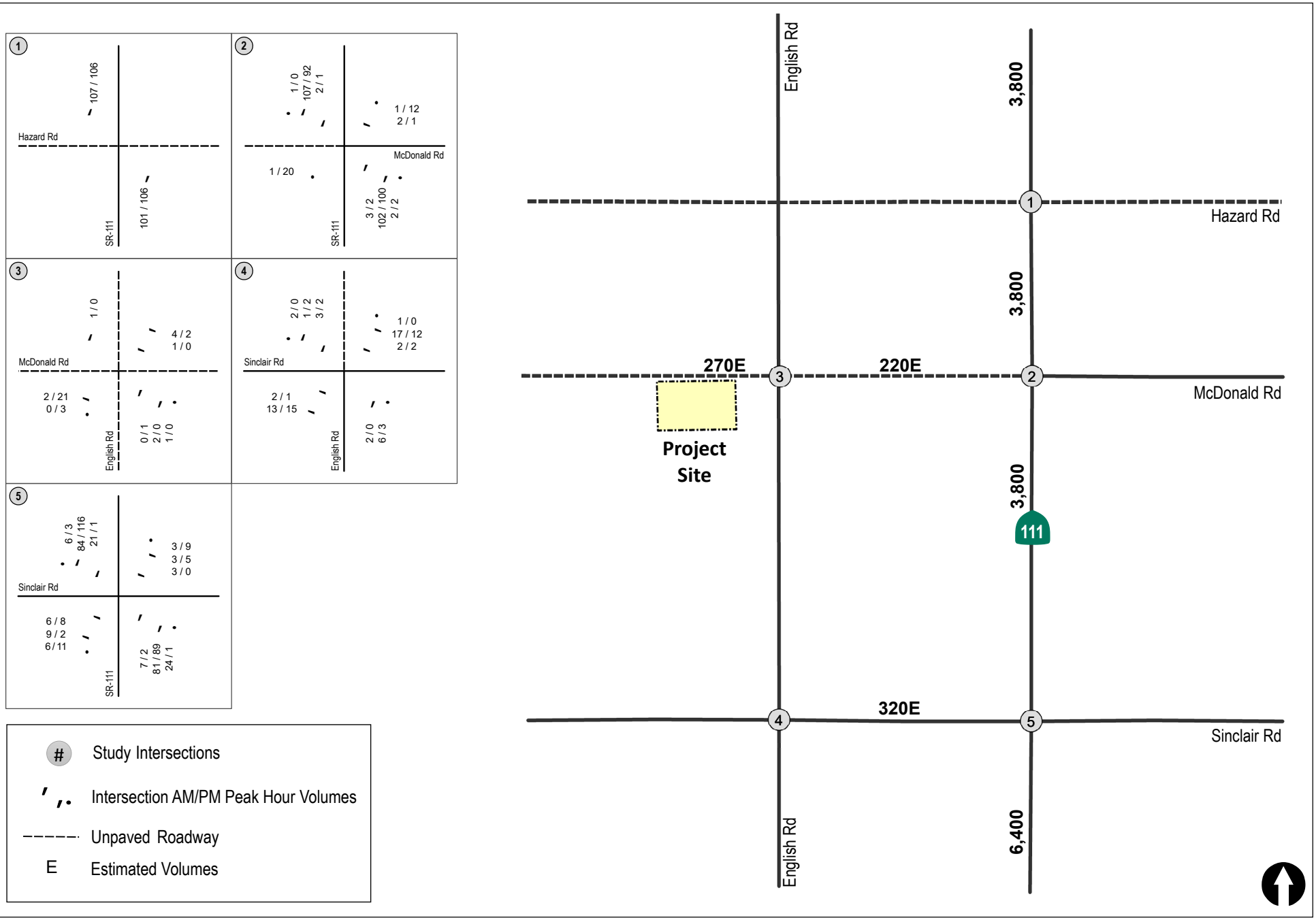

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Figure 3-2

Existing Traffic Volumes

Hudson Ranch Mineral Recovery

4.0 ANALYSIS APPROACH AND METHODOLOGY

4.1 Project Study Area

The following intersections and segments were analyzed in this study and were chosen since they will carry the majority of project truck traffic.

Intersections:

1. SR 111 / Hazard Road
2. SR 111 / McDonald Road
3. SR 111 / Sinclair Road
4. English Road / McDonald Road
5. English Road / Sinclair Road

Segments:

SR 111:

- North of Hazard Road
- Hazard Road to McDonald Road
- McDonald Road to Sinclair Road
- South of Sinclair Road

McDonald Road:

- Project Site to English Road (currently unpaved)
- English Road to SR 111 (currently unpaved)

Sinclair Road:

- English Road to SR 111

Analysis Scenarios

The following scenarios are analyzed in this report:

- Existing
- Existing + Construction traffic;
- Existing + Operations traffic;
- Existing + Operations + Cumulative Growth traffic.

4.2 Analysis Methodology

The operations of the project area intersections and segments are characterized using the concept of "Level of Service" (LOS). LOS is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A

through F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

Table 4–1 summarizes the description for each level of service. ***Table 4–2*** depicts the criteria, which are based on the average control delay for any particular minor movement (unsignalized intersections).

TABLE 4–1
INTERSECTION LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Description
A	Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	Generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.
F	Considered to be unacceptable to most drivers. This condition often occurs with over saturation i.e. when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

TABLE 4–2
UNSIGNALIZED INTERSECTION LOS & DELAY RANGES

LOS	Delay (seconds/vehicle)
A	≤ 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	≥ 50.1

Source: 2000 Highway Capacity Manual

4.3 Street Segments

Street segments were analyzed based upon the comparison of ADT to the County of Imperial *Roadway Classifications, Levels of Service (LOS) and Average Daily Traffic (ADT)* table (see ***Table 4–3*** below). *Table 4–3* provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. Segment analysis is a comparison of ADT volumes and an approximate daily capacity on the subject roadway.

The County does not have a Two-Lane Expressway capacity. Therefore, for segments along SR-111, 40% capacity of a 6-lane Prime Arterial was utilized to calculate level of service.

TABLE 4–3
IMPERIAL COUNTY STANDARD STREET CLASSIFICATION AVERAGE DAILY VEHICLE TRIPS

Road		Level of Service W/ADT*				
Class	**X-Section**	**A**	**B**	**C**	**D**	**E**
Expressway	128 / 210	30,000	42,000	60,000	70,000	80,000
Prime Arterial	106 / 136	22,200	37,000	44,600	50,000	57,000
Minor Arterial	82 / 102	14,800	24,700	29,600	33,400	37,000
Major Collector (Collector)	64 / 84	13,700	22,800	27,400	30,800	34,200
Minor Collector (Local Collector)	40 / 70	1,900	4,100	7,100	10,900	16,200
Residential Street	40 / 60	*	*	< 1,500	*	*
Residential Cul-de-Sac / Loop Street	40/60	*	*	< 1,500	*	*
Industrial Collector	76 / 96	5,000	10,000	14,000	17,000	20,000
Industrial Local Street	44 / 64	2,500	5,000	7,000	8,500	10,000

* Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors. It should be noted that for segments along SR-111, the capacities of a 6-lane expressway were reduced by one-third and utilized to calculate level of service.

5.0 SIGNIFICANCE CRITERIA

The County of Imperial does not have published significance criteria. However, the County General Plan does state that the level of service (LOS) goal for intersections and roadway segments is to operate at LOS C or better. Therefore, if an intersection or segment degrades from LOS C or better to LOS D or worse with the addition of project traffic, the impact is considered significant. If the location operates at LOS D or worse with and without project traffic, the impact is considered significant if the project causes the intersection delta to increase by more than two (2) seconds, or the V/C ratio to increase by more than 0.02. These amounts are consistent with those used in the City of El Centro and the County of Imperial in numerous traffic studies.

TABLE 5–1
TRAFFIC IMPACT SIGNIFICANT THRESHOLDS

Level of Service with Project [a]	Allowable Increase Due to Project Impacts [b]					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
D, E & F (*or ramp meter delays above 15 minutes*)	0.01	1	0.02	1	2	2[c]

Footnotes:

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

b. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigations (within the Traffic Impact Study [TIS] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note a above), or if the project adds a significant amount of peak hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.

c. The allowable increase in delay at a ramp meter with more than 15 minutes of delay and freeway LOS E is 2 minutes and at LOS F is 1 minute.

General Notes:

1. V/C = Volume to Capacity Ratio
2. Speed = Arterial speed measured in miles per hour
3. Delay = Average stopped delay per vehicle measured in seconds for intersections, or minutes for ramp meters.
4. LOS = Level of Service

6.0 ANALYSIS OF EXISTING CONDITIONS

6.1 Peak Hour Intersection Levels of Service

The project study area is located in a rural setting and all intersections are unsignalized. As seen in ***Table 6–1,*** all study area intersections are calculated to currently operate at LOS B or better during both the AM and PM peak hours.

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay [a]	LOS [b]
1. SR-111 / Hazard Road	TWSC [c]	AM	0.0	A
		PM	0.0	A
2. SR-111 / McDonald Road	TWSC	AM	8.9	A
		PM	8.9	A
3. English Road / McDonald Road	TWSC	AM	9.0	A
		PM	0.0	A
4. English Road / Sinclair Road	TWSC	AM	0.7	A
		PM	1.0	A
5. SR-111 / Sinclair Road	TWSC	AM	10.2	B
		PM	9.6	A

Footnotes:
a. Delay per vehicle in seconds
b. LOS - Level of service
c. TWSC - Minor street STOP Controlled intersection. Minor street left-turn delay is reported.
TWSC - Two-Way STOP Controlled intersection.

UNSIGNALIZED

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

6.2 Daily Street Segment Levels of Service

As described above, the project study area is located in a rural setting and all segments are two-lane facilities. As seen in ***Table 6–2***, all study area segments are calculated to currently operate at LOS A on a daily basis.

TABLE 6–2
EXISTING STREET SEGMENT OPERATIONS

Street Segment	Functional Roadway Classification [a]	Capacity (LOS E) [b]	ADT [c]	LOS [d]	V/C [e]
SR-111					
North of Hazard Road	2-Ln Expressway	22,700	3,800	A	0.167
Hazard Road to McDonald Road	2-Ln Expressway	22,700	3,800	A	0.167
McDonald Road to Sinclair Road	2-Ln Expressway	22,700	3,800	A	0.167
South of Sinclair Road	2-Ln Expressway	22,700	6,400	A	0.282
McDonald Road					
Project Site to English Road	2-Ln Roadway	1,500	270	A	0.180
English Road to SR-111	2-Ln Roadway	1,500	220	A	0.147
Sinclair Road					
English Road to SR-111	2-Ln Roadway	1,500	320	A	0.213

Footnotes:

a. County of Imperial roadway classification
b. Roadway capacity corresponding to Level of Service E from Imperial County Standard Street Classification, Average Daily Vehicle Trips table.
c. Average Daily Traffic volumes
d. Level of Service
e. Volume / Capacity ratio.

7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

7.1 Construction Trip Generation

Project traffic generation is based on site-specific trip generating characteristics provided by the applicant. The Project consists of two parts: During *Construction*, and Day-to-Day *Operations*.

In calculating daily trip generation for the construction portion of the project the total construction staff and truck activity was obtained from project description. Peak hour traffic volumes assume that half of workers will arrive/depart in the AM/PM peak hours. However, a meaningful number of worker trips may arrive/depart outside the peak hours due to earlier start times. While detailed construction schedules have yet to be established, these assumptions are based on experience with similar projects. To be conservative, it was assumed that no carpooling between workers was provided. These conservative assumptions are intended to represent a reasonably worst-case scenario for AM/PM peak hour traffic. In addition, 10 trips per day (20 ADT) was added to account for miscellaneous trips such as deliveries).

Based on these assumptions, the employee and miscellaneous portion of the construction phase would generate a maximum of 300 ADT, with 74 trips during the AM peak hour and 72 trips during the PM peak hour. Fifteen (15) trucks are estimated during construction. A passenger car equivalence factor (PCE) of 2.5 is applied to these trips for the purposes of the analysis to account for the reduced performance characteristics (stopping, starting, maneuvering, etc.) of heavy vehicles in the traffic flow. The trucks will generate an additional 75.

Table 7–1 is a summary of the peak Project construction traffic. As shown on *Table 7–1* the Construction portion of the Project would generate a total of 375 ADT with 84 total AM peak hour trips and 82 total PM peak hour trips.

7.2 Day-to-Day Operations Trip Generation

Trip generation for the Day-to-Day Operations portion of the project was also obtained from project description. Peak hour traffic volumes assume that half of workers would arrive/depart in the AM/PM peak hours. However, a meaningful number of worker trips may arrive/depart outside the peak hours due to earlier start times. While detailed schedules have yet to be established, these assumptions are based on experience with similar projects. To be conservative, it was assumed that no carpooling between workers was provided. These conservative assumptions are intended to represent a reasonably worst-case scenario for AM/PM peak hour traffic. In addition, 10 trips per day (20 ADT) was added to account for miscellaneous trips such as deliveries) during the Day-to-Day Operations portion of the project.

Based on these assumptions, the employee and miscellaneous portion of the operations would generate a maximum of 104 ADT, with 32 trips during the AM peak hour and 34 trips during the PM peak hour. Fifteen (15) trucks are estimated to generated during the Day-to-Day Operations. A passenger car equivalence factor (PCE) of 2.5 is applied to these trips for the purposes of the

analysis to account for the reduced performance characteristics (stopping, starting, maneuvering, etc.) of heavy vehicles in the traffic flow. The trucks will generate an additional 75.

Table 7–2 is a summary of the peak Day-to-Day Operations portion of the project. As shown on *Table 7–2*, a total of 179 ADT with 47 total AM peak hour trips and 55 total PM peak hour trips.

TABLE 7–1
CONSTRUCTION TRIP GENERATION

Trip Type	Daily Total (ADT) [a]	AM Peak Hour			PM Peak Hour		
		In	Out	*Total*	In	Out	*Total*
Employees (140)[b]	280	70	0	70	0	70	70
Trucks (w/ PCE)[c]	75	5	5	10	5	5	10
Misc. Trips	20	2	2	4	1	1	2
Total	***375***	***77***	***7***	***84***	***6***	***76***	***82***

Footnotes:
a. ADT = Average Daily Traffic (24-hour total bi-directional traffic on a roadway segment).
b. Assumes half of total employees begin or leave shift during peak hour.
c. PCE = Passenger Car Equivalent (2.5), used to reflect the additional impacts of heavy vehicles in the technical analyses (15 Inbound Trucks * 2 (In + Out) * 2.5 (PCE) = 75 total trips.

Table 7–2 shows the Day-to-Day Operations traffic after construction is complete. As compared to *Table 7–1*, the Operations traffic is substantially less than the construction traffic, which validates the assertion that analysis of the construction impacts would represent the worst-case potential traffic impacts of the project.

TABLE 7–2
DAY-TO-DAY OPERATIONS TRIP GENERATION

Trip Type	Daily Total (ADT) [a]	AM Peak Hour			PM Peak Hour		
		In	Out	*Total*	In	Out	*Total*
Employees (42)[b]	84	30	0	30	0	30	30
Trucks (w/ PCE)[c]	75	10	5	15	13	8	21
Misc. Trips/Deliveries	20	1	1	2	2	2	4
Total	***179***	***41***	***6***	***47***	***15***	***40***	***55***

Footnotes:

a. ADT = Average Daily Traffic (24-hour total bi-directional traffic on a roadway segment).
b. Assumes half of total employees begin or leave shift during peak hour.
c. PCE = Passenger Car Equivalent (2.5), used to reflect the additional impacts of heavy vehicles in the technical analyses (15 Inbound Trucks * 2 (In + Out) * 2.5 (PCE) = 75 total trips.

7.3 Trip Distribution

It should be noted that separate distributions were derived for the Construction and Operations phases of the project. It is also noted that during the construction phase of the project, McDonald Road will not be a viable option for construction traffic since it will be unpaved. Construction traffic from the south will utilize the paved Sinclair Road as opposed to the unpaved McDonald Road as east / west access to reach the site during construction. It should be noted that for the Operations distribution, McDonald Road will be paved and would serve as the primary road utilized by project traffic.

7.3.1 *During Construction – Employee and Truck Construction Traffic Distribution*

It is initially anticipated that the majority of construction workers and trucks will be from the proximate local population centers of Calipatria, Brawley, and El Centro. The majority of employee traffic (85%) is anticipated to be to/from south of the site, from the local labor pool utilizing SR-111 as the primary route to work. This traffic will use Sinclair Road as the east/west road to reach the construction site/

Figure 7–1a shows the distribution of construction employee passenger car as well as any miscellaneous trips that would occur during the day. ***Figure 7–1b*** shows the distribution of construction truck traffic.

7.3.2 *Day-to-Day Operations – Employee and Truck Traffic Distribution*

It is initially anticipated that the majority of construction workers will be from the proximate local population centers of Calipatria, Brawley, and El Centro. The majority of employee traffic (85%) is anticipated to be to/from south of the site, from the local labor pool utilizing SR-111 as the primary route to work. It should be detailed that the majority of operations traffic are utilizing the intersection of SR-111 and McDonald Road as the primary access from SR-111.

Figure 7–2a shows the distribution of employee passenger car operations traffic as well as any miscellaneous trips that would occur during the day. ***Figure 7–1b*** shows the distribution of construction truck traffic.

7.4 Trip Assignment

Separate trip assignments were prepared for each trip type and project phase based on the distribution percentages detailed above.

The Project construction employee vehicle traffic assignment is shown on ***Figure 7–3. Figure 7–4*** shows the Project construction truck traffic assignment. ***Figure 7–5*** depicts the total Project construction traffic assignment. The Project operations employee vehicle traffic assignment is shown on ***Figure 7–6. Figure 7–7*** shows the Project operations truck traffic assignment. ***Figure 7–8*** depicts the total Project operations traffic assignment.

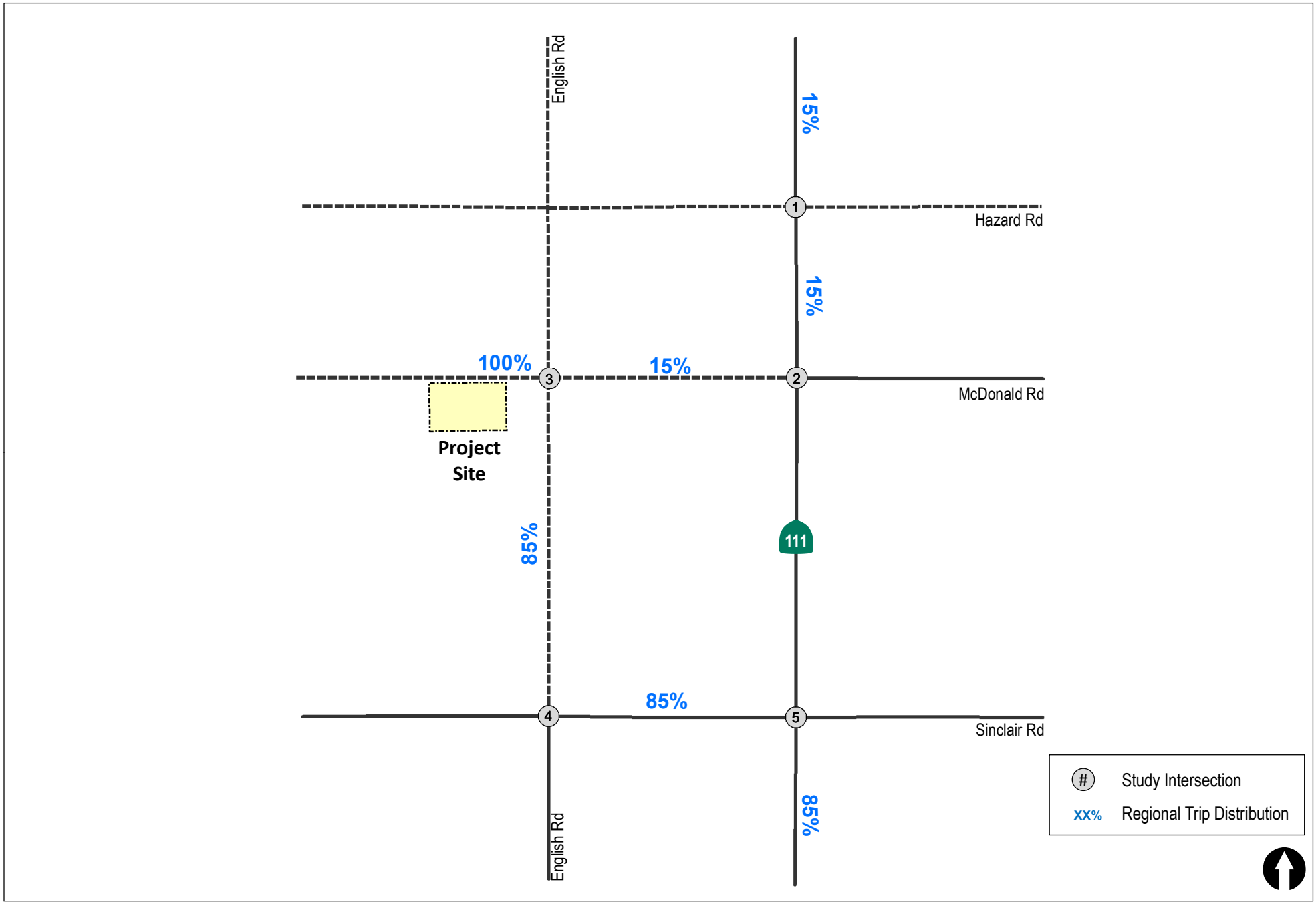

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Figure 7-1a

Construction Trip Distribution

(Employee & Miscellaneous Trips)

Hudson Ranch Mineral Recovery

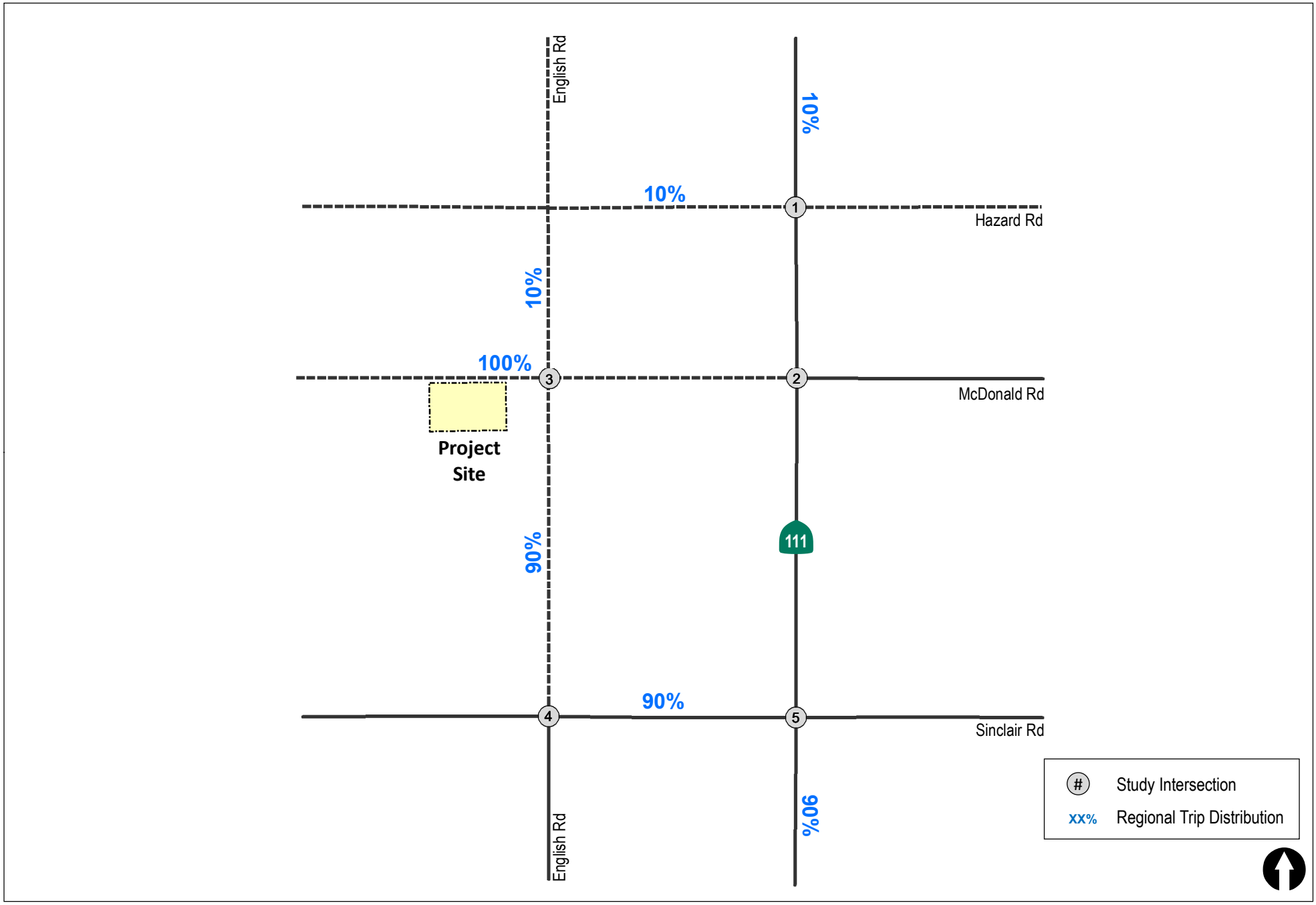

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Figure 7-1b

Construction Trip Distribution - Truck Trips

Hudson Ranch Mineral Recovery

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Figure 7-2a

Operations Trip Distribution
(Employee & Miscellaneous Trips)

Hudson Ranch Mineral Recovery

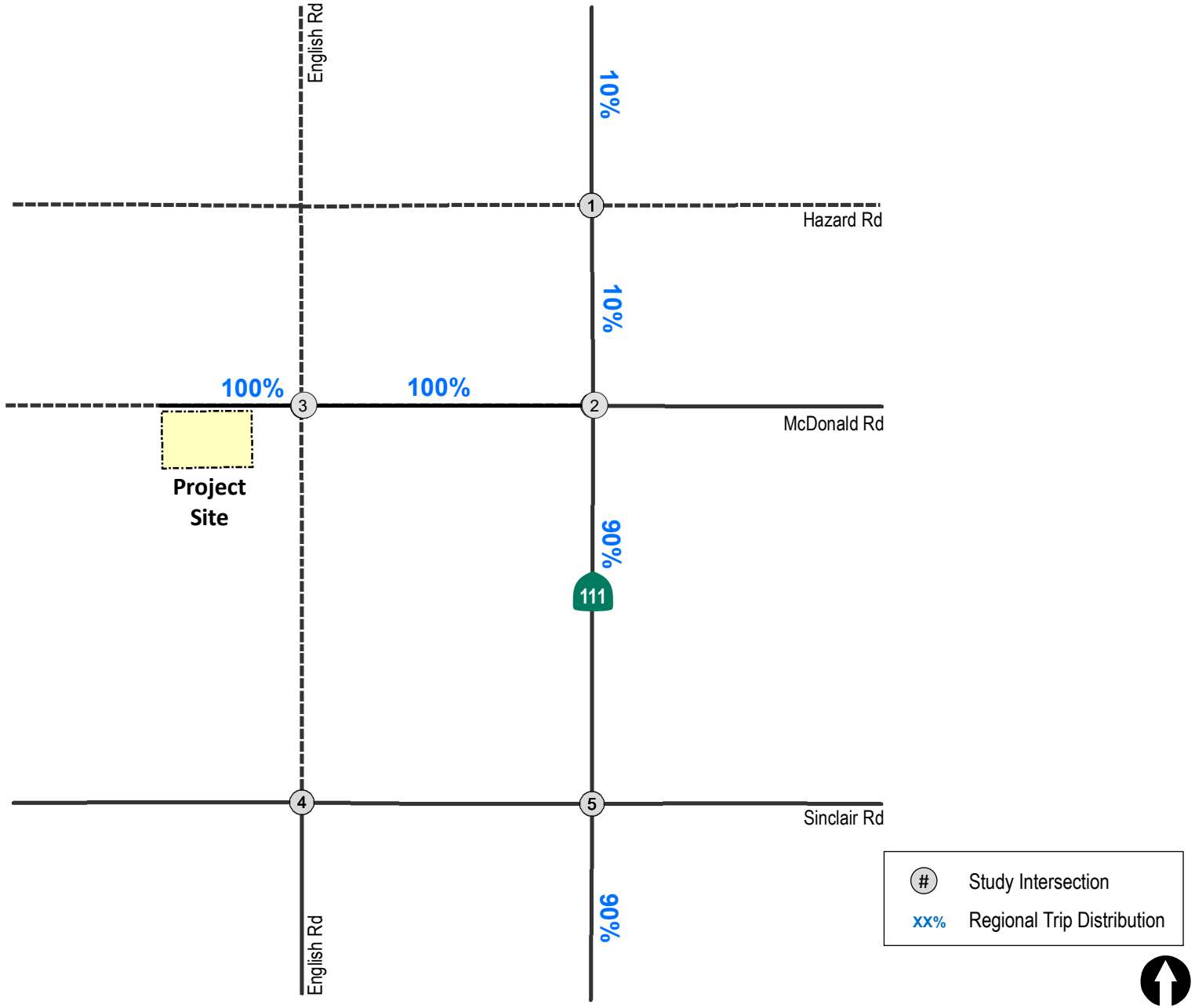

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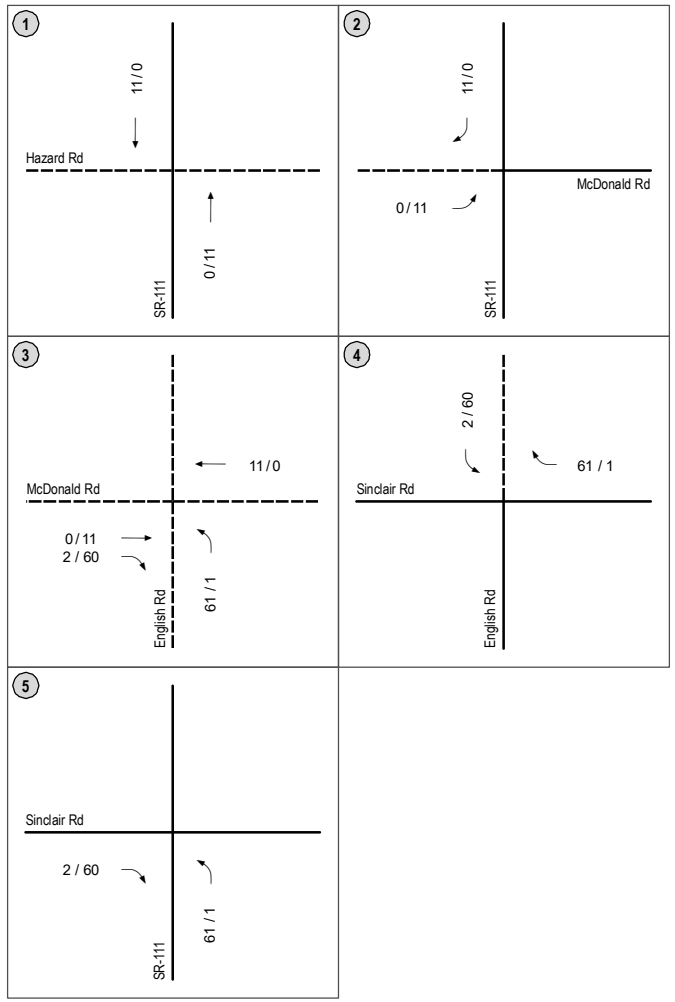
Figure 7-2b

Operations Trip Distribution - Truck Trips

Hudson Ranch Mineral Recovery



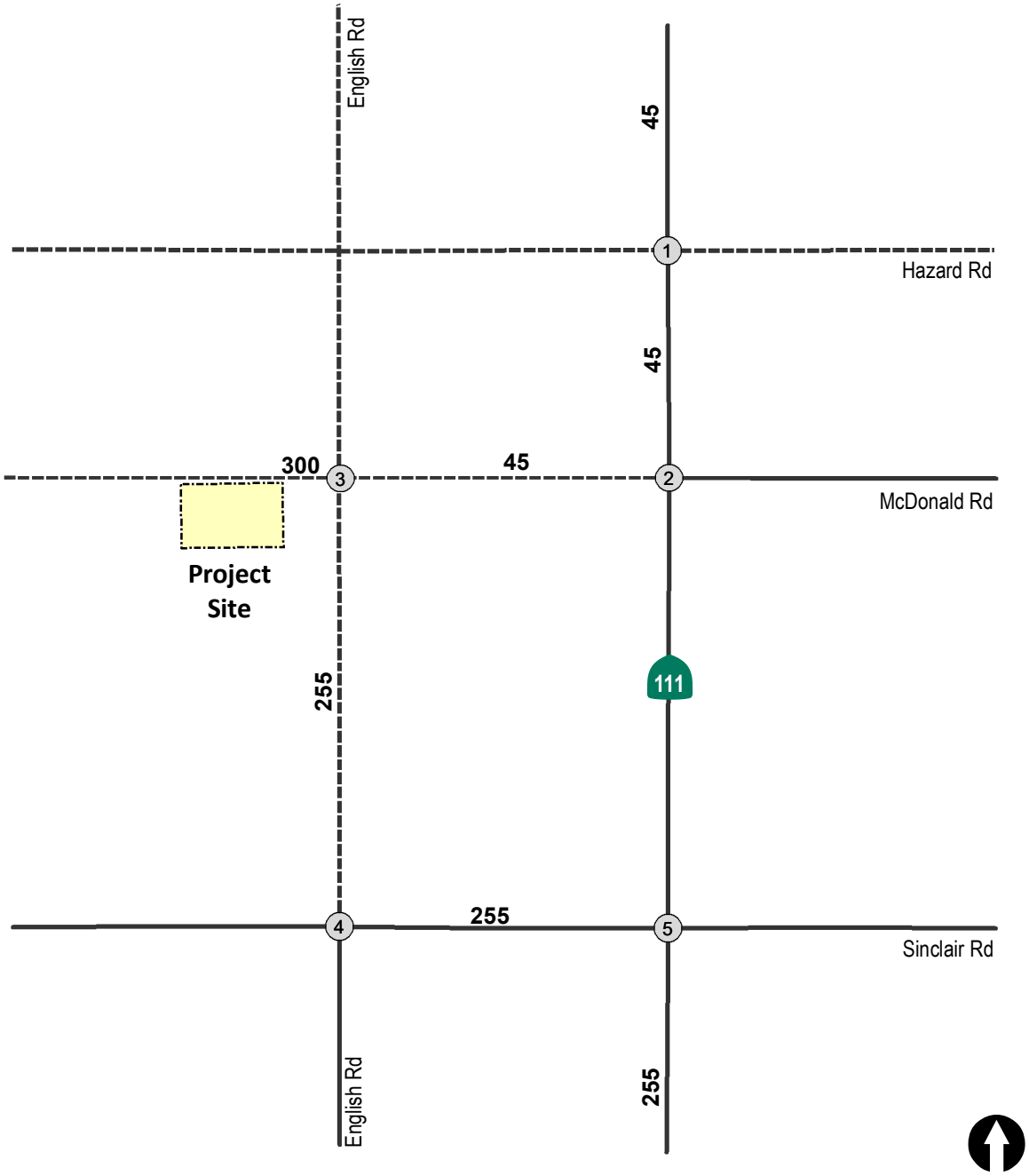


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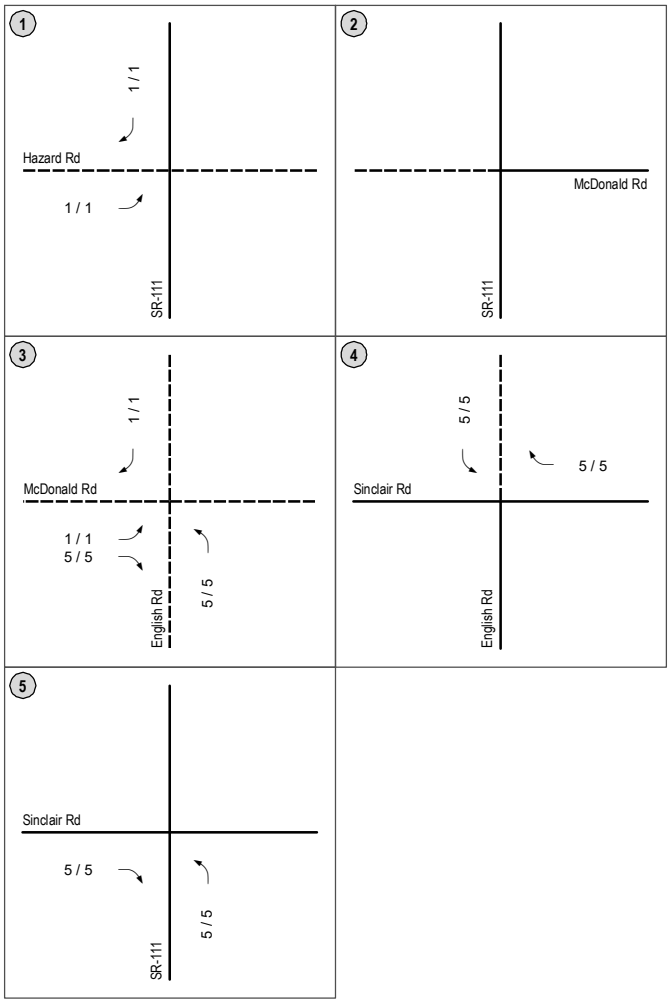
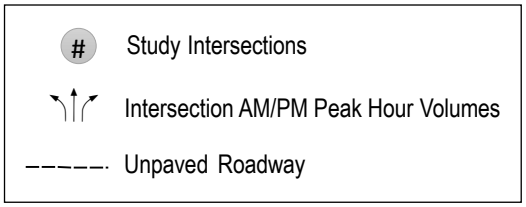
Figure 7-3

Construction Traffic Volumes

(Employee & Miscellaneous Trips)

Hudson Ranch Mineral Recovery





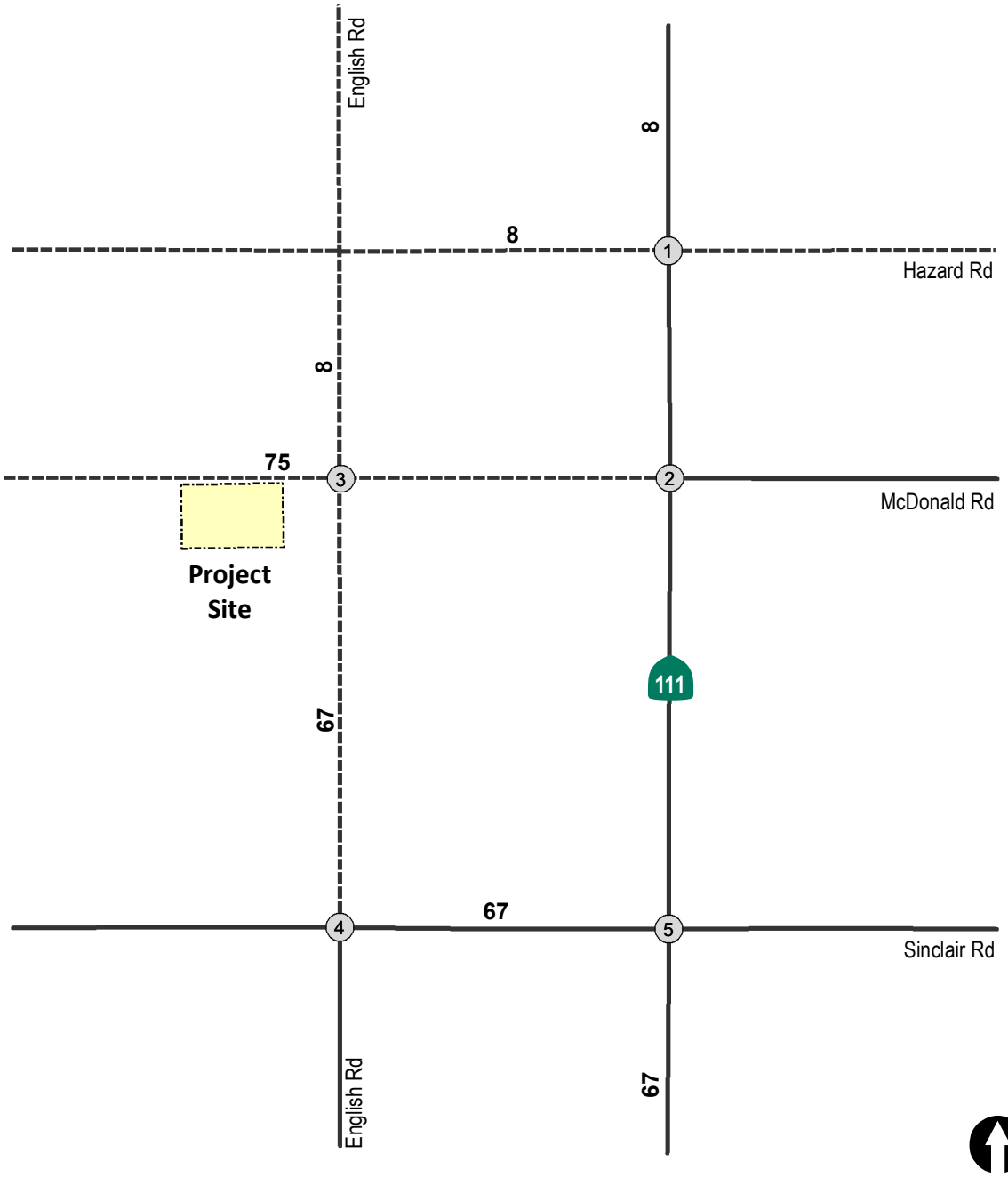


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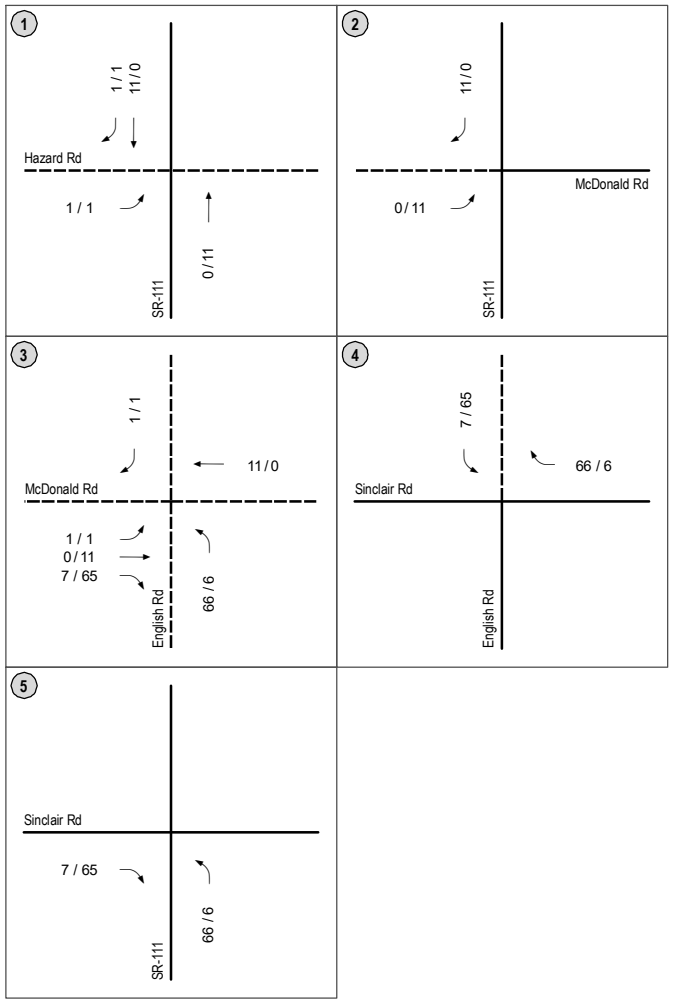
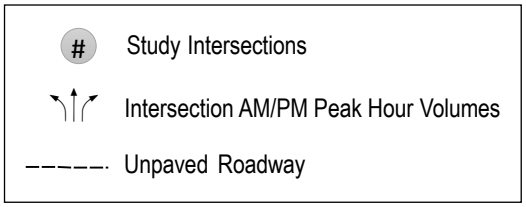
Figure 7-4

Construction Traffic Volumes

(Truck Trips)

Hudson Ranch Mineral Recovery





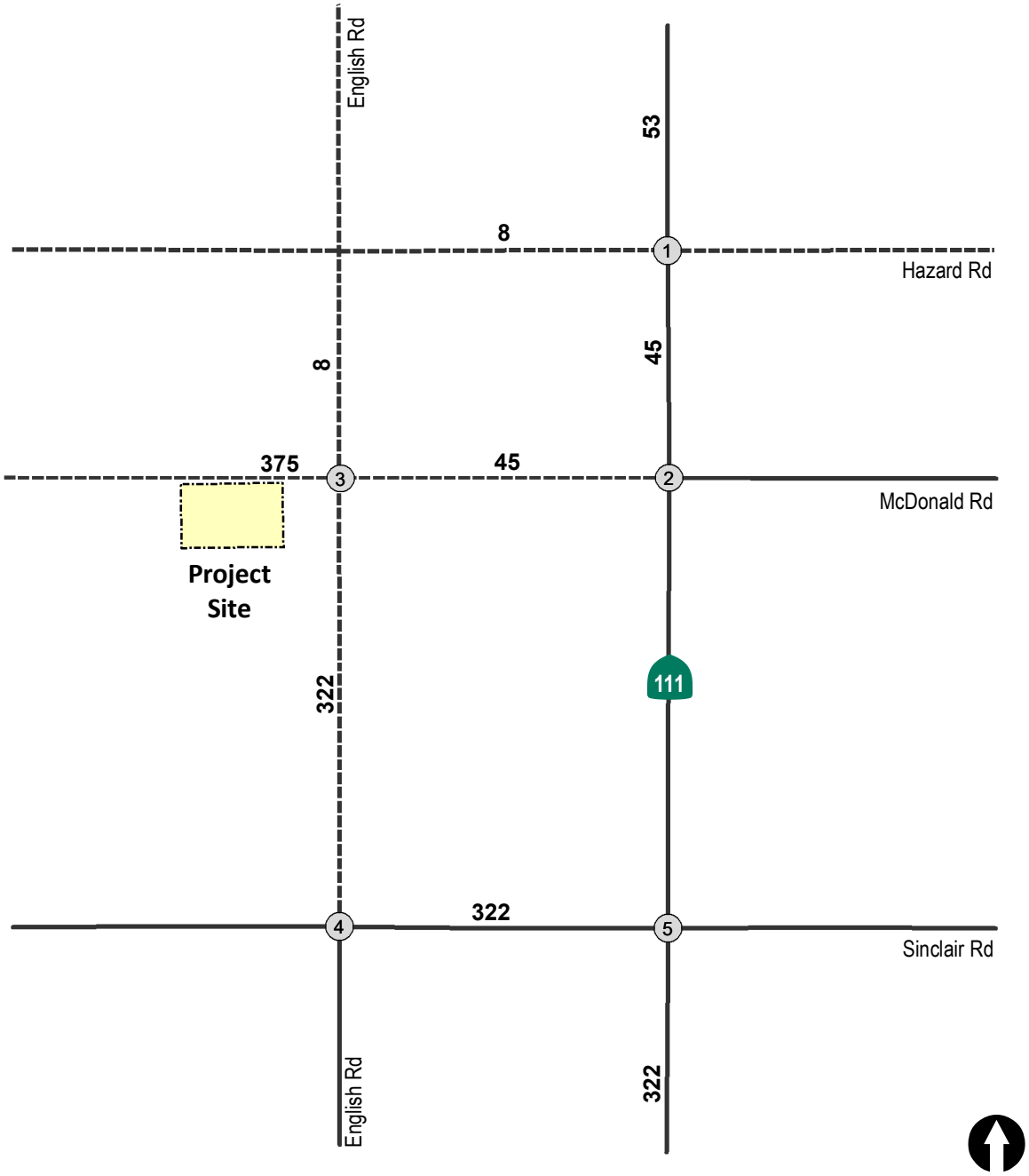


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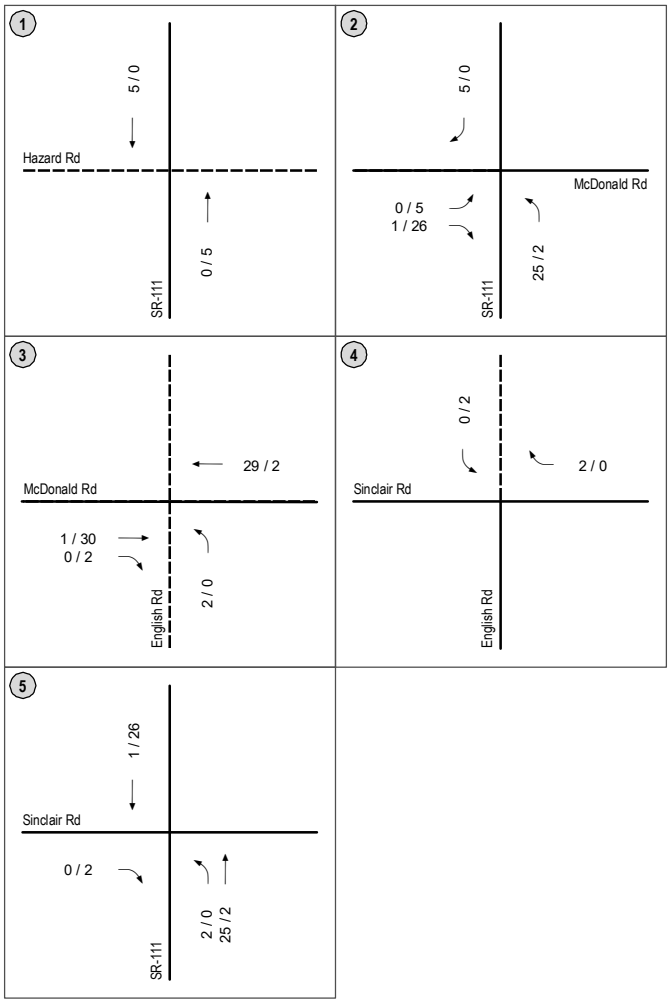
Figure 7-5

Construction Traffic Volumes

(Total Trips)

Hudson Ranch Mineral Recovery



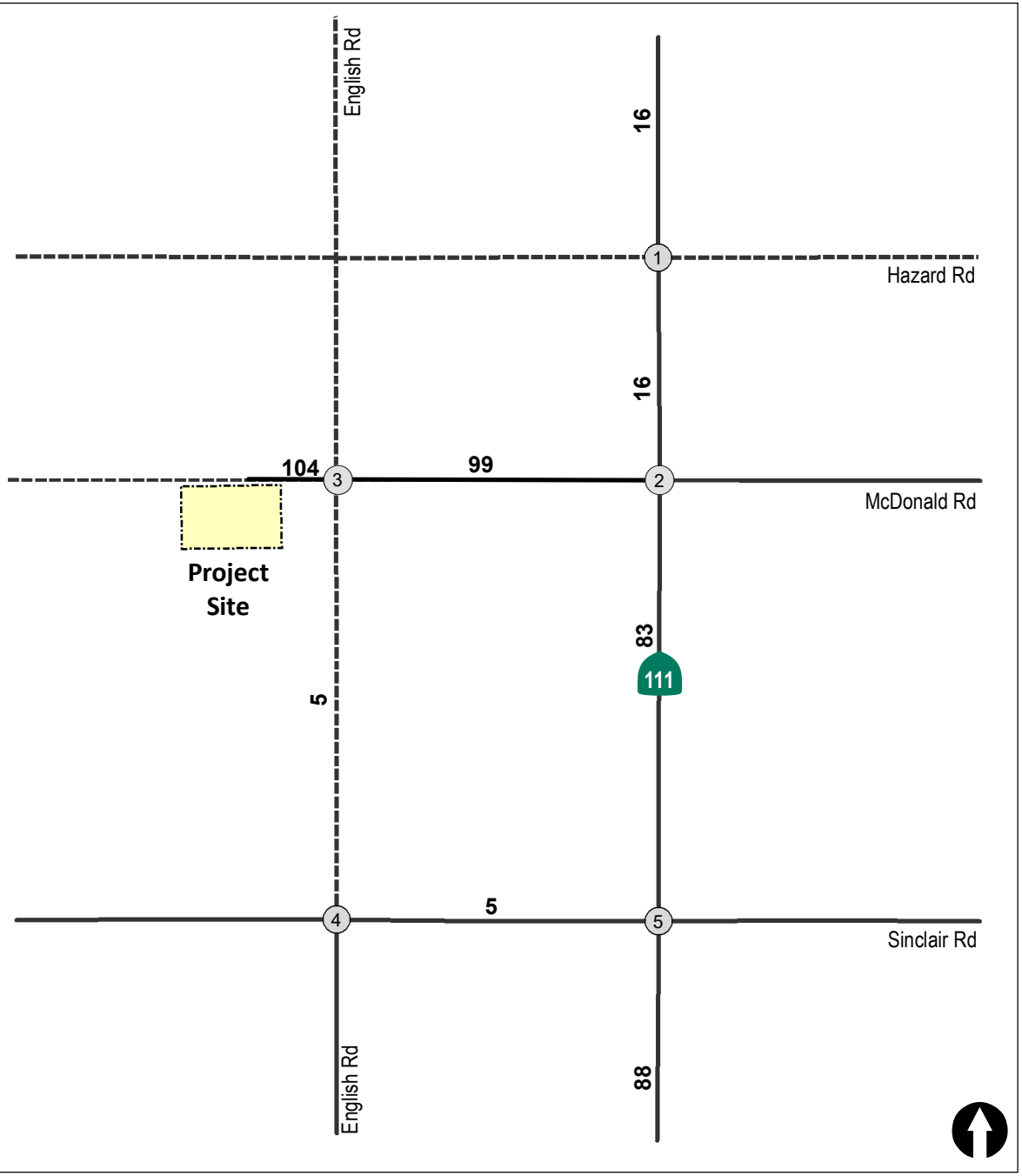


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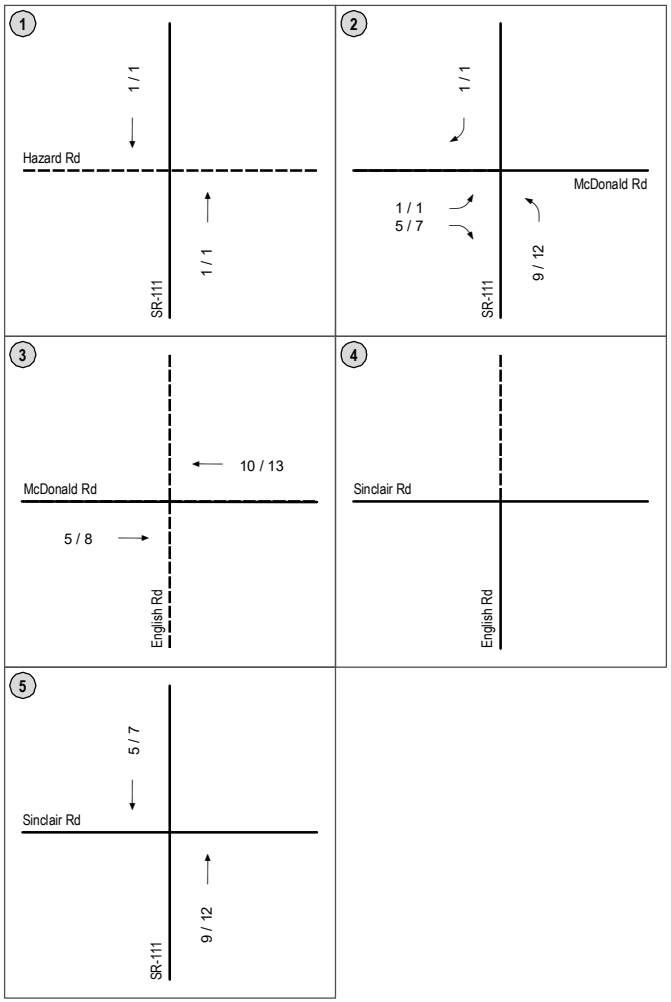
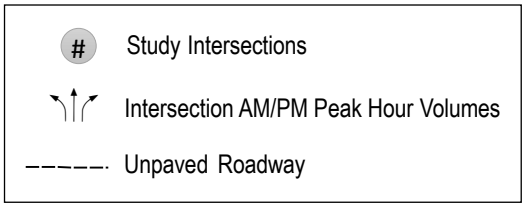
Figure 7-6

Operations Traffic Volumes

(Employee & MiscellaneousTrips)

Hudson Ranch Mineral Recovery





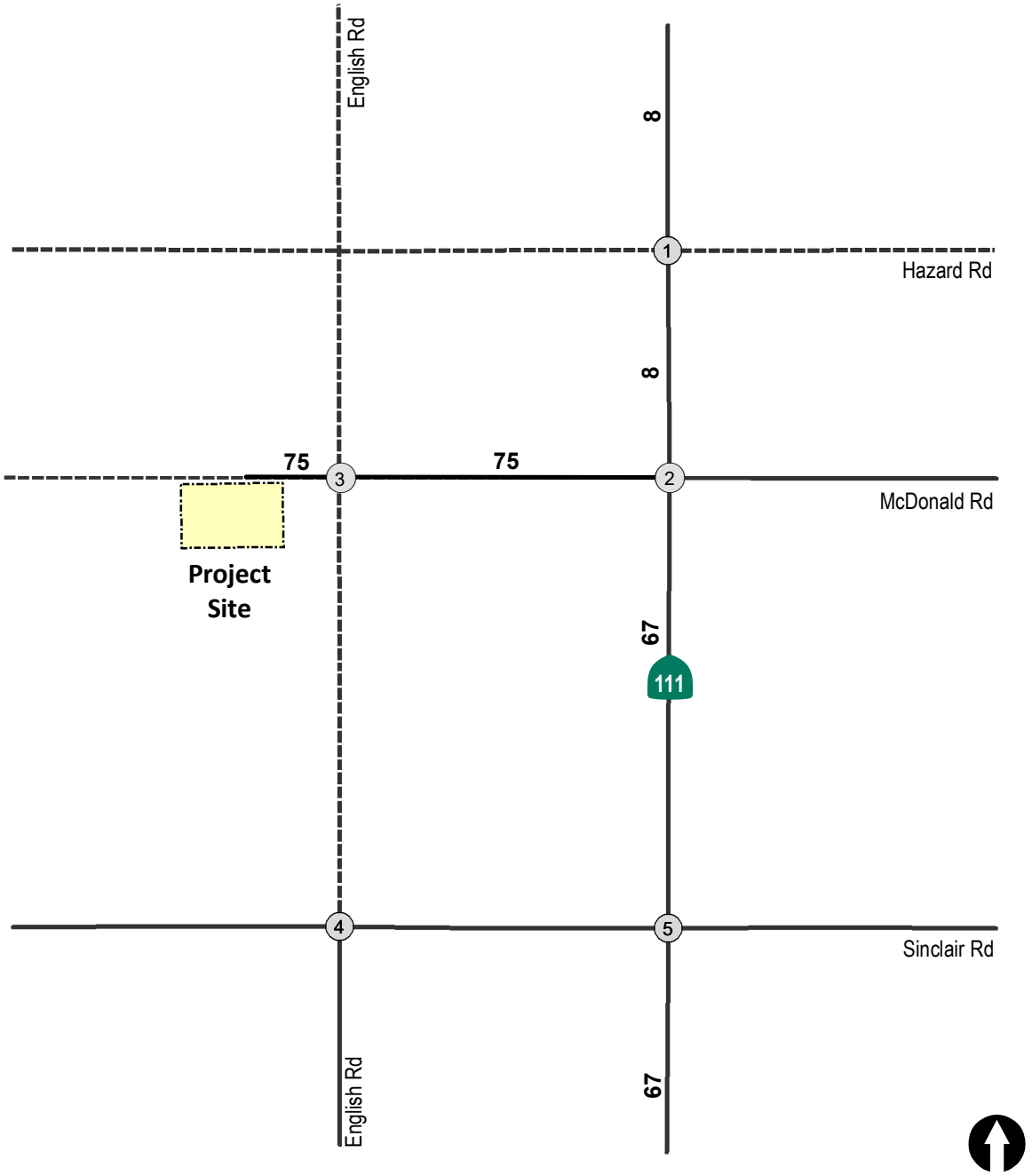


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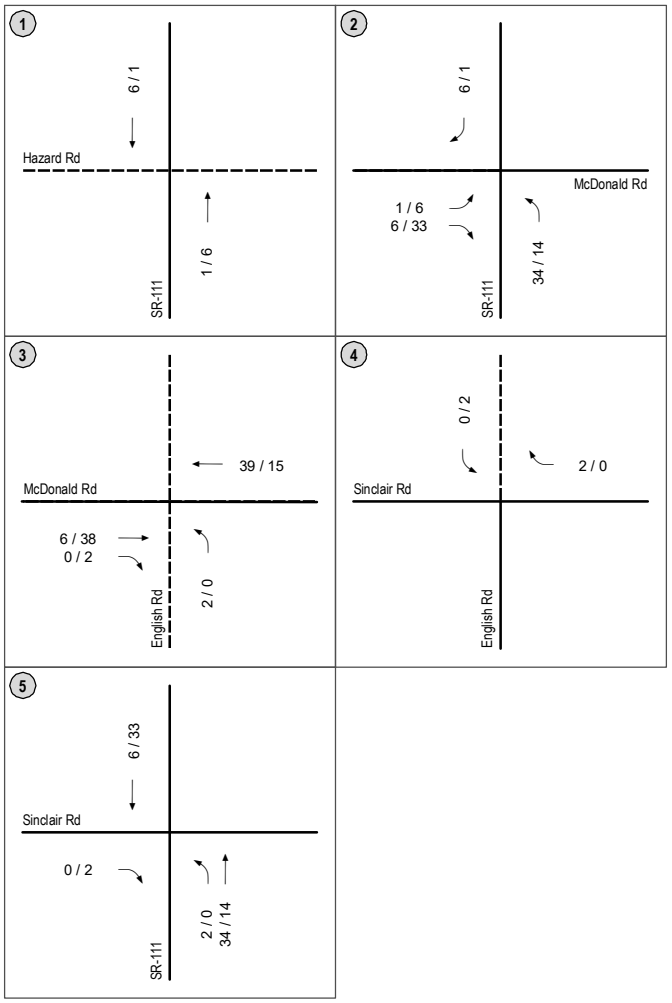
Figure 7-7

Operations Traffic Volumes

(Truck Trips)

Hudson Ranch Mineral Recovery



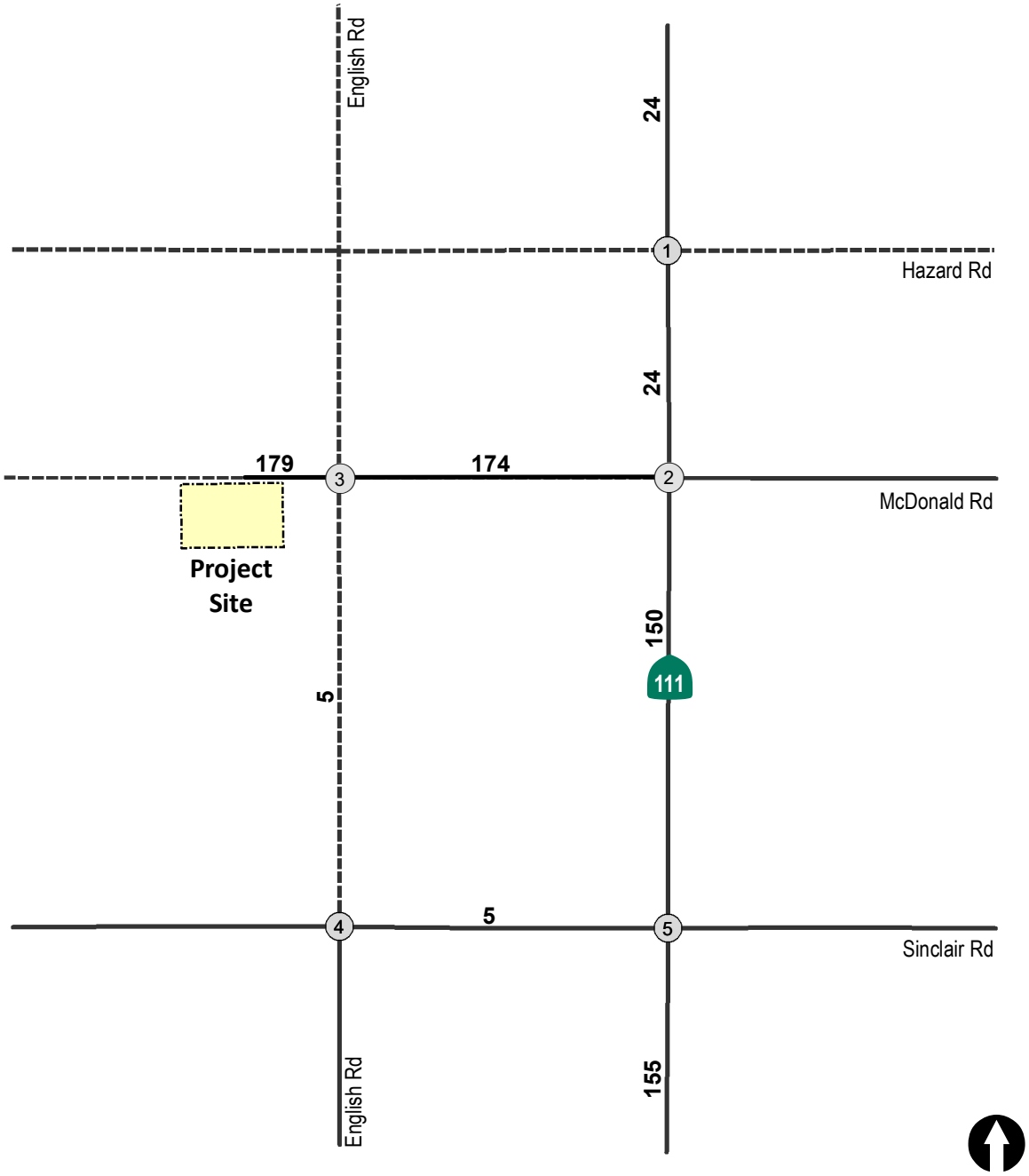


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Figure 7-8

Operations Traffic Volumes

(Total Trips)

Hudson Ranch Mineral Recovery

8.0 ANALYSIS

8.1 Existing + Construction Project Analysis

8.1.1 *Intersection Operations*

Table 8–1 summarizes the intersection operations throughout the project study area during the construction phase of the project. This table shows that all of the intersections in the study area are calculated to operate at LOS B or better during the AM and PM peak hours.

8.1.2 *Segment Analysis*

Table 8–2 summarizes the street segment operations throughout the project study area during the construction phase of the project. This table shows that all of the street segments in the study area are forecasted to operate at LOS A on a daily basis.

TABLE 8–1
EXISTING + CONSTRUCTION INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing + Construction Traffic	
			Delay [a]	LOS [b]
1. SR-111 / Hazard Road	TWSC [c]	AM	10.0	A
		PM	10.1	B
2. SR-111 / McDonald Road	TWSC	AM	8.9	A
		PM	9.0	A
3. English Road / McDonald Road	TWSC	AM	10.2	B
		PM	7.2	A
4. English Road / Sinclair Road	TWSC	AM	0.2	A
		PM	0.7	A
5. SR-111 / Sinclair Road	TWSC	AM	10.8	B
		PM	9.5	A

Footnotes:
a. Delay per vehicle in seconds
b. LOS - Level of service
c. TWSC - Minor street STOP Controlled intersection. Minor street left-turn delay is reported.

UNSIGNALIZED

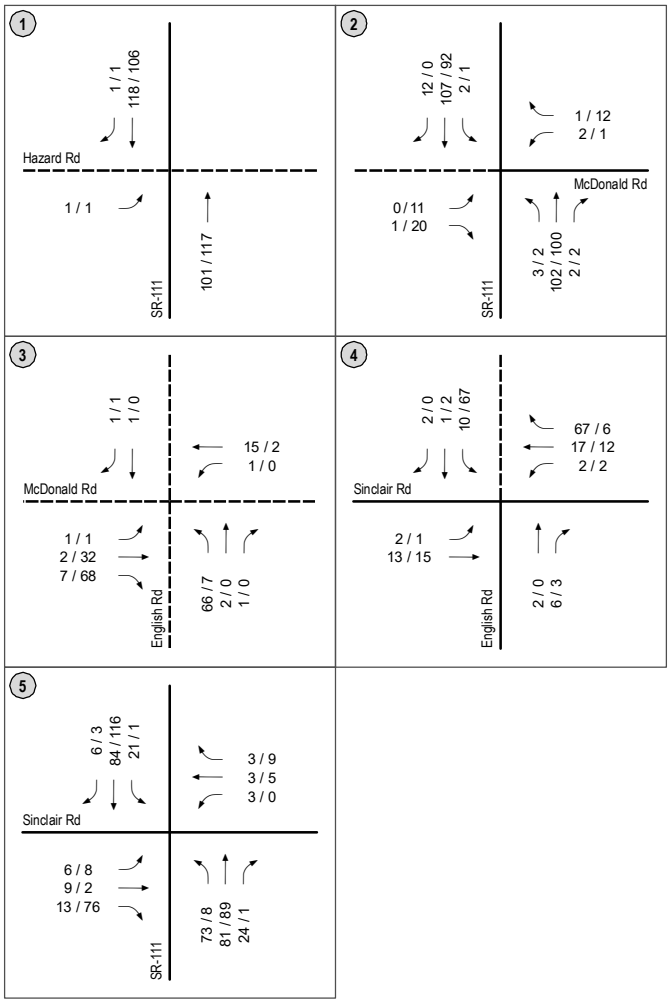
Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

TABLE 8–2
EXISTING + CONSTRUCTION TRAFFIC STREET SEGMENT OPERATIONS

Street Segment	Functional Roadway Classification [a]	LOS E Capacity [b]	ADT [c]	LOS [d]	V/C [e]
SR-111					
North of Hazard Road	2-Ln Expressway	22.700	3,853	A	0.170
Hazard Road to McDonald Road	2-Ln Expressway	22,700	3,845	A	0.169
McDonald Road to Sinclair Road	2-Ln Expressway	22,700	3,800	A	0.167
South of Sinclair Road	2-Ln Expressway	22,700	6,720	A	0.230
McDonald Road					
Project Site to English Road	2-Ln Roadway	1,500	645	A	0.430
English Road to SR-111	2-Ln Roadway	1,500	220	A	0.147
Sinclair Road					
English Road to SR-111	2-Ln Roadway	1,500	642	A	0.427

Footnotes:

a. County of Imperial roadway classification
b. Roadway capacity corresponding to Level of Service E from Imperial County Standard Street Classification, Average Daily Vehicle Trips table. Forty percent (40%) of capacity utilized for SR-111 segments.
c. Average Daily Traffic volumes
d. Level of Service
e. Volume / Capacity ratio.



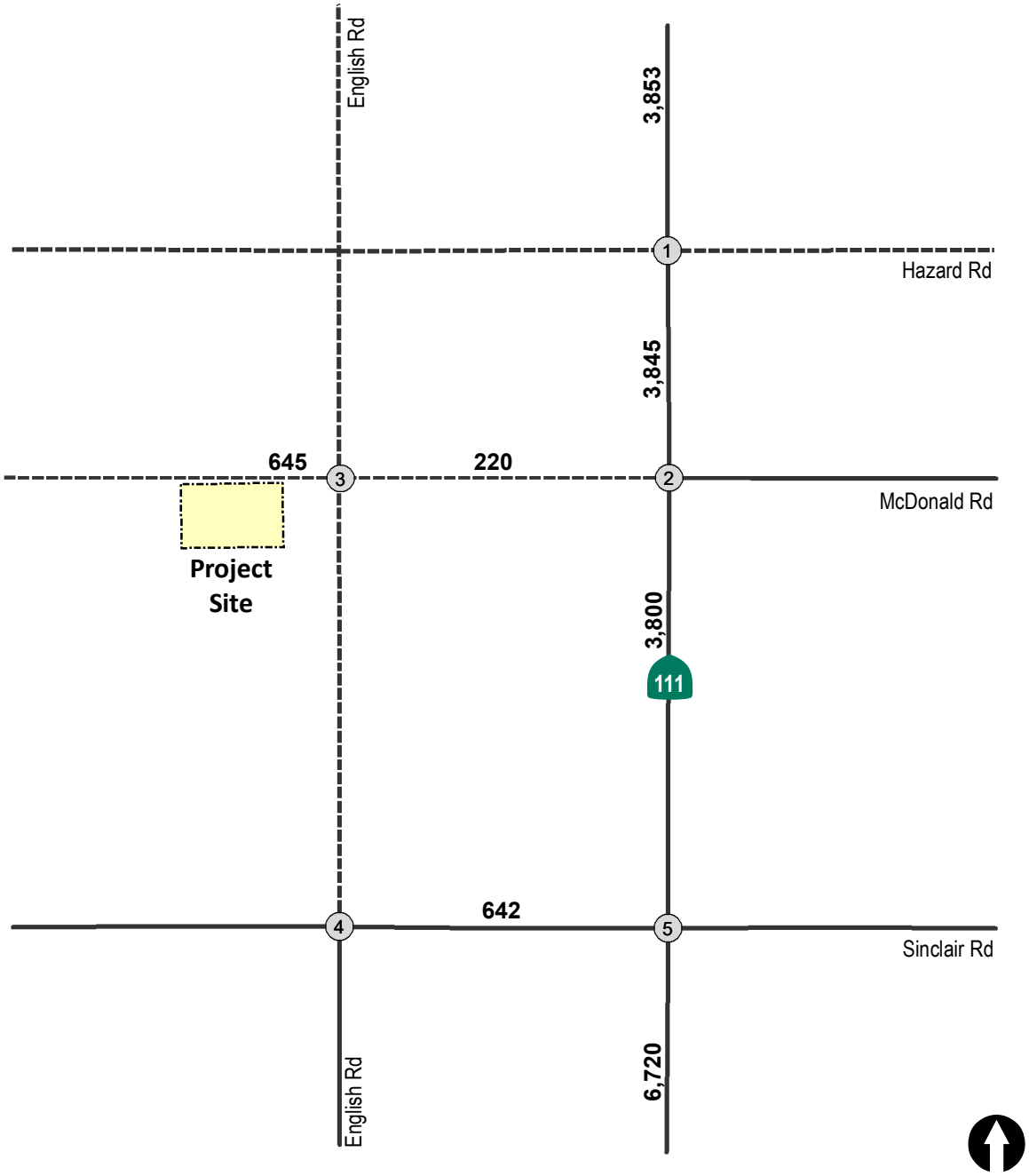


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Figure 8-1

Existing + Construction Traffic Volumes

Hudson Ranch Mineral Recovery

9.0 PROJECT OPERATIONS ANALYSIS

9.1 Existing + Project Operations Analysis

9.1.1 *Intersection Operations*

Table 8–1 summarizes the intersection operations throughout the project study area during the operations phase of the project. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS B or better during the AM and PM peak hours.

9.1.2 *Segment Analysis*

Table 8–2 summarizes the street segment operations throughout the project study area during the operations phase of the project. This table shows that all of the street segments in the study area are calculated to continue to operate at LOS A on a daily basis.

9.2 Cumulative Growth

To account for potential cumulative project traffic increases that may be unforeseen, a 10% growth factor was applied to the existing traffic volumes at the study area intersections and segments. This 10% growth would conservatively represent the amount of traffic that may utilize the street system in the project vicinity proposed from future development projects planned in Imperial County.

9.3 Existing + Project Operations + Cumulative Analysis

9.3.1 *Intersection Operations*

Table 8–1 summarizes the intersection operations throughout the project study area during the operations phase of the project and the addition of cumulative growth. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS B or better during the AM and PM peak hours.

9.3.2 *Segment Analysis*

Table 8–2 summarizes the street segment operations throughout the project study area during the operations phase of the project and the addition of cumulative growth. This table shows that all of the street segments in the study area are calculated to continue to operate at LOS A on a daily basis.

TABLE 9–1
INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing + Project Operations		Existing + Project + Cumulative Projects Operations		Δ [c] Delay	Impact Type
			Delay	LOS	Delay	LOS		
1. SR-111 / Hazard Rd	TWSC [d]	AM	0.0	A	0.0	A	0.0	None
		PM	0.0	A	0.0	A	0.0	None
2. SR-111 / McDonald Rd	TWSC	AM	9.1	A	9.2	A	0.1	None
		PM	9.2	A	9.3	A	0.1	None
3. English Road / McDonald Rd	TWSC	AM	9.3	A	9.3	A	0.0	None
		PM	0.0	A	0.0	A	0.0	None
4. English Road / Sinclair Rd	TWSC	AM	0.7	A	0.7	A	0.0	None
		PM	1.0	A	1.0	A	0.0	None
5. SR-111 / Sinclair Rd	TWSC	AM	10.6	B	10.7	B	0.1	None
		PM	9.9	A	10.1	B	0.2	None

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes an increase in delay due to project.
d. TWSC – Minor Street Stop Controlled intersection. Minor street left turn delay is reported.

UNSIGNALIZED

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

TABLE 9–2
STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS E) [a]	Existing + Project Operations			Existing + Project + Cumulative Projects Operations			Δ V/C	Impact Type
		ADT	LOS	V/C	ADT	LOS	V/C		
SR-111									
North of Hazard Rd	22,700	3,824	A	0.168	4,204	A	0.185	0.017	None
Hazard Rd to McDonald Rd	22,700	3,824	A	0.168	4,204	A	0.185	0.017	None
McDonald Rd to Sinclair Rd	22,700	3,950	A	0.174	4,330	A	0.191	0.017	None
South of Sinclair Road	22,700	6,555	A	0.288	7,195	A	0.317	0.028	None
McDonald Road									
Project Site to English Rd	1,500	449	A	0.300	476	A	0.317	0.018	None
English Rd to SR-111	1,500	394	A	0.263	416	A	0.277	0.015	None
Sinclair Road									
English Rd to SR-111	1,500	325	A	0.217	357	A	0.238	0.021	None

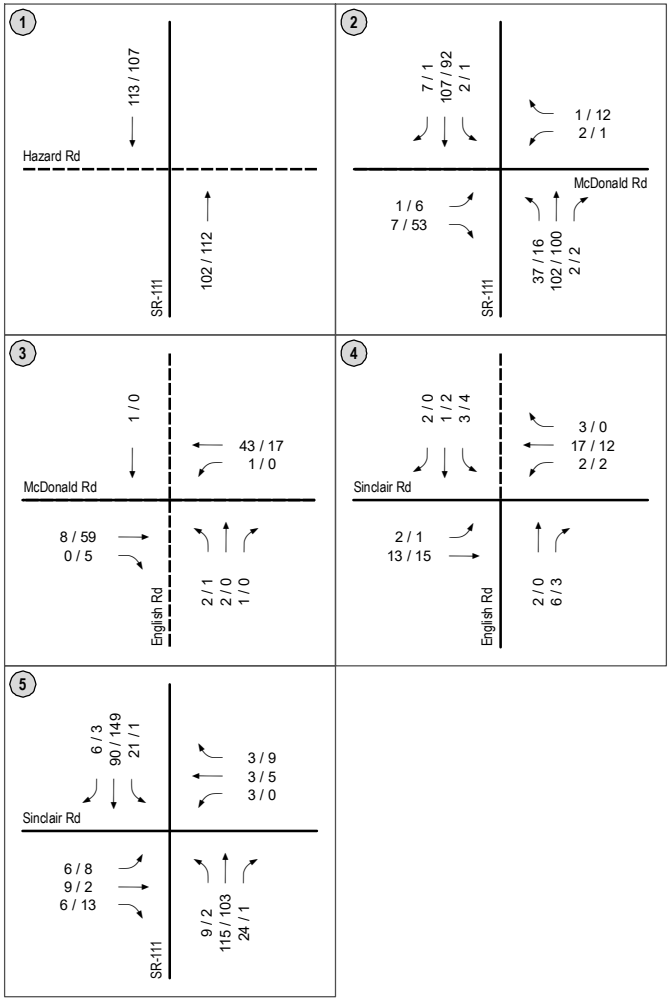
Footnotes:

a. Capacities based on County of Imperial Roadway Classification Table.

b. Average Daily Traffic Volumes.

c. Level of Service.

d. Volume to Capacity.



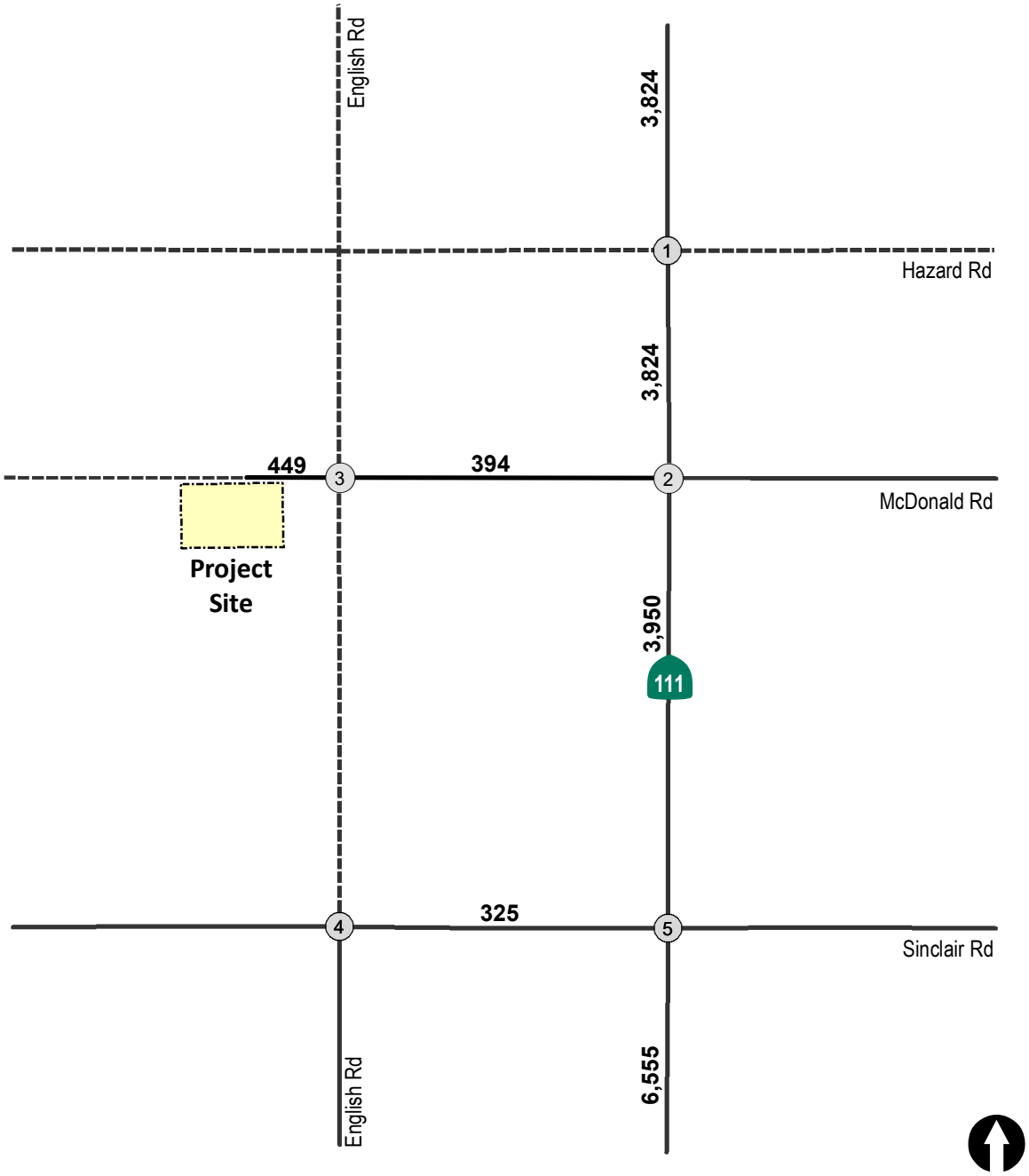


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Figure 9-1

Existing + Operations Traffic Volumes

Hudson Ranch Mineral Recovery

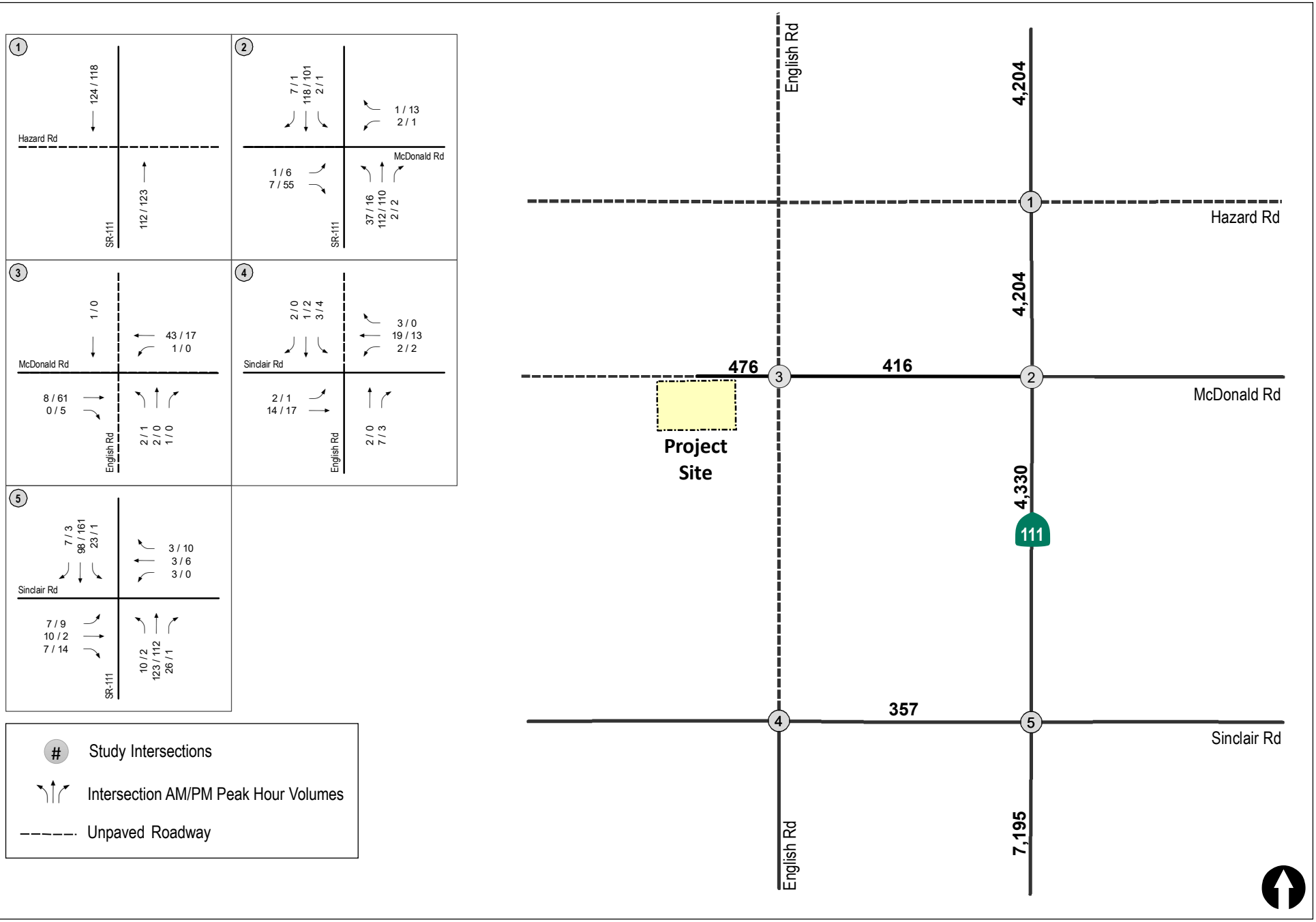

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Figure 9-2

Existing + Operations + Cumulative Growth Traffic Volumes

Hudson Ranch Mineral Recovery

10.0 INTERSECTION CONTROL EVALUATION (ICE)

An Intersection Control Evaluation (ICE) is being competed under separate cover. ***Table 10–1*** summarizes the operations of four alternatives that could be implemented at the SR-111 / McDonald Road intersection.

TABLE 10-1
SR-111 / MCDONALD ROAD INTERSECTION ICE ANALYSIS

Control Type	Peak Hour	Existing + Operations + Cumulative	
		Delay	LOS
Two-Way Stop	AM	9.2	A
	PM	9.3	A
All-Way Stop [c]	AM	8.2	A
	PM	8.1	A
Traffic Signal	AM	5.8	A
	PM	6.8	A
Single-Lane Roundabout	AM	4.2	A
	PM	4.2	A

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Free eastbound right-turn movement excluded from AWSC analysis.

General Notes:

Bold typeface indicates intersections operating at LOS E or F.

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

11.0 VEHICLE MILES TRAVELED (VMT)

11.1 VMT Background

In September 2013, the Governor's Office signed SB 743 into law, starting a process that fundamentally changes the way transportation impact analysis is conducted under CEQA. These changes include the elimination of auto delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. The justification for this paradigm shift is that Auto Delay/LOS impacts lead to improvements that increase roadway capacity and therefore induce more traffic and greenhouse gas emissions. The VMT standard for evaluating transportation impacts under CEQA became mandatory statewide on July 1, 2020.

VMT is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMT is a measure of the use and efficiency of the transportation network. VMT's are calculated based on individual vehicle trips generated and their associated trip lengths. VMT accounts for two-way (round trip) travel and is typically estimated on a weekday for the purpose of measuring potential transportation impacts.

11.2 Significance Threshold

Since the County has not yet adopted its own VMT threshold, the County is relying on the guidance provided in the Technical Advisory published by the Governor's Office of Planning and Research (OPR) in December 2018 (the "OPR Guidance") for purposes of evaluating the potential VMT impacts of development projects. The OPR Guidance for VMT states that depending on the type of project, different thresholds of significance are applicable. The "Recommended Numeric Thresholds for Residential, Office, and Retail Project" section of the OPR Guidance includes a section on "Other Project Types" which applies to the Project:

"Of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends the quantified thresholds described [in the Residential, Office, and Retail Project section] for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types...".

Guidance from OPR's Technical Advisory is used to establish a significance threshold of a minimum 15% reduction or more from the Regional average VMT per employee for this project evaluation. That means that if the Project's VMT per employee is more than 15% below the regional average, no significant transportation impact would result. It should be noted that OPR has no guidelines for truck trips.

11.3 VMT Methodology

The VMT assessment conducted using California Statewide Travel Demand Model (CSTDM) data provided by Caltrans. The following is a summary of steps involved in calculating the trip length and Region-wide VMT:

- Step 1. Determine the project analysis zone
- Step 2. Determine the VMT per Employee for the zone where proposed Project is located.
- Step 3. Determine the average VMT per Employee within the County of Imperial representing the Regional VMT.
- Step 4. Using the average VMT from Step 2, compare the zone VMT against the Regional VMT. It should be noted that this step differs from the typical approach of comparing VMT per Capita because there is no associated population for the Project.

Using the CSTDM, the VMT per Employee can be utilized at both the regional and census tract level.

Project TAZ

Regional Map

11.4 Assessment:

Caltrans provides Transportation Analysis Zone (TAZs) map which provide information for each zone. The Project site is located in the County of Imperial which includes total 17 zones representing Imperial Region. ***Table 11–1*** tabulates average regional VMT per employee and the threshold. ***Attachment D*** contains the calculation of average regional VMT data.

Caltrans guidelines suggest that the VMT analysis is recommended based on the project location and zoning. The Project site is located in the Traffic Analysis Zone (TAZ) 5600. The VMT per employee for TAZ 5600 is 20.84.

TABLE 11–1
REGIONAL VMT PER EMPLOYEE AND THRESHOLD

Region[1]	Significance Threshold[2]
24.51	20.83

Footnotes:
1. Regional VMT per Employee is calculated by Averaging VMT per Employee for 17 TAZs located in the Imperial County.
2. Based on 15% below the Regional VMT Average.

11.5 Result

As shown in ***Table 11–2***, the VMT per employee for TAZ 5600, where the project is located, is 0.01 mile more than the significance threshold shown in *Table 11–1*. **Therefore, the Project has a significant transportation impact and mitigation measures are needed.** Only a 0.048% decrease I VMT is required to mitigate the impact.

TABLE 11–2
VMT PER EMPLOYEE COMPARISON

Significance Threshold[1]	TAZ (Project)[2]	Significant Transportation Impact?
20.83	20.84	Yes

Footnotes:
1. See Table 11–1.
2. SOURCE: Project VMT per Employee

11.6 Mitigation

It is recommended that the project implement a Commute Trip Reduction (CTR) program to discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. The CTR program could include features such as Carpooling encouragement, Ride-matching assistance, Preferential carpool parking, Half time transportation coordinator, Vanpool assistance and Bicycle end-trip facilities (parking, showers and lockers) and provide employees with assistance in using alternative modes of travel.

12.0 CONCLUSIONS & RECOMMENDATIONS

The capacity analyses performed for the key roadway segments and unsignalized and signalized intersections indicate that ***no significant impacts would occur*** during the construction or Day-to-Day Operations of the project.

12.1 Operational Deficiencies

However, a significant impact could potentially occur if improvements are not implemented at the SR-111 / McDonald Road intersection. Therefore, the SR-111/McDonald Road intersection should be improved to Caltrans satisfaction including the installation of a Northbound Left-Turn pocket prior to the opening of the project. This improvement will be implemented prior to the Project's certificate of occupation.

Providing a southbound right-turn lane was considered but rejected due to the low volumes. The maximum peak hour volume in this movement is 12 during construction and 7 during operations.

An ICE analysis has been prepared under separate cover that address and analyzes the following four alternatives:

1. Minor Street Stop Control (MSSC) – Existing traffic control
2. All-Way Stop Control (AWSC)
3. Traffic Signal
4. Roundabout

Construction traffic should be instructed to use the paved Sinclair Road and not the unpaved McDonald Road as east / west access to the site during construction.

12.2 VMT Analysis

The Project has a significant transportation impact. However, only a 0.048% decrease in VMT is required to mitigate the impact. It is recommended that the project implement a Commute Trip Reduction (CTR) program to discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. The CTR program could include features such as Carpooling encouragement, Ride-matching assistance, Preferential carpool parking, Half-time transportation coordinator, Vanpool assistance and Bicycle end-trip facilities (parking, showers and lockers) and provide employees with assistance in using alternative modes of travel.

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TECHNICAL APPENDICES
HUDSON RANCH MINERAL RECOVERY

County of Imperial, California
June 22, 2021

LLG Ref. 3-19-3152

Linscott, Law & Greenspan, Engineers
4542 Ruffner Street
Suite 100
San Diego, CA 92111
858.300.8800 T
858.300.8810 F
www.llgengineers.com

APPENDIX A

INTERSECTION COUNT SHEETS & CALTRANS TRAFFIC VOLUMES

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Prepared by National Data & Surveying Services

Hwy 111 & Hazard Rd

Peak Hour Turning Movement Count

ID: 19-04371-001
City: Calipatria

Day: Wednesday
Date: 09/25/2019

PEAK HOURS		COUNT PERIODS
AM	07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	03:00 PM - 04:00 PM	03:00 PM - 05:00 PM

Hwy 111 – SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	0	107	0	0	101
NOON	0	0	0	0	0
PM	0	106	0	0	106
Lanes	0	1	0	0	

Hazard Rd – EASTBOUND

	Lanes	AM	NOON	PM
Departing		0	0	0
U-Turn	0	0	0	0
Left	0	0	0	0
Thru	1	0	0	0
Right	0	0	0	0

Hazard Rd – WESTBOUND

	Lanes	PM	NOON	AM
Left	0	0	0	0
Thru	1	0	0	0
Right	0	0	0	0
U-Turn	0	0	0	0
Departing		0	0	0

Hwy 111 – NORTHBOUND

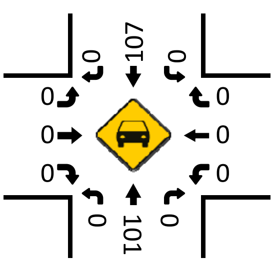
	Departing	U-Turn	Left	Thru	Right
Lanes		0	0	1	0
PM	106	0	0	106	0
NOON	0	0	0	0	0
AM	107	0	0	101	0

CONTROL

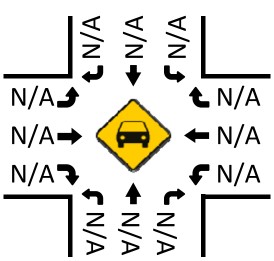
2-Way Stop (EB/WB)

	AM	NOON	PM
TEV	208	0	212
PHF	0.96		0.96

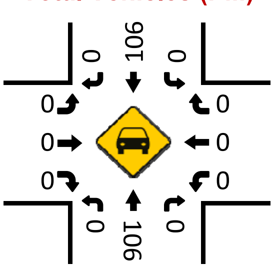
Total Vehicles (AM)



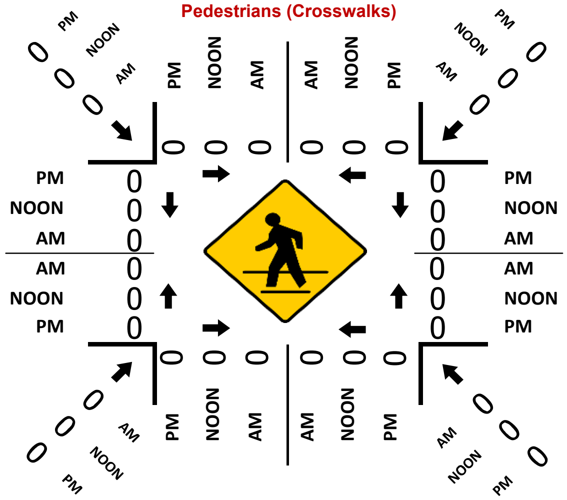
Total Vehicles (Noon)



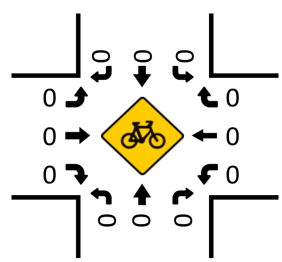
Total Vehicles (PM)



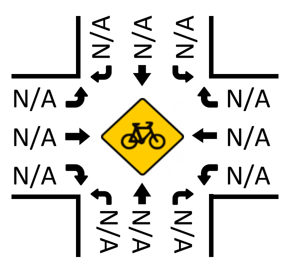
Pedestrians (Crosswalks)



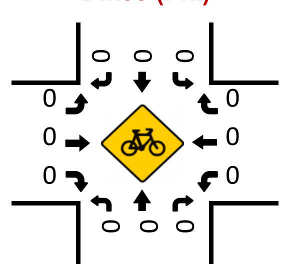
Bikes (AM)



Bikes (NOON)



Bikes (PM)



Prepared by National Data & Surveying Services

Hwy 111 & McDonald Rd

Peak Hour Turning Movement Count

ID: 19-04371-002
City: Calipatria

Day: Wednesday
Date: 09/25/2019

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 03:45 PM - 04:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 03:00 PM - 05:00 PM

SOUTHBOUND (Hwy 111)

AM	1	107	2	0	103	AM
NOON	0	0	0	0	0	NOON
PM	0	92	1	0	112	PM

EASTBOUND (McDonald Rd)

AM	NOON	PM	
4	0	2	⇦
0	0	0	↶ 0
0	0	0	↱ 0
0	0	0	→ 1
1	0	20	↷ 0
AM	NOON	PM	

WESTBOUND (McDonald Rd)

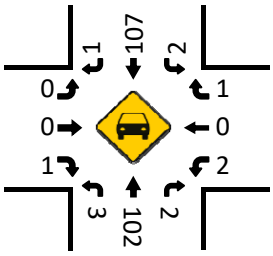
PM	NOON	AM	
12	0	1	0 ↰
0	0	0	1 ←
1	0	2	0 ↙
0	0	0	0 ↙
3	0	4	⇨
PM	NOON	AM	

NORTHBOUND (Hwy 111)

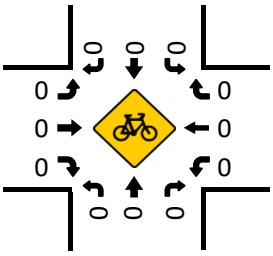
PM	113	0	2	100	2	PM
NOON	0	0	0	0	0	NOON
AM	110	0	3	102	2	AM

CONTROL			
2-Way Stop (EB/WB)			
TEV	221 AM	0 NOON	230 PM
PHF	0.94		0.87

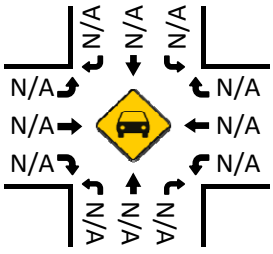
Total Vehicles (AM)



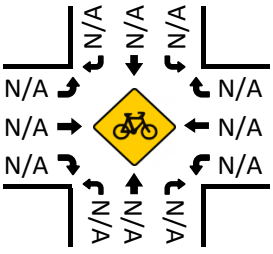
Bikes (AM)



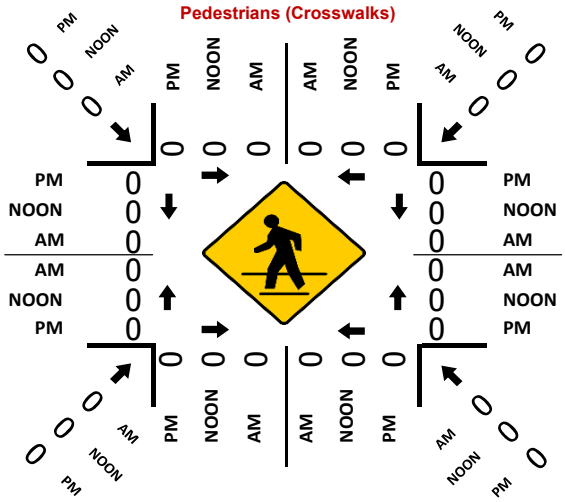
Total Vehicles (Noon)



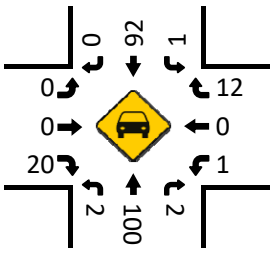
Bikes (NOON)



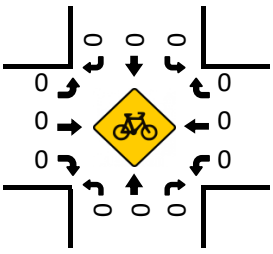
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

English Rd & McDonald Rd

Peak Hour Turning Movement Count

ID: 19-04371-003
City: Calipatria

Day: Wednesday
Date: 09/25/2019

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:00 PM - 05:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 03:00 PM - 05:00 PM

SOUTHBOUND (English Rd)

AM	0	1	0	0	2	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (McDonald Rd)

AM	NOON	PM	
4	0	3	
0	0	0	0
0	0	0	0
2	0	21	1
0	0	3	0
AM	NOON	PM	

WESTBOUND (McDonald Rd)

PM	NOON	AM	
0	0	0	0
2	0	4	1
0	0	1	0
0	0	0	0
21	0	3	
PM	NOON	AM	

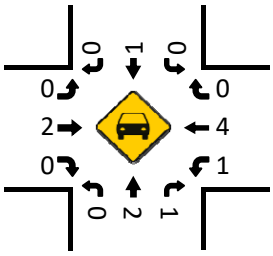
NORTHBOUND (English Rd)

PM	3	0	1	0	0	PM
NOON	0	0	0	0	0	NOON
AM	2	0	0	2	1	AM

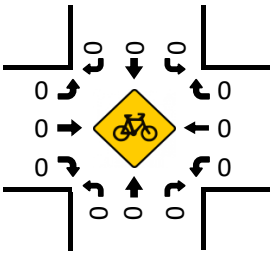
CONTROL: 1-Way Stop (EB)

	AM	NOON	PM
TEV	11	0	27
PHF	0.92		0.61

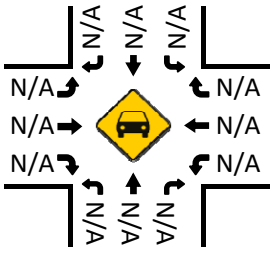
Total Vehicles (AM)



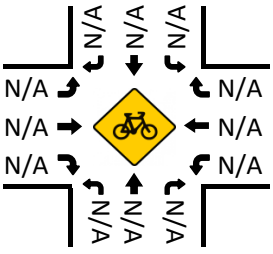
Bikes (AM)



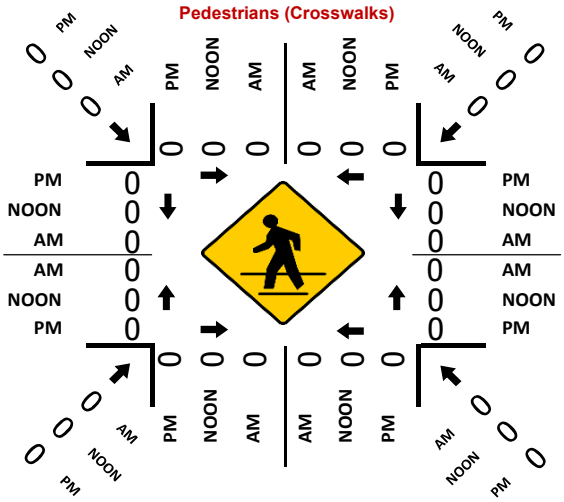
Total Vehicles (NOON)



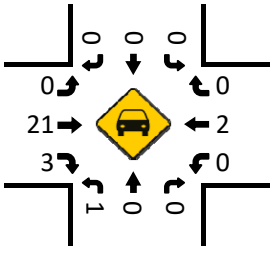
Bikes (NOON)



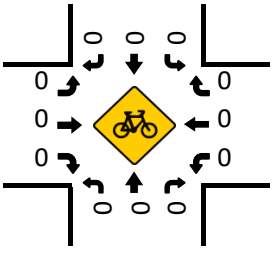
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

English Rd & W Sinclair Rd

Peak Hour Turning Movement Count

ID: 19-04371-004
City: Calipatria

Day: Wednesday
Date: 09/25/2019

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 03:00 PM - 04:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 03:00 PM - 05:00 PM

SOUTHBOUND — English Rd

AM	2	1	3	0	5	AM
NOON	0	0	0	0	0	NOON
PM	0	2	2	0	1	PM

EASTBOUND — W Sinclair Rd

AM	NOON	PM	
19	0	12	
0	0	0	0
2	0	1	0
13	0	15	1
0	0	0	0
AM	NOON	PM	

WESTBOUND — W Sinclair Rd

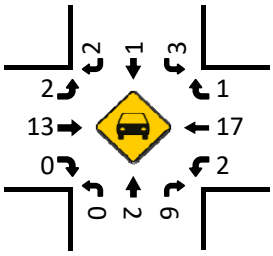
PM	NOON	AM	
0	0	1	0
12	0	17	1
2	0	2	0
0	0	0	0
20	0	22	
PM	NOON	AM	

NORTHBOUND — English Rd

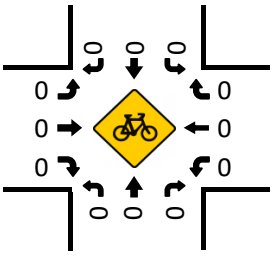
PM	4	0	0	0	3	PM
NOON	0	0	0	0	0	NOON
AM	3	0	0	2	6	AM

CONTROL			
2-Way Stop (NB/SB)			
TEV	49 AM	0 NOON	37 PM
PHF	0.72		0.84

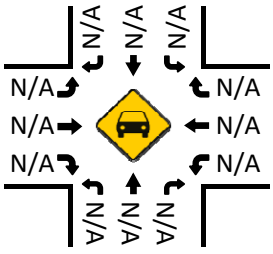
Total Vehicles (AM)



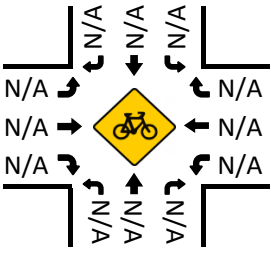
Bikes (AM)



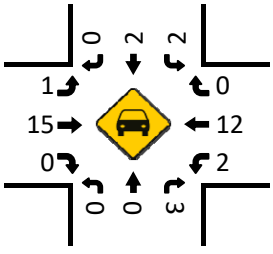
Total Vehicles (NOON)



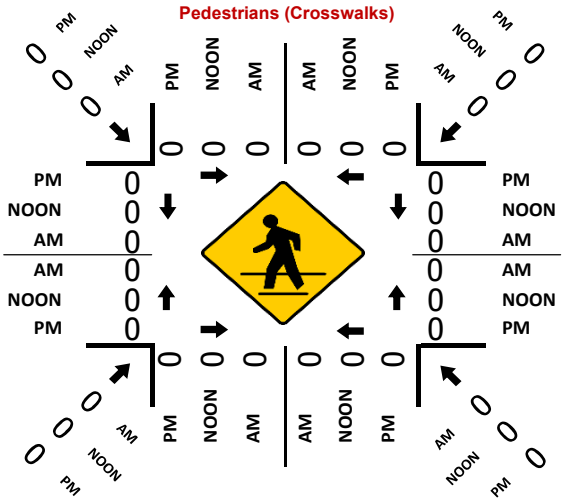
Bikes (NOON)



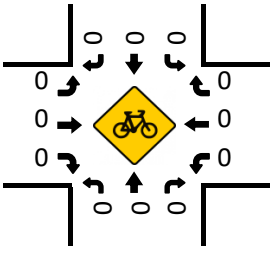
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Hwy 111 & Sinclair Rd

Peak Hour Turning Movement Count

ID: 19-04371-005
City: Calipatria

Day: Wednesday
Date: 09/25/2019

Hwy 111

SOUTHBOUND

PEAK HOURS		COUNT PERIODS
AM	07:15 AM - 08:15 AM	AM
NOON	NONE	NOON
PM	03:45 PM - 04:45 PM	PM

AM	6	84	21	0	90	AM
NOON	0	0	0	0	0	NOON
PM	3	116	1	0	106	PM

	0	1	1	0

AM	127	0	2	89	1	PM
NOON	0	0	0	0	0	NOON
AM	93	0	7	81	24	AM

NORTHBOUND

Hwy 111

Sinclair Rd

EASTBOUND

AM	NOON	PM	
16	0	10	
0	0	0	0
6	0	8	0
9	0	2	0.5
6	0	11	0.5
AM	NOON	PM	

CONTROL

2-Way Stop (EB/WB)

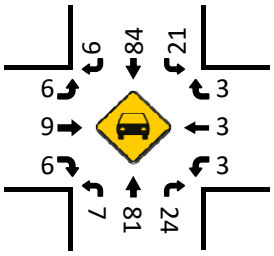
TEV	253 AM	0 NOON	247 PM
PHF	0.87		0.92

WESTBOUND

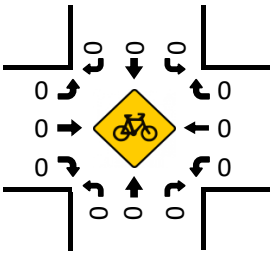
PM	NOON	AM	
9	0	3	0.5
5	0	3	0.5
0	0	3	0
0	0	0	0
4	0	54	
PM	NOON	AM	

Sinclair Rd

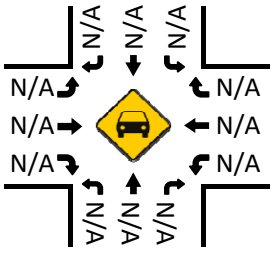
Total Vehicles (AM)



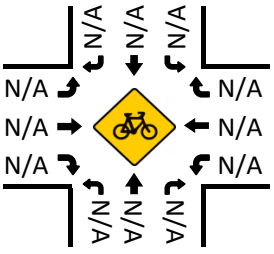
Bikes (AM)



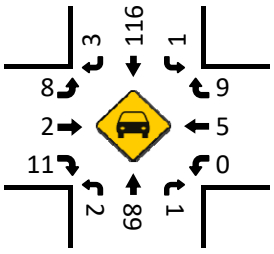
Total Vehicles (Noon)



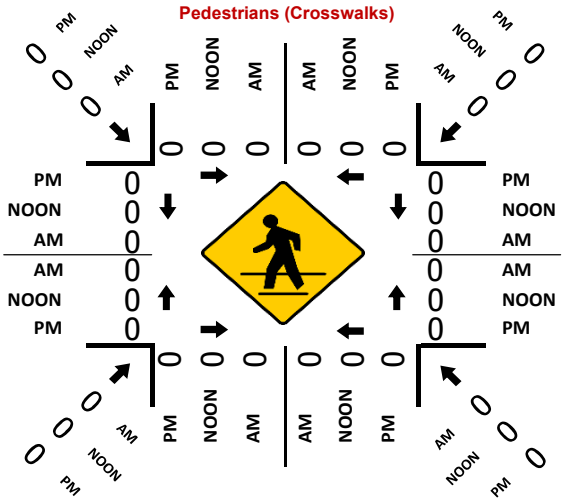
Bikes (NOON)



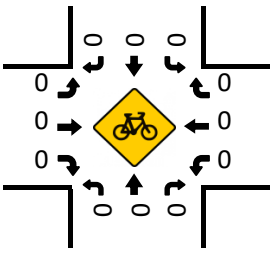
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Dist	Route	County		Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak AADT	Ahead AADT
7	110	LA		29.028	LOS ANGELES, AVENUE 64	8700	103000	98000	7100	82000	80000
7	110	LA		29.5	LOS ANGELES, YORK BOULEVARD	7100	82000	80000	6900	82000	78000
7	110	LA		29.95	SOUTH PASADENA, BRIDEWELL STREET	6900	82000	78000	6800	81000	77000
7	110	LA		30.587	SOUTH PASADENA, ORANGE GROVE AVENUE	6800	81000	77000	4950	59000	56000
7	110	LA		31.17	SOUTH PASADENA, FAIR OAKS AVENUE	4950	59000	56000	3550	42000	40000
7	110	LA		31.912	PASADENA, GLENARM STREET	3550	42000	40000	3550	42000	40000
7	110	LA		31.913	PASADENA, END FREEWAY	3550	42000	40000			
11	111	IMP	R	0	CALEXICO, SO CITY LIMITS, AT MEXICAN BNDRY				1950	26000	24600
11	111	IMP	R	0.2	CALEXICO, SECOND STREET	1950	26000	24600	1950	26000	24600
11	111	IMP		0.408	THIRD ST	1950	26000	24600	2150	29500	28500
11	111	IMP		0.836	CALEXICO, GRANT STREET (EIGHTH STREET)	2150	29500	28500	2150	30000	28500
11	111	IMP	R	1.183	JCT. RTE. 98	2150	30000	28500	2600	32500	31500
11	111	IMP	R	2.211	COLE ROAD	2600	32500	31500	2800	38000	35000
11	111	IMP	R	4.741	JCT. RTE. 86 WEST	2800	38000	35000	2750	34000	30500
11	111	IMP	R	6.242	MC CABE ROAD (LAKE ROAD)	2750	34000	30500	2400	32000	30000
11	111	IMP	R	7.714	JCT. RTE. 8	2400	32000	30000	1800	20600	19300
11	111	IMP	R	9.503	EVAN HEWES HWY	1700	20200	18200	1600	18900	16800
11	111	IMP	R	11.299	ATEN RD	1600	18900	16800	1050	14000	13500
11	111	IMP	R	12.874	WORTHINGTON ROAD	1050	14000	13500	1100	12100	11000
11	111	IMP	R	17.385	KEYSTONE ROAD	1100	12100	11000	1050	12300	11000
11	111	IMP	R	22.015	JCT. RTE. 78	950	11500	10000	630	5800	5500
11	111	IMP		23.538	SHANK ROAD	630	5800	5500	560	5700	5300
11	111	IMP		23.787	DEL RIO RD RT.	560	5700	5300	560	5700	5300
11	111	IMP		24.682	ANDRE RD	560	5700	5300	620	6000	4650
11	111	IMP		26.67	RUTHERFORD ROAD	620	6000	4650	700	6600	5300
11	111	IMP		32.01	CALIPATRIA, SOUTH CITY LIMITS	700	6600	5300	690	6500	5200
11	111	IMP		32.513	JCT. RTE. 115 EAST	690	6500	5200	600	5700	4550
11	111	IMP		32.74	CALIFORNIA STREET	600	5700	4550	730	6500	5000
11	111	IMP		36.09	SINCLAIR ROAD	730	6500	5000	650	6000	3750
11	111	IMP		39.82	NILAND AVENUE	650	6000	3750	420	3700	2900
11	111	IMP		40.4	THIRD STREET	420	3700	2900	480	4200	3200

Dist	Route	County		Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak AADT	Ahead AADT
11	111	IMP		40.71	BEAL ROAD	480	4200	3200	330	3200	2450
11	111	IMP		42.47	ENGLISH ROAD	330	3200	2450	340	3200	2500
11	111	IMP		57.625	BOMBAY BEACH ROAD	200	1900	1500	190	1700	1400
11	111	IMP		65.394	IMPERIAL/RIVERSIDE COUNTY LINE	190	2150	1500	190	1750	1400
8	111	RIV		7.67	SALTON SEA STATE PARK ROAD	190	2050	1700	300	3200	2700
8	111	RIV		18.428	MECCA, JCT. RTE. 195 WEST	490	5200	4400	860	9200	7700
8	111	RIV		47.252	PALM SPRINGS, GOLF CLUB DRIVE	860	9200	7700	3150	35000	32000
8	111	RIV	T	47.795	EAST PALM CANYON/GENE AUTRY TRAIL	2800	31000	28500	1300	13300	12500
8	111	RIV	T	48.318	GENE AUTRY TR N/O PALM CYN	1300	13300	12500	1150	12500	11700
8	111	RIV	T	49.37	PALM SPRINGS, RAMON ROAD	1150	12500	11700	1850	19200	18000
8	111	RIV	T	51.588	VISTA CHINO	2000	20600	19300	2650	31000	29000
8	111	RIV	T	52.371	PALM SPRINGS, FARRELL DRIVE	2650	31000	29000	2100	24500	23000
8	111	RIV	T	52.876	PALM SPRINGS, SUNRISE WAY	2100	24500	23000	1950	22300	21000
8	111	RIV	T	53.376	PALM SPRINGS, AVENIDA CABALLEROS	1950	22300	21000	1250	14700	13800
8	111	RIV	T	53.627	PALM SPRINGS, VIA MIRALESTE	1250	14700	13800	1250	14700	13800
8	111	RIV	T	53.877	PALM SPRINGS, INDIAN CANYON	1250	14700	13800	970	11200	10500
8	111	RIV		53.821	VISTA CHINO @ PALM CNYN	970	11200	10500	2100	19700	17500
8	111	RIV		54.955	PALM SPRINGS, TRAMWAY DRIVE	1900	18000	16000	1900	18000	16000
8	111	RIV	R	63.378	JCT. RTE. 10	1550	14800	13200			
4	112	ALA	R	0	SAN LEANDRO, JCT. RTE. 61				2200	29500	29000
4	112	ALA		0.602	JCT. RTE. 880	4100	55000	54000	3000	41000	40000
4	112	ALA		1.507	SAN LEANDRO, SAN LEANDRO BOULEVARD	2650	36000	35000	2200	31000	30000
4	112	ALA		1.782	SAN LEANDRO, JCT. RTE. 185	1750	23500	22900			
4	113	SOL		0	JCT. RTE. 12				390	4050	3750
4	113	SOL		11.61	ELMIRA/FRY ROADS	370	3850	3550	320	3350	3100
4	113	SOL		18.95	DIXON, CHERRY STREET	970	7500	6900	1150	8500	8200
4	113	SOL		19.29	DIXON, A STREET	1650	12100	11700	990	9300	9000
4	113	SOL		19.96	DIXON, NORTH ADAMS STREET	1050	10000	9600	1250	11200	10900
4	113	SOL	R	21.24 R	DIXON, WEST JCT. RTE. 80	2400	21500	20000	4750	43000	40000
4	113	SOL	R	21.653 L	EAST JCT RTE 80 SB	2400	21500	20000	4750	43000	40000
4	113	SOL	R	22.45	SOLANO YOLO COUNTY LINE (PUTAH CREEK BRIDGE)	4750	43000	40000			

APPENDIX B

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS

EXISTING

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	101	0	0	107	0
Future Vol, veh/h	0	0	0	0	0	0	0	101	0	0	107	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	110	0	0	116	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	226	226	116	226	226	110	116	0	0	110	0	0
Stage 1	116	116	-	110	110	-	-	-	-	-	-	-
Stage 2	110	110	-	116	116	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	729	673	936	729	673	943	1473	-	-	1480	-	-
Stage 1	889	800	-	895	804	-	-	-	-	-	-	-
Stage 2	895	804	-	889	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	729	673	936	729	673	943	1473	-	-	1480	-	-
Mov Cap-2 Maneuver	729	673	-	729	673	-	-	-	-	-	-	-
Stage 1	889	800	-	895	804	-	-	-	-	-	-	-
Stage 2	895	804	-	889	800	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1473	-	-	-	-	1480	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	2	0	1	3	102	2	2	107	1
Future Vol, veh/h	0	0	1	2	0	1	3	102	2	2	107	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	2	0	1	3	111	2	2	116	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	240	240	117	239	239	112	117	0	0	113	0	0
Stage 1	121	121	-	118	118	-	-	-	-	-	-	-
Stage 2	119	119	-	121	121	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	714	661	935	715	662	941	1471	-	-	1476	-	-
Stage 1	883	796	-	887	798	-	-	-	-	-	-	-
Stage 2	885	797	-	883	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	712	659	935	713	660	941	1471	-	-	1476	-	-
Mov Cap-2 Maneuver	712	659	-	713	660	-	-	-	-	-	-	-
Stage 1	881	795	-	885	796	-	-	-	-	-	-	-
Stage 2	882	795	-	881	795	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	9.7	0.2	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1471	-	-	935	776	1476	-	-
HCM Lane V/C Ratio	0.002	-	-	0.001	0.004	0.001	-	-
HCM Control Delay (s)	7.5	0	-	8.9	9.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	2	0	1	4	0	0	2	1	0	1	0
Future Vol, veh/h	0	2	0	1	4	0	0	2	1	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	0	1	4	0	0	2	1	0	1	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	6	4	1	5	4	3	1	0	0	3	0	0
Stage 1	1	1	-	3	3	-	-	-	-	-	-	-
Stage 2	5	3	-	2	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1014	891	1084	1016	891	1081	1622	-	-	1619	-	-
Stage 1	1022	895	-	1020	893	-	-	-	-	-	-	-
Stage 2	1017	893	-	1021	895	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	1010	891	1084	1014	891	1081	1622	-	-	1619	-	-
Mov Cap-2 Maneuver	1010	891	-	1014	891	-	-	-	-	-	-	-
Stage 1	1022	895	-	1020	893	-	-	-	-	-	-	-
Stage 2	1012	893	-	1019	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	891	913	1619	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.006	-	-	-
HCM Control Delay (s)	0	-	-	9.1	9	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	13	0	2	17	1	0	2	6	3	1	2
Future Vol, veh/h	2	13	0	2	17	1	0	2	6	3	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	14	0	2	18	1	0	2	7	3	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	19	0	0	14	0	0	42	41	14	46	41	19
Stage 1	-	-	-	-	-	-	18	18	-	23	23	-
Stage 2	-	-	-	-	-	-	24	23	-	23	18	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1597	-	-	1604	-	-	961	851	1066	955	851	1059
Stage 1	-	-	-	-	-	-	1001	880	-	995	876	-
Stage 2	-	-	-	-	-	-	994	876	-	995	880	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1597	-	-	1604	-	-	956	849	1066	945	849	1059
Mov Cap-2 Maneuver	-	-	-	-	-	-	956	849	-	945	849	-
Stage 1	-	-	-	-	-	-	1000	879	-	994	875	-
Stage 2	-	-	-	-	-	-	990	875	-	985	879	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.7	8.6	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1002	1597	-	-	1604	-	-	961
HCM Lane V/C Ratio	0.009	0.001	-	-	0.001	-	-	0.007
HCM Control Delay (s)	8.6	7.3	0	-	7.2	0	-	8.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱		↰	↱	
Traffic Vol, veh/h	6	9	6	3	3	3	7	81	24	21	84	6
Future Vol, veh/h	6	9	6	3	3	3	7	81	24	21	84	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	10	7	3	3	3	8	88	26	23	91	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	261	271	95	266	261	101	98	0	0	114	0	0
Stage 1	141	141	-	117	117	-	-	-	-	-	-	-
Stage 2	120	130	-	149	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	692	636	962	687	644	954	1495	-	-	1475	-	-
Stage 1	862	780	-	888	799	-	-	-	-	-	-	-
Stage 2	884	789	-	854	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	676	623	962	664	630	954	1495	-	-	1475	-	-
Mov Cap-2 Maneuver	676	623	-	664	630	-	-	-	-	-	-	-
Stage 1	858	768	-	884	795	-	-	-	-	-	-	-
Stage 2	873	785	-	824	766	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	10	0.5	1.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1495	-	-	710	724	1475	-	-
HCM Lane V/C Ratio	0.005	-	-	0.032	0.014	0.015	-	-
HCM Control Delay (s)	7.4	-	-	10.2	10	7.5	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	106	0	0	106	0
Future Vol, veh/h	0	0	0	0	0	0	0	106	0	0	106	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	115	0	0	115	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	230	230	115	230	230	115	115	0	0	115	0	0
Stage 1	115	115	-	115	115	-	-	-	-	-	-	-
Stage 2	115	115	-	115	115	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	725	670	937	725	670	937	1474	-	-	1474	-	-
Stage 1	890	800	-	890	800	-	-	-	-	-	-	-
Stage 2	890	800	-	890	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	725	670	937	725	670	937	1474	-	-	1474	-	-
Mov Cap-2 Maneuver	725	670	-	725	670	-	-	-	-	-	-	-
Stage 1	890	800	-	890	800	-	-	-	-	-	-	-
Stage 2	890	800	-	890	800	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1474	-	-	-	-	1474	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	20	1	0	12	2	100	2	1	92	0
Future Vol, veh/h	0	0	20	1	0	12	2	100	2	1	92	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	22	1	0	13	2	109	2	1	100	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	223	217	100	227	216	110	100	0	0	111	0	0
Stage 1	102	102	-	114	114	-	-	-	-	-	-	-
Stage 2	121	115	-	113	102	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	733	681	956	728	682	943	1493	-	-	1479	-	-
Stage 1	904	811	-	891	801	-	-	-	-	-	-	-
Stage 2	883	800	-	892	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	722	680	956	711	681	943	1493	-	-	1479	-	-
Mov Cap-2 Maneuver	722	680	-	711	681	-	-	-	-	-	-	-
Stage 1	903	810	-	890	800	-	-	-	-	-	-	-
Stage 2	870	799	-	871	810	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	9	0.1	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1493	-	-	956	920	1479	-	-
HCM Lane V/C Ratio	0.001	-	-	0.023	0.015	0.001	-	-
HCM Control Delay (s)	7.4	0	-	8.9	9	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	21	3	0	2	0	1	0	0	0	0	0
Future Vol, veh/h	0	21	3	0	2	0	1	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	3	0	2	0	1	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	4	3	1	16	3	0	1	0	0	0	0	0
Stage 1	1	1	-	2	2	-	-	-	-	-	-	-
Stage 2	3	2	-	14	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1017	893	1084	999	893	-	1622	-	-	-	-	-
Stage 1	1022	895	-	1021	894	-	-	-	-	-	-	-
Stage 2	1020	894	-	1006	895	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	892	1084	976	892	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	-	892	-	976	892	-	-	-	-	-	-	-
Stage 1	1021	895	-	1020	893	-	-	-	-	-	-	-
Stage 2	1016	893	-	977	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			7.2	0
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-	-
HCM Control Delay (s)	7.2	0	-	-	-	0	-	-
HCM Lane LOS	A	A	-	-	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	15	0	2	12	0	0	0	3	2	2	0
Future Vol, veh/h	1	15	0	2	12	0	0	0	3	2	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	16	0	2	13	0	0	0	3	2	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	16	0	0	36	35	16	37	35	13
Stage 1	-	-	-	-	-	-	18	18	-	17	17	-
Stage 2	-	-	-	-	-	-	18	17	-	20	18	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1606	-	-	1602	-	-	970	857	1063	968	857	1067
Stage 1	-	-	-	-	-	-	1001	880	-	1002	881	-
Stage 2	-	-	-	-	-	-	1001	881	-	999	880	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1606	-	-	1602	-	-	967	855	1063	963	855	1067
Mov Cap-2 Maneuver	-	-	-	-	-	-	967	855	-	963	855	-
Stage 1	-	-	-	-	-	-	1000	879	-	1001	880	-
Stage 2	-	-	-	-	-	-	998	880	-	995	879	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1	8.4	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1063	1606	-	-	1602	-	-	906
HCM Lane V/C Ratio	0.003	0.001	-	-	0.001	-	-	0.005
HCM Control Delay (s)	8.4	7.2	0	-	7.2	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	8	2	11	0	5	9	2	89	1	1	116	3
Future Vol, veh/h	8	2	11	0	5	9	2	89	1	1	116	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	2	12	0	5	10	2	97	1	1	126	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	239	232	128	239	233	98	129	0	0	98	0	0
Stage 1	130	130	-	102	102	-	-	-	-	-	-	-
Stage 2	109	102	-	137	131	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	715	668	922	715	667	958	1457	-	-	1495	-	-
Stage 1	874	789	-	904	811	-	-	-	-	-	-	-
Stage 2	896	811	-	866	788	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	702	667	922	703	666	958	1457	-	-	1495	-	-
Mov Cap-2 Maneuver	702	667	-	703	666	-	-	-	-	-	-	-
Stage 1	873	788	-	903	810	-	-	-	-	-	-	-
Stage 2	880	810	-	852	787	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	9.4	0.2	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1457	-	-	798	828	1495	-	-
HCM Lane V/C Ratio	0.001	-	-	0.029	0.018	0.001	-	-
HCM Control Delay (s)	7.5	-	-	9.6	9.4	7.4	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

EXISTING + PROJECT OPERATIONS

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	0	0	0	0	101	0	0	118	1
Future Vol, veh/h	1	0	0	0	0	0	0	101	0	0	118	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	0	0	0	0	110	0	0	128	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	239	239	129	239	239	110	129	0	0	110	0	0
Stage 1	129	129	-	110	110	-	-	-	-	-	-	-
Stage 2	110	110	-	129	129	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	715	662	921	715	662	943	1457	-	-	1480	-	-
Stage 1	875	789	-	895	804	-	-	-	-	-	-	-
Stage 2	895	804	-	875	789	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	715	662	921	715	662	943	1457	-	-	1480	-	-
Mov Cap-2 Maneuver	715	662	-	715	662	-	-	-	-	-	-	-
Stage 1	875	789	-	895	804	-	-	-	-	-	-	-
Stage 2	895	804	-	875	789	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1457	-	-	715	-	1480	-	-
HCM Lane V/C Ratio	-	-	-	0.002	-	-	-	-
HCM Control Delay (s)	0	-	-	10	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	2	0	1	3	102	2	2	107	12
Future Vol, veh/h	0	0	1	2	0	1	3	102	2	2	107	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	2	0	1	3	111	2	2	116	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	246	246	123	245	251	112	129	0	0	113	0	0
Stage 1	127	127	-	118	118	-	-	-	-	-	-	-
Stage 2	119	119	-	127	133	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	708	656	928	709	652	941	1457	-	-	1476	-	-
Stage 1	877	791	-	887	798	-	-	-	-	-	-	-
Stage 2	885	797	-	877	786	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	706	654	928	707	650	941	1457	-	-	1476	-	-
Mov Cap-2 Maneuver	706	654	-	707	650	-	-	-	-	-	-	-
Stage 1	875	790	-	885	796	-	-	-	-	-	-	-
Stage 2	882	795	-	875	785	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	9.7	0.2	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1457	-	-	928	771	1476	-	-
HCM Lane V/C Ratio	0.002	-	-	0.001	0.004	0.001	-	-
HCM Control Delay (s)	7.5	0	-	8.9	9.7	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	7	1	15	0	66	2	1	0	1	1
Future Vol, veh/h	1	2	7	1	15	0	66	2	1	0	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	8	1	16	0	72	2	1	0	1	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	157	149	2	154	149	3	2	0	0	3	0	0
Stage 1	2	2	-	147	147	-	-	-	-	-	-	-
Stage 2	155	147	-	7	2	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	809	743	1082	813	743	1081	1620	-	-	1619	-	-
Stage 1	1021	894	-	856	775	-	-	-	-	-	-	-
Stage 2	847	775	-	1015	894	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	768	710	1082	778	710	1081	1620	-	-	1619	-	-
Mov Cap-2 Maneuver	768	710	-	778	710	-	-	-	-	-	-	-
Stage 1	975	894	-	817	740	-	-	-	-	-	-	-
Stage 2	791	740	-	1005	894	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	10.2	7	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1620	-	-	944	714	1619	-	-
HCM Lane V/C Ratio	0.044	-	-	0.012	0.024	-	-	-
HCM Control Delay (s)	7.3	0	-	8.9	10.2	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	13	0	2	17	67	0	2	6	10	1	2
Future Vol, veh/h	2	13	0	2	17	67	0	2	6	10	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	14	0	2	18	73	0	2	7	11	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	91	0	0	14	0	0	78	113	14	82	77	55
Stage 1	-	-	-	-	-	-	18	18	-	59	59	-
Stage 2	-	-	-	-	-	-	60	95	-	23	18	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1504	-	-	1604	-	-	911	777	1066	905	813	1012
Stage 1	-	-	-	-	-	-	1001	880	-	953	846	-
Stage 2	-	-	-	-	-	-	951	816	-	995	880	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1504	-	-	1604	-	-	906	775	1066	896	811	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	906	775	-	896	811	-
Stage 1	-	-	-	-	-	-	1000	879	-	952	845	-
Stage 2	-	-	-	-	-	-	947	815	-	985	879	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.2	8.7	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	975	1504	-	-	1604	-	-	905
HCM Lane V/C Ratio	0.009	0.001	-	-	0.001	-	-	0.016
HCM Control Delay (s)	8.7	7.4	0	-	7.2	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	6	9	13	3	3	3	73	81	24	21	84	6
Future Vol, veh/h	6	9	13	3	3	3	73	81	24	21	84	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	10	14	3	3	3	79	88	26	23	91	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	403	413	95	412	403	101	98	0	0	114	0	0
Stage 1	141	141	-	259	259	-	-	-	-	-	-	-
Stage 2	262	272	-	153	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	558	529	962	550	536	954	1495	-	-	1475	-	-
Stage 1	862	780	-	746	694	-	-	-	-	-	-	-
Stage 2	743	685	-	849	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	525	493	962	506	500	954	1495	-	-	1475	-	-
Mov Cap-2 Maneuver	525	493	-	506	500	-	-	-	-	-	-	-
Stage 1	816	768	-	706	657	-	-	-	-	-	-	-
Stage 2	698	649	-	813	766	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11.1	3.1	1.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1495	-	-	648	597	1475	-	-
HCM Lane V/C Ratio	0.053	-	-	0.047	0.016	0.015	-	-
HCM Control Delay (s)	7.5	-	-	10.8	11.1	7.5	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	0	0	0	0	117	0	0	106	1
Future Vol, veh/h	1	0	0	0	0	0	0	117	0	0	106	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	0	0	0	0	127	0	0	115	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	243	243	116	243	243	127	116	0	0	127	0	0
Stage 1	116	116	-	127	127	-	-	-	-	-	-	-
Stage 2	127	127	-	116	116	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	711	659	936	711	659	923	1473	-	-	1459	-	-
Stage 1	889	800	-	877	791	-	-	-	-	-	-	-
Stage 2	877	791	-	889	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	711	659	936	711	659	923	1473	-	-	1459	-	-
Mov Cap-2 Maneuver	711	659	-	711	659	-	-	-	-	-	-	-
Stage 1	889	800	-	877	791	-	-	-	-	-	-	-
Stage 2	877	791	-	889	800	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1473	-	-	711	-	1459	-	-
HCM Lane V/C Ratio	-	-	-	0.002	-	-	-	-
HCM Control Delay (s)	0	-	-	10.1	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	0	20	1	0	12	2	100	2	1	92	0
Future Vol, veh/h	11	0	20	1	0	12	2	100	2	1	92	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	22	1	0	13	2	109	2	1	100	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	223	217	100	227	216	110	100	0	0	111	0	0
Stage 1	102	102	-	114	114	-	-	-	-	-	-	-
Stage 2	121	115	-	113	102	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	733	681	956	728	682	943	1493	-	-	1479	-	-
Stage 1	904	811	-	891	801	-	-	-	-	-	-	-
Stage 2	883	800	-	892	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	722	680	956	711	681	943	1493	-	-	1479	-	-
Mov Cap-2 Maneuver	722	680	-	711	681	-	-	-	-	-	-	-
Stage 1	903	810	-	890	800	-	-	-	-	-	-	-
Stage 2	870	799	-	871	810	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	9	0.1	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1493	-	-	857	920	1479	-	-
HCM Lane V/C Ratio	0.001	-	-	0.039	0.015	0.001	-	-
HCM Control Delay (s)	7.4	0	-	9.4	9	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	32	68	0	2	0	7	0	0	0	0	1
Future Vol, veh/h	1	32	68	0	2	0	7	0	0	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	35	74	0	2	0	8	0	0	0	0	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	18	17	1	71	17	0	1	0	0	0	0	0
Stage 1	1	1	-	16	16	-	-	-	-	-	-	-
Stage 2	17	16	-	55	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	996	877	1084	920	877	-	1622	-	-	-	-	-
Stage 1	1022	895	-	1004	882	-	-	-	-	-	-	-
Stage 2	1002	882	-	957	895	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	873	1084	828	873	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	-	873	-	828	873	-	-	-	-	-	-	-
Stage 1	1017	895	-	999	878	-	-	-	-	-	-	-
Stage 2	995	878	-	857	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			7.2	0
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-	-	-	-
HCM Lane V/C Ratio	0.005	-	-	-	-	-	-	-
HCM Control Delay (s)	7.2	0	-	-	-	0	-	-
HCM Lane LOS	A	A	-	-	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	15	0	2	12	6	0	0	3	67	2	0
Future Vol, veh/h	1	15	0	2	12	6	0	0	3	67	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	16	0	2	13	7	0	0	3	73	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	16	0	0	40	42	16	41	39	17
Stage 1	-	-	-	-	-	-	18	18	-	21	21	-
Stage 2	-	-	-	-	-	-	22	24	-	20	18	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1596	-	-	1602	-	-	964	850	1063	963	853	1062
Stage 1	-	-	-	-	-	-	1001	880	-	998	878	-
Stage 2	-	-	-	-	-	-	996	875	-	999	880	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1596	-	-	1602	-	-	961	848	1063	958	851	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	961	848	-	958	851	-
Stage 1	-	-	-	-	-	-	1000	879	-	997	877	-
Stage 2	-	-	-	-	-	-	993	874	-	995	879	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.7	8.4	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1063	1596	-	-	1602	-	-	955
HCM Lane V/C Ratio	0.003	0.001	-	-	0.001	-	-	0.079
HCM Control Delay (s)	8.4	7.3	0	-	7.2	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	8	2	76	0	5	9	8	89	1	1	116	3
Future Vol, veh/h	8	2	76	0	5	9	8	89	1	1	116	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	2	83	0	5	10	9	97	1	1	126	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	253	246	128	288	247	98	129	0	0	98	0	0
Stage 1	130	130	-	116	116	-	-	-	-	-	-	-
Stage 2	123	116	-	172	131	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	700	656	922	664	655	958	1457	-	-	1495	-	-
Stage 1	874	789	-	889	800	-	-	-	-	-	-	-
Stage 2	881	800	-	830	788	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	685	651	922	600	650	958	1457	-	-	1495	-	-
Mov Cap-2 Maneuver	685	651	-	600	650	-	-	-	-	-	-	-
Stage 1	869	788	-	884	795	-	-	-	-	-	-	-
Stage 2	861	795	-	753	787	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.5	0.6	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1457	-	-	885	819	1495	-	-
HCM Lane V/C Ratio	0.006	-	-	0.106	0.019	0.001	-	-
HCM Control Delay (s)	7.5	-	-	9.5	9.5	7.4	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0	-	-

EXISTING + PROJECT OPERATIONS + CUMULATIVE ANALYSIS

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	112	0	0	124	0
Future Vol, veh/h	0	0	0	0	0	0	0	112	0	0	124	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	122	0	0	135	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	257	257	135	257	257	122	135	0	0	122	0	0
Stage 1	135	135	-	122	122	-	-	-	-	-	-	-
Stage 2	122	122	-	135	135	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	696	647	914	696	647	929	1449	-	-	1465	-	-
Stage 1	868	785	-	882	795	-	-	-	-	-	-	-
Stage 2	882	795	-	868	785	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	696	647	914	696	647	929	1449	-	-	1465	-	-
Mov Cap-2 Maneuver	696	647	-	696	647	-	-	-	-	-	-	-
Stage 1	868	785	-	882	795	-	-	-	-	-	-	-
Stage 2	882	795	-	868	785	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1449	-	-	-	-	1465	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↰	↱		↕	↱
Traffic Vol, veh/h	1	0	7	2	0	1	37	112	2	2	118	7
Future Vol, veh/h	1	0	7	2	0	1	37	112	2	2	118	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	8	2	0	1	40	122	2	2	128	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	336	336	128	343	343	123	136	0	0	124	0	0
Stage 1	132	132	-	203	203	-	-	-	-	-	-	-
Stage 2	204	204	-	140	140	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	618	585	922	611	579	928	1448	-	-	1463	-	-
Stage 1	871	787	-	799	733	-	-	-	-	-	-	-
Stage 2	798	733	-	863	781	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	604	568	922	593	562	928	1448	-	-	1463	-	-
Mov Cap-2 Maneuver	604	568	-	593	562	-	-	-	-	-	-	-
Stage 1	847	786	-	777	712	-	-	-	-	-	-	-
Stage 2	775	712	-	855	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	10.4	1.9	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	865	674	1463	-	-
HCM Lane V/C Ratio	0.028	-	-	0.01	0.005	0.001	-	-
HCM Control Delay (s)	7.6	-	-	9.2	10.4	7.5	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	8	0	1	43	0	2	2	1	0	1	0
Future Vol, veh/h	0	8	0	1	43	0	2	2	1	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	0	1	47	0	2	2	1	0	1	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	31	8	1	13	8	3	1	0	0	3	0	0
Stage 1	1	1	-	7	7	-	-	-	-	-	-	-
Stage 2	30	7	-	6	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	977	887	1084	1004	887	1081	1622	-	-	1619	-	-
Stage 1	1022	895	-	1015	890	-	-	-	-	-	-	-
Stage 2	987	890	-	1016	895	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	937	886	1084	996	886	1081	1622	-	-	1619	-	-
Mov Cap-2 Maneuver	937	886	-	996	886	-	-	-	-	-	-	-
Stage 1	1021	895	-	1014	889	-	-	-	-	-	-	-
Stage 2	934	889	-	1006	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.3	2.9	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	886	888	1619	-	-
HCM Lane V/C Ratio	0.001	-	-	0.01	0.054	-	-	-
HCM Control Delay (s)	7.2	0	-	9.1	9.3	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	14	0	2	19	3	0	2	7	3	1	2
Future Vol, veh/h	2	14	0	2	19	3	0	2	7	3	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	15	0	2	21	3	0	2	8	3	1	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	15	0	0	47	47	15	51	46	23
Stage 1	-	-	-	-	-	-	19	19	-	27	27	-
Stage 2	-	-	-	-	-	-	28	28	-	24	19	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1591	-	-	1603	-	-	954	845	1065	948	846	1054
Stage 1	-	-	-	-	-	-	1000	880	-	990	873	-
Stage 2	-	-	-	-	-	-	989	872	-	994	880	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1591	-	-	1603	-	-	949	843	1065	938	844	1054
Mov Cap-2 Maneuver	-	-	-	-	-	-	949	843	-	938	844	-
Stage 1	-	-	-	-	-	-	999	879	-	989	872	-
Stage 2	-	-	-	-	-	-	985	871	-	983	879	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.6	8.6	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1006	1591	-	-	1603	-	-	955
HCM Lane V/C Ratio	0.01	0.001	-	-	0.001	-	-	0.007
HCM Control Delay (s)	8.6	7.3	0	-	7.2	0	-	8.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↰	↱		↰	↱
Traffic Vol, veh/h	7	10	7	3	3	3	10	123	26	23	98	7
Future Vol, veh/h	7	10	7	3	3	3	10	123	26	23	98	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	11	8	3	3	3	11	134	28	25	107	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	334	345	111	341	335	148	115	0	0	162	0	0
Stage 1	161	161	-	170	170	-	-	-	-	-	-	-
Stage 2	173	184	-	171	165	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	620	578	942	613	585	899	1474	-	-	1417	-	-
Stage 1	841	765	-	832	758	-	-	-	-	-	-	-
Stage 2	829	747	-	831	762	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	603	564	942	588	570	899	1474	-	-	1417	-	-
Mov Cap-2 Maneuver	603	564	-	588	570	-	-	-	-	-	-	-
Stage 1	835	751	-	826	753	-	-	-	-	-	-	-
Stage 2	816	742	-	798	748	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	10.6	0.5	1.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1474	-	-	653	657	1417	-	-
HCM Lane V/C Ratio	0.007	-	-	0.04	0.015	0.018	-	-
HCM Control Delay (s)	7.5	-	-	10.7	10.6	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	123	0	0	118	0
Future Vol, veh/h	0	0	0	0	0	0	0	123	0	0	118	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	134	0	0	128	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	262	262	128	262	262	134	128	0	0	134	0	0
Stage 1	128	128	-	134	134	-	-	-	-	-	-	-
Stage 2	134	134	-	128	128	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	691	643	922	691	643	915	1458	-	-	1451	-	-
Stage 1	876	790	-	869	785	-	-	-	-	-	-	-
Stage 2	869	785	-	876	790	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	691	643	922	691	643	915	1458	-	-	1451	-	-
Mov Cap-2 Maneuver	691	643	-	691	643	-	-	-	-	-	-	-
Stage 1	876	790	-	869	785	-	-	-	-	-	-	-
Stage 2	869	785	-	876	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1458	-	-	-	-	1451	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱			↰	↱
Traffic Vol, veh/h	6	0	55	1	0	13	16	110	2	1	101	1
Future Vol, veh/h	6	0	55	1	0	13	16	110	2	1	101	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	60	1	0	14	17	120	2	1	110	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	274	268	110	298	268	121	111	0	0	122	0	0
Stage 1	112	112	-	155	155	-	-	-	-	-	-	-
Stage 2	162	156	-	143	113	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	678	638	943	654	638	930	1479	-	-	1465	-	-
Stage 1	893	803	-	847	769	-	-	-	-	-	-	-
Stage 2	840	769	-	860	802	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	661	630	943	607	630	930	1479	-	-	1465	-	-
Mov Cap-2 Maneuver	661	630	-	607	630	-	-	-	-	-	-	-
Stage 1	883	802	-	838	761	-	-	-	-	-	-	-
Stage 2	818	761	-	805	801	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.1	0.9	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1479	-	-	905	896	1465	-	-
HCM Lane V/C Ratio	0.012	-	-	0.073	0.017	0.001	-	-
HCM Control Delay (s)	7.5	-	-	9.3	9.1	7.5	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	61	5	0	17	0	1	0	0	0	0	0
Future Vol, veh/h	0	61	5	0	17	0	1	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	66	5	0	18	0	1	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	12	3	1	39	3	0	1	0	0	0	0	0
Stage 1	1	1	-	2	2	-	-	-	-	-	-	-
Stage 2	11	2	-	37	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1005	893	1084	966	893	-	1622	-	-	-	-	-
Stage 1	1022	895	-	1021	894	-	-	-	-	-	-	-
Stage 2	1010	894	-	978	895	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	892	1084	906	892	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	-	892	-	906	892	-	-	-	-	-	-	-
Stage 1	1021	895	-	1020	893	-	-	-	-	-	-	-
Stage 2	988	893	-	901	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			7.2	0
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-	-
HCM Control Delay (s)	7.2	0	-	-	-	0	-	-
HCM Lane LOS	A	A	-	-	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	17	0	2	13	0	0	12	3	4	2	0
Future Vol, veh/h	1	17	0	2	13	0	0	12	3	4	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	18	0	2	14	0	0	13	3	4	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	14	0	0	18	0	0	39	38	18	46	38	14
Stage 1	-	-	-	-	-	-	20	20	-	18	18	-
Stage 2	-	-	-	-	-	-	19	18	-	28	20	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1604	-	-	1599	-	-	966	854	1061	955	854	1066
Stage 1	-	-	-	-	-	-	999	879	-	1001	880	-
Stage 2	-	-	-	-	-	-	1000	880	-	989	879	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1604	-	-	1599	-	-	963	852	1061	940	852	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	963	852	-	940	852	-
Stage 1	-	-	-	-	-	-	998	878	-	1000	879	-
Stage 2	-	-	-	-	-	-	997	879	-	970	878	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1	9.1	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	887	1604	-	-	1599	-	-	909
HCM Lane V/C Ratio	0.018	0.001	-	-	0.001	-	-	0.007
HCM Control Delay (s)	9.1	7.2	0	-	7.3	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	9	2	14	0	6	10	2	112	1	1	161	3
Future Vol, veh/h	9	2	14	0	6	10	2	112	1	1	161	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	2	15	0	7	11	2	122	1	1	175	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	315	306	177	314	307	123	178	0	0	123	0	0
Stage 1	179	179	-	127	127	-	-	-	-	-	-	-
Stage 2	136	127	-	187	180	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	638	608	866	639	607	928	1398	-	-	1464	-	-
Stage 1	823	751	-	877	791	-	-	-	-	-	-	-
Stage 2	867	791	-	815	750	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	625	607	866	625	606	928	1398	-	-	1464	-	-
Mov Cap-2 Maneuver	625	607	-	625	606	-	-	-	-	-	-	-
Stage 1	822	750	-	876	790	-	-	-	-	-	-	-
Stage 2	849	790	-	798	749	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	9.8	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1398	-	-	738	774	1464	-	-
HCM Lane V/C Ratio	0.002	-	-	0.037	0.022	0.001	-	-
HCM Control Delay (s)	7.6	-	-	10.1	9.8	7.5	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-